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To know or not to know? How societal factors and education shape the financial awareness and knowledge of students

Maksymilian Czauderna[1]

Abstract

This paper explores the impact of societal factors and various forms of education on shaping students' financial awareness and knowledge levels. In the modern world, where access to various instruments and, consequently, risks is increasing, along with the economic challenges that youth will face in the future, it is crucial to assess whether students' understanding of relevant concepts is sufficient. A statistical study analysing different correlations among various factors, based on a survey of 336 students aged 18–24, provides a comprehensive understanding of how financial knowledge and awareness are shaped and developed. The findings reveal that individual and social learning, as well as effective utilisation of accessible resources, are among the key drivers influencing the subject. The study also suggests potential directions for policymakers, highlighting the importance of practical involvement and real-time risk exposure as measures that could significantly enhance students' financial knowledge and awareness.

Keywords

- financial literacy
- financial behaviour
- social learning theory
- self-directed learning
- youth financial socialisation

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[1] Wroclaw University of Economics and Business, ul. Komandorska 118/120, 53-345 Wrocław, Poland, mxczauderna@gmail.com

Introduction

In a world where teenagers can invest in cryptocurrencies before they understand compound interest, the gap between financial exposure and literacy is widening rapidly. Despite increasing access to financial apps and online resources, fewer than one in three young adults worldwide demonstrate basic financial skills (OECD, 2016, 2020). Additionally, disconnection exposes not just a failure of formal education but also a broader societal shortfall in preparing youth for real-world financial decisions. Financial attitudes are not developed solely in classrooms – they are shaped through family conversations, peer influences and online environments (Lusardi & Mitchell, 2014). Understanding how and from whom young people learn about money is now more urgent than ever. This paper explores these social dimensions to reveal what drives or hinders financial awareness among students aged 18–24 in Poland.

Zeiser et al. (2024) provide a comprehensive overview of what is meant by financial knowledge or awareness. They cite Bacon (1596) who highlighted the importance of controlling expenses and saving, while Benjamin Franklin (1736) stated that a key element on the path to wealth is recognising that credit generates additional costs. As an overarching concept, these authors emphasise proper handling of personal finances, which this study operationalises as a composite construct of objective financial literacy (e.g. risk comprehension, instrument knowledge per OECD/INFE standards) and subjective perceptions (e.g. self-assessed confidence). Throughout the paper, "financial awareness and knowledge" consistently refers to this integrated understanding of sustainable personal finance management, measured via Likert self-reports and behavioural proxies (detailed in Methodology), aligning with Financial Socialisation Theory (Gudmunson & Danes, 2011).

In the United States, 23.1% of adolescents aged 15–18 lack basic financial skills, while globally, only 27% comprehend simple financial concepts. Such low levels of financial literacy highlight a widespread lack of understanding of fundamental personal finance. Since the age at which financial discussions begin influences later financial behaviour (Abdul Ghafoor & Akhtar, 2024), the absence of early financial education constitutes a serious social issue that leads to poor financial decision-making.

Disparities in saving ability across Europe are wide. In 2020, 80.2% of Swedes could save monthly, compared with only 13.3% in Bulgaria (Eurostat, 2020). Yet, assuming that economic development precedes financial literacy is simplistic. In the United States, approximately 78% of NFL players reportedly experience financial distress or bankruptcy within two years of retirement, even though many originate from middle-income families (Torre, 2009). This suggests that wealth alone may not guarantee financial competence.

The study aims to examine the impact of social factors on the financial literacy and awareness of students aged 18–24. Its main objectives are:

RQ1: What are the key factors shaping young people's financial awareness?
RQ2: What steps can enhance young people's financial literacy?

To achieve these goals, a mixed-methods approach was used. The empirical part involves survey data from Polish university students aged 18–24. It examines their knowledge of financial instruments, investment behaviour, attitudes to personal finance, as well as main sources of financial information.

The structure of the paper is as follows: Section 1 reviews the existing literature on youth financial awareness, Section 2 presents the research methods, while Section 3 outlines the findings. The following section presents these results in relation to prior studies and new insights. Finally, the last section concludes by summarising the key findings and offering recommendations for policymakers.

1. Literature review

Understanding why financial literacy is lower in developing countries requires several key theories. Becker's Human Capital Theory (Becker, 1993) is central, complemented by Bandura's Social Learning Theory (Bandura, 1977), highlighting family and peer influence. Behavioural Economics reveals that even literate individuals face cognitive biases like overconfidence (Kahneman & Tversky, 1979). Financial Socialisation Theory stresses that family financial discussions build crucial competence (Gudmunson & Danes, 2011). These frameworks help explore education, family and social impacts on financial literacy in those aged 18–24.

Recent research reveals gaps in youth financial awareness, focusing mostly on adults (Mancone et al., 2024). Young adults face more financial challenges than prior generations (Muat et al., 2024), yet societal norms often silence finance talks (Schnurr, 2022). College years bring heightened financial duties without enough education or awareness (Rodríguez-Correa et al., 2025).

Many US youth and adults fail basic financial knowledge tests (Lusardi & Mitchell, 2014), with only 10% attaining top proficiency (NEFE, 2017), indicating widespread deficits even in advanced economies. Over half do not save for retirement (Lusardi et al., 2009), linking low literacy to low savings (Muat et al., 2024) and poor financial outcomes (Lusardi & Mitchell, 2014). This jeopardises stability in crises.

Even developed countries report poor student financial behaviours. Cannistra et al. (2022) found Italians and Slovaks showed the weakest behaviours, Dutch

students saved least, while Estonians performed best, likely due to fintech use. Estonia also leads Europe in digital learning (Centre for European Policy Studies, 2020). Despite technology growth, knowledge gaps remain (Tripathi & Jariwala, 2025).

