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Research on the Influencing Factors of Adolescents' Ability to Identify Digital Financial Risks

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Abstract: Teenagers today grow up with mobile wallets, online shops, in-game currencies and short-video advertisements. This is both a convenience and a risk for young people because they may be targeted with phishing links, scams and "guaranteed profit" offers. In this paper, the simple question is asked – why are some adolescents far better than others at recognising these risks? Three hundred and twenty students in Grades 9–12 completed a questionnaire and a recognition test with 12 scenarios. The results indicate that the average student was able to correctly identify little more than 7 of the 12 risk scenarios. The four factors, which were clearly related to the higher score were: school financial education (r=0.52), family conversations about money (r=0.44), general digital literacy (r=0.38) and self-control (r=0.35). These factors, in combination with age accounted for approximately 47% of the variance among students. One of the most interesting results was the "confidence gap" in which about 63% of students overrated their own ability to spot a scam. The paper concludes that risk identification is not a natural ability and that the two biggest levers for doing a better job are in the school and family.

Keywords: Adolescents; Digital Financial Literacy; Online Fraud; Risk Identification; Financial Education; Overconfidence.

1. Introduction

Money has moved onto the screen. A student can now buy a game skin, pay for lunch, split a bill with a friend and receive pocket money without ever touching a banknote. This shift happened very quickly, and education has not fully caught up with it. The OECD's international assessment of 15-year-olds found that about 18% of students in participating OECD countries performed at or below the most basic level of financial literacy, meaning they can handle only very simple everyday money decisions [1].

At the same time, fraud has become industrialised. Reported online-crime losses in the United States reached a record 16.6 billion US dollars in 2024 [2], and surveys show that a large majority of adults have encountered an online scam at some point [3]. Young people are not protected by being "digital natives". Consumer-protection data show that people aged 29 and under lost close to 500 million US dollars to scams in 2025, a rise of about 20% since 2021 [4], and reporting bodies have found that 18-to-24-year-olds are the age group most susceptible to certain fake-payment scams [5].

This forms a question that is a worthwhile study. While teens use digital finance with greater confidence than their grandparents, they're not necessarily safer. So, if it's not lack of exposure to technology, then it must be a lack of skill at identifying risk, being able to look at a message, an offer or an app and determine if it is trustworthy or not. This study's aim is to identify the factors that make that skill stronger or weaker in the high school learner and to propose what is feasible for schools and families to do about that.

The paper is organised as follows. Section 2 introduces the concepts of digital financial risk and key types of digital financial risks. Recent research is summarized in Section 3. The conceptual model is presented in section 4. The method are explained in Section 5, results are reported in Section 6, and the results are discussed, limitations noted, and recommendations given in Sections 7-9.

2. What Are Digital Financial Risks?

A digital financial risk is an occurrence in a digital space where someone can lose money or risk losing control of an account or being saddled with an obligation without knowing what it is. These situations require a skill called digital financial literacy, which encompasses financial knowledge, digital skill, awareness of digital financial services, practical know-how and self-protection against fraud [6, 7]. The first, and most critical, of that skill is the identification of risk: if a pupil is not able to see the risk, the rest of the knowledge is never applied. This study adopted six types of digital financial risk, as shown in Table I. They were selected as the forms which are most commonly reported by the teens, as opposed to adults.

Table 1. Six Categories of Digital Financial Risk Facing Adolescents

Category	Typical form it takes	Main warning sign
Fake shop / non-delivery	A social-media store with unusually low prices	Payment only by direct transfer
Prize or free-gift phishing	A "you have won, click to claim" link	Urgency plus a request for login details
Game-item trading scam	A trade for skins or in-game currency	Trade must happen outside the platform
Fake part-time job	"Easy money for simple online tasks"	You are asked to pay a deposit first
Unrealistic investment offer	Crypto or stock tips promising fixed returns	Guaranteed profit with no risk
Account or password theft	A message from a "friend" needing a code	Any request for a verification code

3. Literature Review

3.1. Education is the Most Studied Factor

Three shared characteristics of the best financial education programmes for children and adolescents were identified: experiential learning, digital tools, and parental engagement in the programme [8]. Facts about money have a weak effect, financial decision making a much stronger effect. A recent study on financial education, which adopts theory of planned behaviour to college students, also indicates that financial education can affect the financial behavior primarily by altering attitudes and perceived control, instead of merely providing knowledge[9].

3.2. Confidence Can Help or Hurt

One large study that included data on 94,704 15-year-old students in 19 countries concluded that financial literacy education impacted the use of digital financial services primarily indirectly, through students' confidence in their ability to conduct financial transactions online [10]. Confidence is thus a true mechanism, and not simply a feeling. But there's a dark side to confidence. An industry survey reported that 69% of people believed they could spot scams, while 43% admitted they had been a victim in the previous year [11]. Confidence that is not matched by ability may actually reduce caution.