A meta-analysis of 76 studies with 160,000+ participants shows that education improves knowledge most in budgeting and saving but less in complex behaviours; effects persist over time (FINRA, 2022). Risk and return remain poorly grasped even by university students (Lusardi & Mitchell, 2014). Many programs fail to build true awareness or real-world skills (Amagir et al., 2018), as students struggle to apply concepts practically (Agyekum, 2024).

Parental influence is often understated, despite evidence suggesting it may outweigh socioeconomic factors (Abdul Ghafoor & Akhtar, 2024). Family discussions financial matters enhance saving and investing skills, thereby forming a foundation of financial education (Agnew & Sotardi, 2025). Moreover, early financial literacy contributes to the development of lifelong financial competence (Mancone et al., 2024). In this context, the influence of the family can be considered comparable in importance to formal education (Solon et al., 1987).

Perceptions of wealth vary significantly across social classes. Financial illiteracy is disproportionately concentrated among minority groups and individuals from low-education households (Lusardi et al., 2009). In the United States, low-income families often perceive wealth as unattainable and exclusive (Schnurr, 2022). Attitudes toward money also play a critical role: status-oriented values tend to undermine sound financial behaviour, whereas frugality has a protective effect (de Almeida et al., 2021). Importantly, financial literacy helps overcome dependence on poverty and support upward mobility (Wang et al., 2022). At the same time, evidence suggests that wealthier youth tend to be more materialistic (Gołąb & Będzik, 2020). Educational disparities further reinforce these inequalities – for example, data from the United Kingdom indicate that disadvantaged 15-year-olds demonstrate financial skills comparable to those of more affluent 11-year-olds (Anders et al., 2022). Notably, children develop class-based financial stereotypes at an early age (Elenbaas & Killen, 2018).

Findings on gender and age differences in financial literacy are mixed. While Kokkizil et. al. (2017) report lower levels of financial literacy among women and younger adults, other studies find no significant gender differences, as evidenced in Ghana and Hungary (Agyekum, 2024; Berlinger et al., 2025). Cziriak et al. (2024) suggest that observed gender disparities may stem more from differences in self-confidence than from actual knowledge. In the United States, some research indicates that women may exhibit higher levels of overconfidence, which can translate into greater risk-taking, although financial literacy appears to mitigate this effect (Nguyen et al., 2024). Conversely, evidence from Italy reveals a persistent gender gap disadvantaging girls, particularly across regions (Bottazzi & Lusardi, 2020).

Age-related patterns are more consistent. Younger individuals tend to overestimate their financial knowledge (Fan & Henager, 2025; Sebastião et al., 2024), and limited experience can negatively affect their financial decision-making (Stoddard & Urban, 2018). In contrast, older individuals generally achieve higher levels of financial literacy (Sims et al., 2020). Overall, the variation in findings highlights the need for further research in this area.

In sum, youth financial literacy reflects complex interactions of education, social context, family influence and behaviour. Current educational gaps and social drivers vary among different societies, but the impact of either well-conducted financial education or a lack of it may be described as similar. A consensus exists on the importance of financial education, social learning and the shaping of positive habits. The absence of these elements has been repeatedly shown to result in misunderstandings of basic concepts, poor decisions and an overall lack of financial well-being. Inherently shaped habits often outweigh the direct impact of education itself, providing an insightful foundation for a broader analysis of the topic. This underscores the importance of societal factors, which can be more influential than state-provided education and conventional learning methods.

2. Methodology

The research aimed to evaluate the level of financial awareness among Polish university students by examining their financial behaviours, knowledge, confidence and perceptions of financial education. The study addressed two research questions:

RQ1: What are the key factors shaping young people's financial awareness?
RQ2: What steps can enhance young people's financial literacy?

A mixed-methods approach was employed (see Table 1), combining quantitative survey data with qualitative open-ended responses analysed descriptively.

The instrument employed seven 5-point Likert-scale items, eight binary or ternary items, five multiple-response items, two frequency scales and one optional open-ended question covering six thematic domains. This design enabled a comprehensive assessment of RQ1 while maintaining a manageable respondent burden of approximately 10–15 minutes.

Table 1. Study design, timeline and methods leveraged

Phase / element	Description
Pilot study	Conducted in November 2024 and March 2025 among 59 students to test clarity and structure.
Main survey	October 2025 with 336 valid responses from diverse Polish universities.
Method	Mixed methods: Quantitative survey (Google Forms) and qualitative open answers.
Key variables	Financial awareness/knowledge (Introduction definition: objective indicators [investment ownership, IKE/IKZE familiarity]; subjective measures [Likert-scale knowledge/confidence, 1–5]), investment behaviour, saving goals, information sources, confidence.
Ethics	GDPR-compliant, voluntary, anonymous.

Source: author's own work.

The study employed a mixed-methods approach using a standardised online questionnaire (Google Forms, twenty-three items across six thematic sections: Financial Perception and Motivation; Investment Experience; Risk and Understanding; Local Accounts; Education Habits; and one open-ended question). Prior to pilot testing, the instrument underwent comprehensive content validation by a panel of three experts – two corporate finance specialists with practical and academic backgrounds and one university professor in personal finance – selected according to the expert-judges competence method. Over a two-week review period, each expert independently assessed the instrument for conceptual alignment, clarity, relevance, accessibility and structural coherence. Feedback was gathered individually, documented by the author, and synthesised to ensure objectivity. The experts unanimously recommended two refinements: making the open-ended question optional to reduce respondent burden, and converting descriptive skill-related items into five-point Likert scales to improve measurability and respondent ease. Every item met the experts' adequacy criteria, confirming content validity.

Feedback collected during the pilot phase prompted minor rephrasing of selected items in the main survey; however, full psychometric validation, including the calculation of Cronbach's α, was not conducted. Financial awareness was operationalised using mean scores derived from Likert-scale items capturing self-assessed knowledge and confidence in financial risk and strategy. The independent variables in RQ1 included self-education, investment ownership and regularity, goal achievement, and reliance on family as a source of financial information.

Non-random sampling (n = 336) employed a snowball technique combined with purposive recruitment to maintain diversity across academic programmes and geographic areas. The analysis was exploratory in nature (t-tests, ANOVA and Pearson correlations at a significance level of α = 0.05). Given the non-random sampling approach, the results should be interpreted as hypothesis-generating

rather than generalisable to the broader population. Although Cronbach's α was not formally calculated, content validity was rigorously ensured through an extensive expert evaluation process employing the expert-judges competence method.

Data analysis was conducted using Microsoft Excel's Data Analysis ToolPak for descriptives (means, SDs, percentage differences), independent-samples *t*-tests (e.g. self-education vs. knowledge), one-way ANOVA (e.g. goal achievement vs. confidence), and Pearson correlations (e.g. number of sources vs. knowledge, $r = 0.49$, $p < 0.001$), with Cohen's *d* effect sizes (0.22–1.28), with a significance level set at $\alpha = 0.05$. the analyses adopted an exploratory, descriptive focus without regression, power calculations or multivariate modelling; no data cleaning was required as analysed variables were complete. Statistical tests (*t*-tests, ANOVA, Pearson correlations) identified within-sample associations only, not population-level inferences. All analysed variables were complete; however, no testing for normality or statistical power calculation was performed due to Excel ToolPak limitations. Figures 1–6 and Table 2 visualise RQ1 determinants to inform RQ2 recommendations.

Table 2. Questionnaire structure by domain

Domain	Items	Formats	Constructs	Sample Items
Financial Perception and Motivation	4	Likert, ternary, multiple-response	Outlook, motivations	Financial future optimism, learning drivers
Investment Experience	6	Binary, frequency scale, Likert, multiple-response	Ownership, regularity	Investment ownership, investing frequency, instruments known
Risk and Understanding	5	Likert, binary	Risk knowledge, strategy skills	Risk comprehension, strategy design confidence
Local Accounts	2	Binary, Likert	IKE/IKZE awareness	Awareness of IKE/IKZE existence, understanding of accounts' rules
Education Habits	4	Likert, binary, multiple-response, frequency scale	Self-learning patterns, learning experience	Pre-uni education quality; number of sources; frequency of learning
Risk Profile	1	Ternary	Risk awareness	"Do you know your risk profile?" (Yes/No/Not sure)
Open-ended	1	Open-ended free text	RQ2 interventions	University education improvements (≤ 100 words)

Source: author's own work. Post-pilot refinements incorporated expert recommendations.

Participants were limited to active Polish university students aged 18–24, verified via opening filter question: "Are you currently a student at a Polish higher education institution?" (Yes/No; No → end). Facebook groups recruited were restricted to student-only membership. Non-probability convenience and snow-

ball sampling targeted students aged 18–24 across Poland, purposefully engaging students from multiple universities and diverse academic fields to maximise geographic and disciplinary representation. Respondents were explicitly requested to forward the survey to peers from other institutions and programmes, thereby extending reach beyond initial networks and promoting sample diversification. The procedure followed a sequential approach: (1) direct personal Messenger and WhatsApp direct messages to verified students from various universities; (2) peer forwarding requests explicitly requesting distribution to students from different institutions and fields, restricted to "students only"; (3) posts in varied Facebook, Messenger and WhatsApp student groups; (4) in-class announcements at Wroclaw University of Economics and Business (facilitated by professors and the author); (5) emails to seven professors for class-group distribution. All invitations stated survey details: anonymous/voluntary participation, estimated maximum 10–12-minute completion time, restricted to Polish university students only, as well as the study purpose (financial awareness research). This multi-channel approach facilitated participation among students from economics, business, and interdisciplinary programmes across both major and regional universities in Poland. As invitations were not systematically tracked, the response rate could not be calculated. The survey introduction included an eligibility filter ("Polish university students only"), yielding 336 complete and verified responses. No exclusions were necessary, as all respondents confirmed student status and provided complete data for the analysed variables. No demographic data were collected in order to preserve anonymity. The sample structure was therefore inferred from the recruitment process: Wroclaw University of Economics and Business constituted the primary contributor, complemented by substantial diversification through onward distribution to institutions in Warsaw, Kraków and regional universities across multiple academic fields.

Although economics and business programmes were more strongly represented due to the initial recruitment networks, the explicit requests to respondents to forward the survey to peers from different universities and disciplines, combined with distribution across varied Facebook and Messenger student groups, ensured representation from diverse fields beyond economics. This multi-channel recruitment yielded a heterogeneous sample spanning multiple Polish universities (Wroclaw University of Economics and Business primary, systematically diversified via peer forwards to Warsaw, Kraków, and other institutions across Polish big cities) across diverse academic fields (economics/business prominent but meaningfully extended to social sciences, humanities, STEM, and other disciplines through cross-institutional forwarding). The sample primarily reflects high student-density urban centres while capturing students originally from smaller towns and rural regions, thus encompassing varied socio-economic backgrounds despite requiring digital access.

The distribution targeted students enrolled in differentiated undergraduate and graduate programmes across several Polish universities. The link to the survey was shared via private messages upon age verification. All ethical requirements were respected. Participation was voluntary and anonymous, personal data were not collected, and procedures conformed to GDPR (Regulation, 2016).