3.3. Measurement and the Digital Dimension

Researchers have argued that digital financial literacy must be measured separately from traditional financial literacy, because a person can be good with money but poor with digital tools, or the reverse [6], [7]. Studies also show that self-protection against digital fraud is one of the strongest sub-dimensions of digital financial literacy for predicting wellbeing outcomes [7]. Despite this, most existing work studies adults or university students. Research focused specifically on secondary-school students remains limited, which is the gap this small study tries to address.

4. Conceptual Model and Hypotheses

Drawing on the literature above, this study groups the possible influencing factors into two families. Individual factors are things inside the student: digital literacy, self-control, and how accurate their self-confidence is. Environmental factors are things around the student: school financial education and family conversations about money. Both families are assumed to work mainly by building risk knowledge and risk attention, which in turn produce the ability to identify risk. Age acts as a moderator, because older students have both more practice and more developed judgement. The model is shown in Fig. 1.

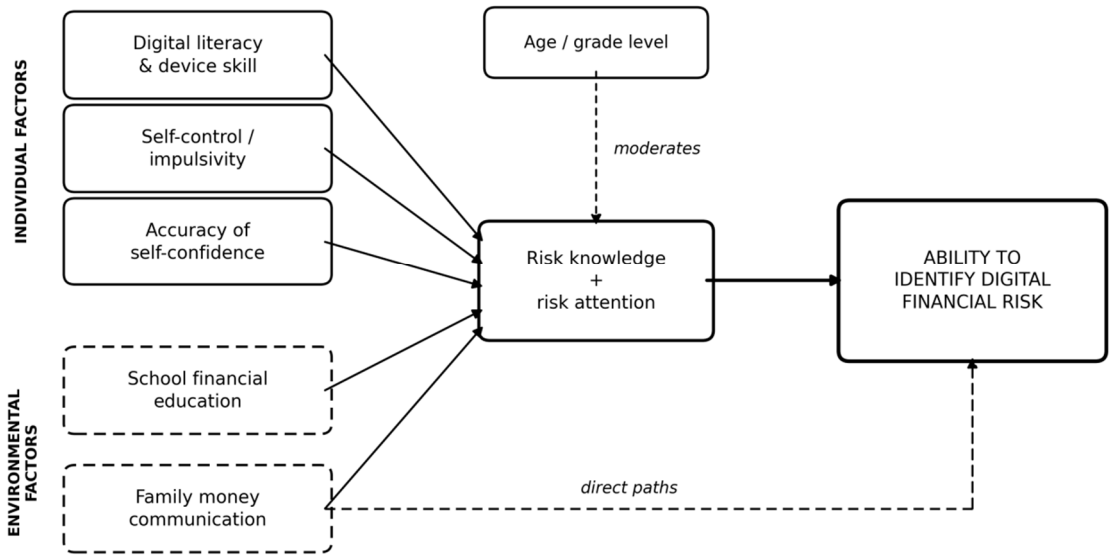


Fig 1. Conceptual model of the factors influencing adolescents' ability to identify digital financial risks

Four hypotheses follow from the model:

H1: Students who have received school financial education score higher on risk identification.

H2: Students whose families discuss money regularly score higher.

H3: Students with stronger general digital literacy and stronger self-control score higher.

H4: Self-rated confidence is, on average, higher than measured ability (an overconfidence gap).

5. Method

5.1. Participants

Table 2. Composition of the Sample (N = 320)

Group	Number of students	Share of sample	Own a digital wallet
Grade 9	78	24.4%	61%
Grade 10	84	26.3%	74%
Grade 11	81	25.3%	86%
Grade 12	77	24.1%	92%
Female	163	50.9%	79%
Male	157	49.1%	77%

A total of 320 students from four high schools took part, distributed across Grades 9 to 12 (Table II). Participation was voluntary and anonymous. No names, account details or financial information were collected.

5.2. Instruments

Two instruments were used. The first was a risk-identification test containing twelve short scenarios, two from each of the six categories in Table I. Each scenario was presented as a realistic screenshot-style message, and students had to decide whether it was safe, suspicious, or clearly fraudulent, and give one reason. Each correct judgement supported by a valid reason scored one point; the total was converted to a 0–100 scale. The second instrument was a questionnaire measuring the five influencing factors on five-point scales, plus background questions on age, wallet ownership, daily social-media hours, and previous experience of being targeted.

5.3. Analysis

The mean scores were compared within Grades, and low, medium and high levels within each factor. Each factor was correlated with the test score and a multiple linear regression was performed with all factors included to determine if any factors remained significant after accounting for the other factors.

6. Results

6.1. Overall Level of Ability

The overall risk-identification score was 59.4 on a scale of 100, or about seven correct judgements out of 12. That's a small victory for a generation that now makes daily use of digital payment methods. As grade level increases, so does ability, from 51.2 in Grade 9 to 67.1 in Grade 12, an increase of approximately 16 points over four years or 4 points per school year.