While the use of non-probability sampling precludes population-level conclusions, the study's recruitment design achieved substantive diversity across key dimensions that enhance ecological validity: representation from multiple universities (Wrocław, Warsaw, Kraków, other Polish big cities, regional), diverse academic fields (with economics and business as primary but extending to social sciences, humanities, STEM and others), varied geographic origins, spanning urban centres as well as smaller and rural regions, and both undergraduate and graduate programmes. These characteristics position the findings as internally valid and applicable to digitally connected Polish university students with similar profiles, providing a strong foundation for hypothesis generation and targeted educational interventions.

Key limitations include self-assessment bias, a moderate sample size (n = 336), and the use of non-probability sampling. While the convenience/snowball approach precludes probabilistic generalisation to all Polish students, the achieved sample diversity establishes interpretive significance for digitally-connected students across multiple universities, disciplines (economics, humanities, social sciences, STEM and other disciplines) and regions (urban and rural origins), representing a substantial sub-population reached via academic and social media networks (hypothesis-generating only). The absence of demographic data constrains the detailed characterisation of the sample structure. Statistical analyses were exploratory in nature (Excel ToolPak; untested normality/outliers); smaller subgroups risk low statistical power. Moreover, statistical significance ($p < 0.05$) indicates intra-sample patterns only; non-random sampling and absence of demographic controls substantially limit population-level interpretation and practical applicability of effect sizes reported. The instrument relied on single-item knowledge measures without objective validation or internal consistency assessment. Bivariate focus precludes causal inference. Responses from October 2025 occurred amid stable market conditions (no evident volatility bias). These findings are thus hypothesis-generating.

In the Results and discussion section, Figures 1–6 illustrate the determinants of RQ1 through standardised visualisations, including bar charts of Likert-scale means (Figures 1, 2, 4–6) and one radar chart (Figure 3), based on a sample of n = 336 and a significance level of $\alpha = 0.05$. The bar charts follow a consistent design: the x-axis presents questionnaire response categories or groups derived from the domains outlined in Table 2, while the y-axis displays mean scores on a 1–5 Likert scale (where 1 = strongly disagree and 5 = strongly agree). Figure 3 (radar chart)

uses radial axes to compare multiple constructs expressed as percentages, ranging from 0% at the centre to 100% at the outer edge. Interpretive captions accompany each figure to clarify the analytical rationale. Error bars are not included in the visualisations; however, standard deviation values are reported in the accompanying tables. Table 3 provides detailed insight into the construction and rationale underlying each figure.

Table 3. Indicators and visualisation specifications for Figures 1–6

Figure	Domain and key comparison	*x*-axis categories	*y*-axis primary indicator	Visualisation type and methodological purpose
1	Self-education vs. knowledge scales	"Not engaged in self-education" vs. "Engaged in self-educating"	Mean score (1–5) across knowledge items	Bar chart: Tests RQ1 self-learning pathway (*t*-test precursor)
2	Investment ownership vs. risk understanding	"Non-investors" vs. "Investment owners"	Mean score (1–5) on risk Likert items	Bar chart: Operationalizes experiential engagement hypothesis (ANOVA precursor)
3	Investing regularity vs. multi-construct awareness	Regular/ Irregular/ All students (Q8 frequency)	% of high responses (1–5 scale): IKE/ IKZE awareness, risk understanding, knowledge, strategy design	Radar chart: 0% center progressing towards 100% outward; 4 radial axes enable multi-construct comparison (correlation precursor)
4	Financial goal achievement vs. confidence	"No"; "No, but working towards it"; "Yes"	Mean score (1–5) on strategy confidence	Bar chart: Tests self-efficacy hypothesis (ANOVA precursor)
5	Number of information sources vs. knowledge	"0 sources"; "1–2 sources"; "3–4 sources"; "5+ sources"	Mean score (1–5) across knowledge items	Bar chart: Visualizes dose-response pattern for source quantity
6	Use of family as an information source vs. knowledge measures	"Not using family" vs. "Using family"	Mean score (1–5) across knowledge items	Bar chart: Tests social learning hypothesis (*t*-test precursor)

Source: author's own work.

The study offers an informed overview of student financial literacy in Poland and provides a methodological foundation for future inquiry into youth financial education and related policy development.

3. Results and discussion

Consistent with the definitions outlined in the Introduction and Methodology, the analysis examines financial awareness and knowledge through both objective indicators and subjective measures. This approach enables the identification of key interdependencies shaping the financial awareness of the target group. Financial knowledge is treated as a fundamental underlying factor and analysed as the primary basis for these interrelationships. It is examined in relation to self-education, which serves as a secondary mechanism complementing formal education provided through institutions and structured programmes. All statistical analyses were conducted at a 95% confidence level (significance level $\alpha = 0.05$), ensuring the statistical validity as well as the practical relevance of the observed relationships.

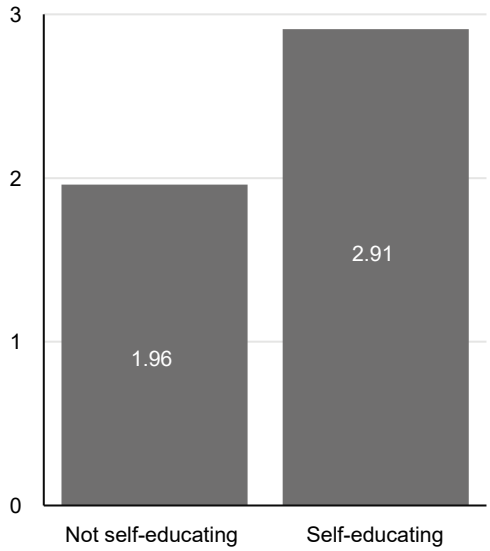

Figure 1. Financial awareness and knowledge levels of self-educating and non-self-educating students

Self-education drastically increases financial awareness and knowledge. Students claiming to learn about finance on their own display a much higher awareness.

Source: author's own survey and analysis.

Students who engage in financial self-education demonstrate 48% higher knowledge when asked to assess it. The average level of knowledge among students who do not educate themselves individually is 1.96, whereas for those who do, it is 2.91. The p-value < 0.001 indicates the statistical significance of this effect, and Cohen's d of 1.28 shows a very strong practical impact of self-education. Standard

deviations of 0.74 for “yes” answers and 0.72 for “no” answers further support the statistical validity of this assessment.

This measurement indicates that self-education should be positioned among the key factors shaping students’ financial awareness. A lack of individually conducted studies leads to a significantly lower knowledge level, which could prove very harmful and dangerous for future financial decisions.

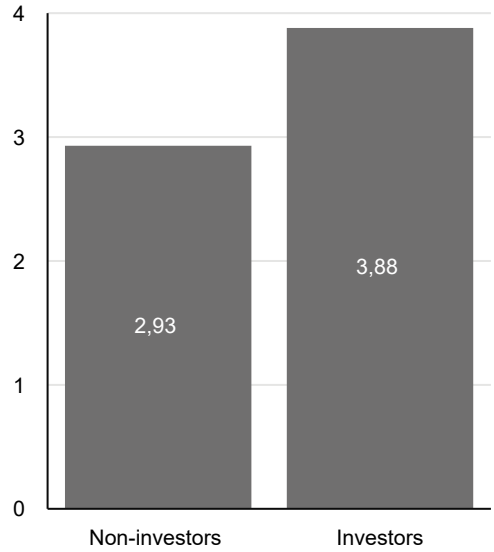

Figure 2. Risk understanding of investment owners and non-investors

Investment ownership shapes risk understanding. Students with investment experience display a visibly stronger risk understanding.

Source: author’s own survey and analysis.

Theoretical knowledge serves as a fundamental basis for future decisions and actions that shape an individual’s financial future. Studying financial concepts and learning about various mechanisms carries no inherent risk. However, without a proper understanding of risk, investing can become hazardous, potentially leading to financial losses.

The study conducted revealed that students who own investments understand investment risk 32% better. This finding highlights the importance of real-time decisions and actions in developing risk comprehension. Experiential engagement equips students with an awareness of their emotions, the risks associated with different instruments, and, crucially, can lead to improved financial decision-making in the future. The p-value < 0.001 confirms the statistical significance of this association, and Cohen’s d of 0.88 indicates a strong practical effect of investment

ownership on risk understanding. Standard deviations of 1.02 for "yes" responses and 1.13 for "no" responses further validate this assessment.

Consequently, investment ownership should be recognised as another key factor shaping financial awareness and understanding of personal finance among young people. Although various factors limit investment ownership in this group, it should be encouraged wherever possible, given its undeniable positive impact on risk comprehension.

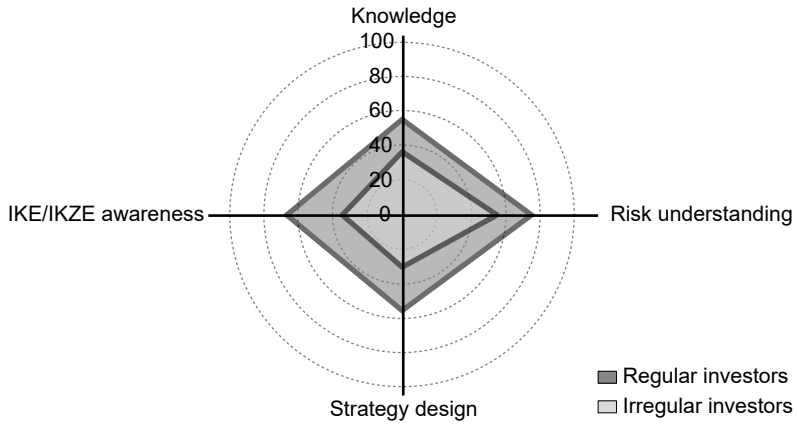

Figure 3. Impact of regular investing on complex factors of financial awareness and knowledge

Investing regularly builds skills, awareness and confidence. Students that invest regularly display a higher overall financial awareness and knowledge.

Source: author's own survey and analysis.

However, it is the regularity of investing that has the strongest impact on complex financial awareness. Another analysis compared responses from students who reported investing regularly against those who invested irregularly. Only students who claimed to invest regularly were included in this study.

Regular investors demonstrated higher levels of financial competence, including 31% higher knowledge, 25% greater risk understanding and a 45% stronger ability to design their own investment strategies. Additionally, a higher proportion of regular investors (by 32.08 percentage points) reported familiarity with IKE and IKZE investment accounts available in Poland. These findings highlight a strong positive influence of consistent investing on all evaluated metrics. Financial awareness is a skill that can be developed through practice, and just as with other skills, regular investing exercises lead to significant progress. For the three quantitative metrics – knowledge, risk understanding and strategy design – the p-value < 0.001 confirms the statistical significance, and Cohen's d of 0.88 indicates a strong prac-

tical effect of regular investing on complex financial awareness. Average standard deviations of 0.96 for "yes" responses and 1.01 for "no" responses further validate the robustness of this assessment.

As indicated by the previous study, ownership of investments improves risk understanding; however, it is consistent investing that drives multifaceted enhancement of complex financial awareness and various skills essential to understanding personal finance.

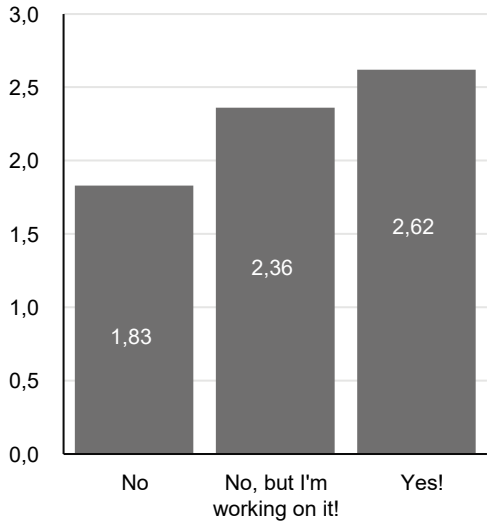

Figure 4. Impact of financial goal achievement on strategy design confidence

Success builds confidence. Students who have achieved a financial goal or are working on it are more confident about their strategy design skills.

Source: author's own survey and analysis.

Previous tests indicated that experiential engagement enhances various financial skills. These findings are supported by a study focusing on a simpler aspect of building personal wealth – saving. Students were asked whether they had achieved any financial goal in their lives, which could be as straightforward as saving a set amount of money. Their responses were then assessed against their financial self-efficacy in designing investment strategies to evaluate how practical experience in pursuing a goal supports self-belief in managing personal finance strategies.

The results indicate that achieving, or even working towards, a financial goal significantly boosts self-efficacy. An ANOVA test yielded an F-statistic of 7.38, underscoring the importance of such efforts in building self-efficacy. Students who had achieved any financial goal reported 43.1% higher financial self-efficacy, supported by a p-value < 0.001 and a Cohen's d of 0.67, reflecting a solid practical

effect. Those who were on the path towards a goal, but had not yet achieved it, demonstrated 28.98% higher efficacy compared to those not pursuing any goal, with a p-value < 0.05 and Cohen's d of 0.50, indicating a meaningful practical impact. It is worth noting that the difference between students who had reached a goal and those still progressing was smaller; students who had achieved a goal showed only 10.9% greater financial self-efficacy. However, with a p-value of 0.15 and a low Cohen's d of 0.22, this difference lacks statistical significance.

This study emphasises the importance of taking initial steps. Even small achievements or clear progress towards a goal, combined with consistent effort, lead to a noticeable increase in investment efficacy. This provides further evidence that the practical application of theoretical knowledge in daily life plays a vital role in shaping the financial awareness of young people.

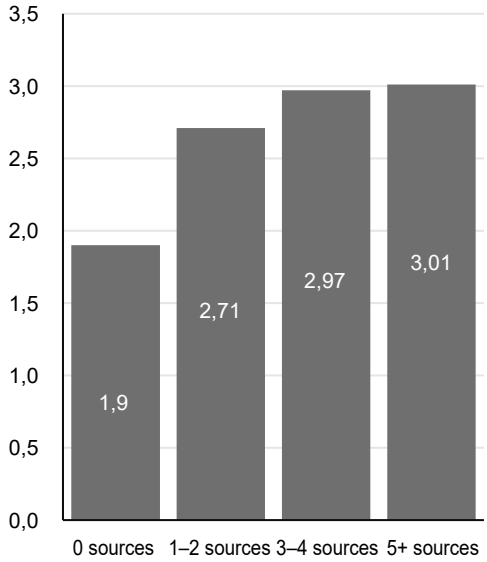

Figure 5. Impact of the number of sources on the level of financial knowledge and awareness

Higher number of sources helps in shaping awareness, though quality remains a key factor. Correlation between number of sources and level of knowledge is visible, but as the number increases, the positive difference diminishes.

Source: author's own survey and analysis.

Figure 5 illustrates diminishing marginal returns in the use of financial information sources. A Pearson correlation (r = 0.49, p < 0.001) indicates a moderate positive association between the number of sources and financial knowledge. The largest increase is observed with the first additional source (+42.4%), followed by substantially smaller gains for subsequent categories (+9.8% and +1.4%),

suggesting a diminishing returns pattern. Table 4 provides a detailed breakdown of source composition.

Table 4. Composition of sources used by students for financial education

Source	Number of responses	% of total respondents
YouTube channels	182	54.2
Social media	147	43.8
Friends or family	142	42.3
Financial blogs/websites	124	36.9
Books	119	35.4
Podcasts	111	33
Online courses	47	14
Financial advisors	33	9.8
Academic clubs	32	9.5
No sources used	80	23.8

Note: Percentages exceed 100%, as respondents were able to select multiple sources. Additionally, 23.8% of the sample (n = 80) reported no engagement in self-education in the preceding filter question.

Source: author's own survey and analysis.

Figure 5 and Table 4 together show that 23.8% of students reported no financial self-education, while among self-educators, a Pearson correlation ($r = 0.49$, $p < 0.001$) indicates a moderate positive relationship between the number of sources and financial knowledge. The first additional source produces a strong +42.4% gain in knowledge, dropping to 9.8% and 1.4% for later sources, which demonstrates diminishing marginal returns.

Table 4 reveals that students strongly prefer accessible digital and personal sources – YouTube (54.2%), social media (43.8%), friends/family (42.3%) – over more reliable professional options like financial advisors (9.8%) and academic clubs (9.5%). This pattern shows that students prioritise convenience over content reliability.

These findings suggest that financial skills are more strongly associated with the quality of information sources and the ability to select them effectively than with the sheer number of sources used. The "finfluencer ecosystem" on TikTok, Instagram and YouTube provides engaging content about investing, saving and debt that lowers entry barriers and builds confidence at first exposure. However, as sources multiply, students face information overload, struggling to process and critically evaluate competing messages, which mirrors the diminishing returns shown in Figure 5.

This ecosystem has mixed effects: it makes financial knowledge more accessible to youth without formal education or family support but also increases risks of

misinformation and oversimplified content designed for engagement rather than accuracy. Educational programs should therefore focus on developing critical evaluation skills for selecting reliable sources – especially with growing AI-generated financial content – rather than simply encouraging more source exposure.

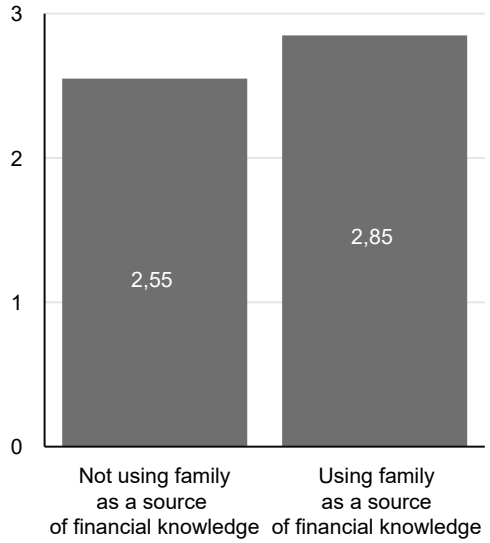

Figure 6. Impact of family-based social learning on respondents' financial knowledge and awareness

Social learning supports knowledge development. Students using their family as a source of knowledge display a higher level of financial awareness.

Source: author's own survey and analysis.

Finally, an exercise evaluating the impact of social learning was conducted. Students who rely on their families as sources of financial knowledge exhibit 12% higher financial knowledge. This underscores the importance of leveraging one's environment in developing financial skills. However, the difference, while positive, is less pronounced compared to previously assessed factors. The p-value < 0.001 indicates the statistical significance of this finding, and Cohen's d of 0.66 demonstrates a noticeable practical effect of family discussions as a source of financial knowledge. These results confirm that social learning positively influences financial awareness and highlight the vital role of family-based discussions in shaping financial literacy. A statistical analysis of all compared metrics provides insight into the relationships between measured factors, their impact on knowledge and awareness, as well as the statistical and practical significance of these effects, presented in the Table 5.

Table 5. Correlation and statistical significance of key factors

Factor	Metric compared	% difference	*p*-value	Cohen's *d*	Interpretation
Self-education	Financial knowledge	+48	< 0.001	1.28	Very strong practical effect
Investment ownership	Risk understanding	+32	< 0.001	0.88	Strong effect
Regular investment	Knowledge, strategy, risk understanding	+25–45	< 0.001	0.88 (average)	Strong effect across metrics
Achieving a financial goal vs. none	Confidence in strategy design	+43.1	< 0.001	0.67	Moderate to strong effect
In progress vs. none	Confidence in strategy design	+28.9	< 0.05	0.50	Moderate effect
Achieved vs. in progress	Confidence in strategy design	+10.9	0.15	0.22	Not statistically significant
Number of information sources	Financial knowledge	+42.4% to +1.4%	< 0.001	N/A	Diminishing returns
Family as info source	Financial knowledge	+12%	< 0.001	0.66	Moderate practical impact

Source: author's own survey and analysis.

The findings of this study identify self-education, investment ownership and regularity, success in achieving financial targets, careful selection of knowledge sources and social learning as key factors shaping students' financial awareness. The following section compares these results with the broader scientific consensus to verify the study's outcomes and provide practical recommendations for educational institutions.

Conclusions

The findings of this study not only confirm the existing consensus but also offer important insights into the primary aim of this research: identifying potential directions that educational institutions could implement to enhance financial awareness. Utilising a mixed-methods approach, incorporating Human Capital Theory (Becker, 1993), Social Learning Theory (Bandura, 1977) and Financial Socialisation Theory (Gudmunson & Danes, 2011), the study demonstrates how specific elements of the financial environment contribute to the development of skills, which, collectively, shape financial awareness.

The findings indicate that self-educating students exhibited superior financial knowledge, consistent with the Domains of Learning framework, which asserts that self-directed learners must rely on themselves. Although the effectiveness of self-education depends on multiple factors, this study found not only a higher level of financial knowledge among self-learners but also a lower standard deviation compared to non-self-educated respondents, indicating more consistent knowledge levels. These findings reaffirm Bandura's (1977) self-directed learning theory, which contrasts with a collective and impersonalised approach by highlighting the benefits of individualised learning. This aligns with the findings of Amagir et al. (2018) and Agyekum (2024), who underscore the significance of financial self-education.

Investment owners demonstrated a better understanding of the risks associated with investing. This aligns with Kolb's (1984) experiential learning theory, which posits that active participation in the market enables quicker acquisition of practical skills than relying solely on theoretical learning. Moreover, regular investors not only displayed superior risk understanding but also exhibited greater overall investment knowledge and strategy development skills compared to non-regular investors. These findings correspond with existing literature suggesting that, to acquire solid knowledge and confidence, regular engagement with the subject matter is essential (FINRA, 2022). Therefore, it is crucial for educational programmes to incorporate as much practical experience as possible, which can be achieved through simulations, case studies and other relevant methods.

The findings regarding the achievement of any financial goal support Bandura's (1977) self-efficacy theory, which posits that setting a goal is a crucial step towards fostering effort and maintaining focus. Importantly, it is not necessary to fully achieve a goal to significantly boost confidence; merely beginning the process represents a vital step that leads to a noticeable increase in self-assurance. These findings further emphasise the need to integrate practical financial applications into students' daily lives. This can be facilitated by encouraging students to set financial goals, providing guidance on how to achieve them and assisting in the proper assessment of their progress. It is essential to underscore that even minor financial goals, once set and achieved, can greatly enhance an individual's confidence. When implementing self-education, the use of multiple knowledge sources was shown to enhance respondents' financial knowledge. However, diminishing returns were observed as the number of sources increased from 1–2 up to 5 or more, aligning with Tripathi and Jariwala's (2025) findings. They argue that access to information alone does not guarantee informed and reasonable decision-making. Consequently, developing students' ability to select relevant and reliable information is crucial. This skill, involving verification to ensure safe and applicable data, is increasingly important in resisting the illusions and misinformation prevalent on social media. Given the rapid digital immersion of young-

er generations, fostering critical evaluation of information should be an essential component of education.

In support of Bandura's (1977) social cognitive theory, the study revealed that drawing financial knowledge from relatives has a significant positive impact. Students who reported engaging in such family discussions outperformed those who did not. This finding aligns with the work of Agnew and Sotardi (2025), as well as Abdul Ghafoor and Akhtar (2024), all of whom emphasise the importance of social learning within families and demonstrate the strong influence of family-derived knowledge on subsequent financial decisions. The substantial role of the family environment in shaping financial awareness, observed both in this study and cited literature, suggests a promising avenue for further research aimed at addressing the limited effectiveness of formal educational measures when lacking contextual support. Bandura's assertion that financial socialisation occurs through observing, conversing and critically reflecting on one's participation in financial markets and related contexts could be expanded in formal education, for example, through social campaigns promoting increased frequency of such discussions. As Gudmunson and Danes (2011) underscore, these conversations may have a more powerful impact than the quality of institutional education. Therefore, increasing the frequency of family-based financial discussions could provide a more effective and efficient path to enhancing financial literacy than solely improving centrally provided education.

The results of this research clearly support the multi-dimensional nature of financial literacy and apply this framework specifically to young people. Regular investment activity, the ability to exercise self-control through self-education and goal achievement, alongside the influence of information sources, society and family, are all demonstrated to be important factors shaping overall financial literacy. These findings corroborate the theoretical framework proposed by Lusardi and Mitchell (2014), extending its applicability by validating it within the examined group of Polish respondents.

The accessibility of sources and overall access to education prove insufficient for laying firm foundations for young individuals' financial awareness. This study provides valuable insight indicating that it is primarily self-education, along with a multitude of societal and informational factors, which shape the overall financial knowledge of an individual.

A recurring theme that connects all the findings of this study is the critical importance of practical experience and a deep understanding – not only of the financial instruments themselves but also of individual responses to increased risks or setbacks. An inexperienced investor may make uninformed, panicked decisions during challenging times, whereas those who comprehend market fluctuations, changes in risk and their own emotional reactions are better positioned on the path to wealth building. This aligns with extensive research emphasising that prac-

tical engagement is essential for developing sound financial decision-making skills and confidence, which theoretical knowledge alone cannot fully provide.

Exposure to digital information is now deeply embedded in the daily lives of most individuals. However, it is of utmost importance to understand the risks posed by fake news and misinformation, and the potential complications associated with leveraging multiple sources. A key skill in managing information effectively is the ability to select, filter and critically assess the knowledge obtained.

Given the proven importance of social and family learning, it should draw policymakers' attention that there is significant growth potential to be gained from increasing the number of families that engage in active financial discussions.

Future stages of the research will incorporate multivariate models (e.g. linear regression and structural equation modelling, SEM), subject to data suitability, with the present findings serving as a foundation for further quantitative analysis. Future research with complete demographic data could employ regression modelling for more robust inference. Moreover, future investigations should apply probability sampling, objective financial literacy measures and longitudinal research designs. Specifically, stratified sampling by university type, academic field and geographic region would enhance representativeness and enable more rigorous comparative analysis across student subpopulations. Finally, future research is encouraged to use standardised instruments or to develop and validate custom scales to ensure measurement reliability and comparability across studies.

This paper provides a foundation for key directions in which policymakers could focus their efforts to systematically increase the financial awareness of young individuals, as outlined on the Figure 7.

Figure 7. Key directions for policymakers aiming to foster and enhance financial awareness and knowledge

Source: author's own work.

Firstly, financial education should not focus solely on theoretical approaches but shift its centre of attention towards practical activities. These activities not only involve young participants but also provide experiential engagement, leading to higher financial awareness and knowledge. Secondly, family members and peers should be encouraged to participate in the social contexts of learning, as discussed above. The third essential factor is fostering media literacy, particularly by leveraging popular digital networks to enhance literacy levels. It is also important to provide systematic tools for verification and equip youth with the knowledge to assess the reliability of sources. Lastly, and most importantly, positive financial behaviours should be strongly encouraged. All programmes aiming to educate students on finances should incorporate goal setting, self-efficacy building and progress tracking, with elements that reward achieved milestones. Such solutions are sometimes observed in banking, where achieving savings goals is supported by bonuses provided by institutions. Applying non-material incentives within learning programmes could simulate real-life situations and serve as strong encouragement towards saving and achieving financial goals.

Theory is a key foundation of financial awareness and knowledge. However, theory that is not applied in real-life contexts remains unbeneficial for the learner. Therefore, a variety of practical applications is crucial and should be widely regarded as an essential factor leading to skill improvement within the examined fields.

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