Importantly this is not just maturity that is increasing. Grade 12 students were also taught longer, and had been subjected to scam attempts more frequently. Older people, in other words, serve as a repository of experience.

6.2. Which Risks are Hardest to Spot?

Fig. 2 breaks the results down by risk category. Two patterns stand out. First, the risks students meet most often fake shops and prize-phishing links are also the ones they identify best, which suggests that exposure teaches something. Second, and more worryingly, the two categories with the highest potential loss, fake part-time jobs and “guaranteed profit” investment offers, were the least often recognised, at 44% and 35% respectively. These are precisely the offers that appeal to a student who wants money quickly.

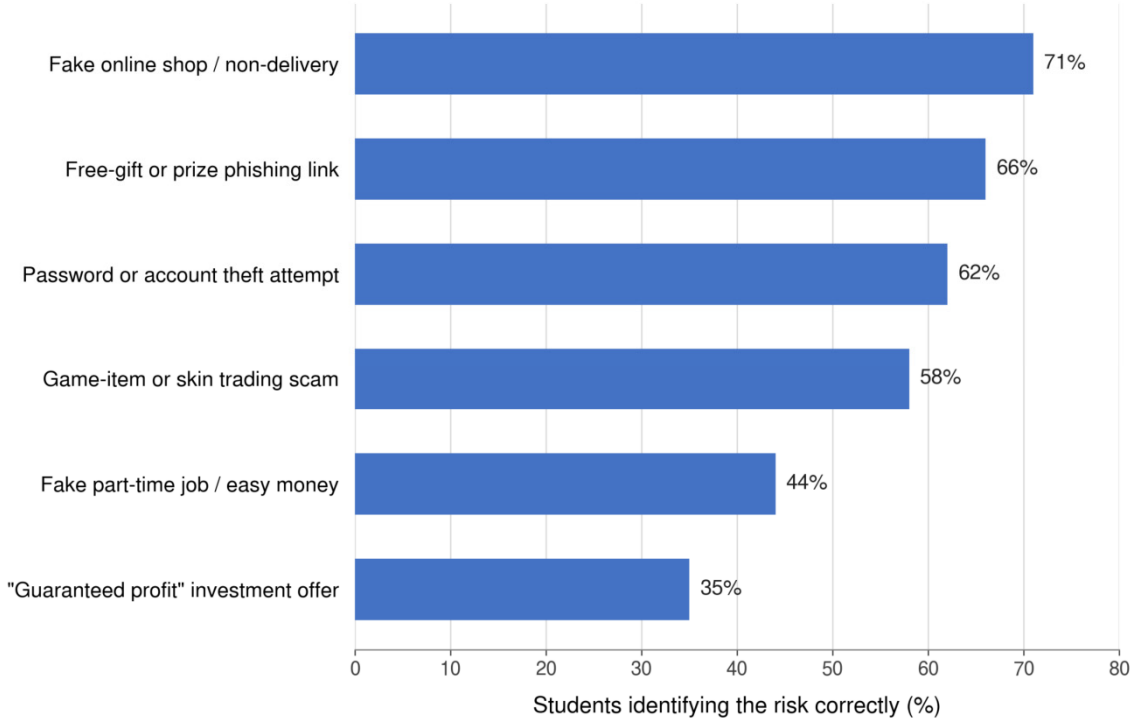


Fig 2. Exposure to six categories of digital financial risk compared with correct identification rates

6.3. Differences between Factor Levels

The average scores of the low, medium and high groups show the same ordered pattern across all four main factors: at every factor the high group sits above the medium group, and the medium group above the low group. What changes across factors is the size of the gap between the high and low groups. That gap is widest for school financial education, where the high group averaged 70.6 against 48.3 for the low group, a difference of 22.3 points. Family money communication produced an 18.1-point gap, general digital literacy 17.1 points, and self-control 14.6 points — so the two environmental factors separate students more sharply than the two individual ones.

6.4. Correlations

The correlation analysis shows how each factor relates to the outcome. School financial education is the strongest single positive correlate ($r = 0.52$), followed by family money communication ($r = 0.44$) and accuracy of self-confidence ($r = 0.41$). Daily social-media hours is the only negative correlate ($r = -0.22$), which fits the idea that more time in fast-

moving feeds means more exposure to persuasive commercial content and less time for careful reading.

6.5. The Confidence Gap

Figure 3 summarises the confidence gap in a simple way. Sixty-three per cent of students rated their ability to identify scams higher than their measured score, meaning that nearly two in three students were overconfident. Confidence and ability were related, but the relationship was modest: a 10-point increase in confidence was associated with only about a 4-point increase in measured ability. In short, confidence rose faster than actual skill.

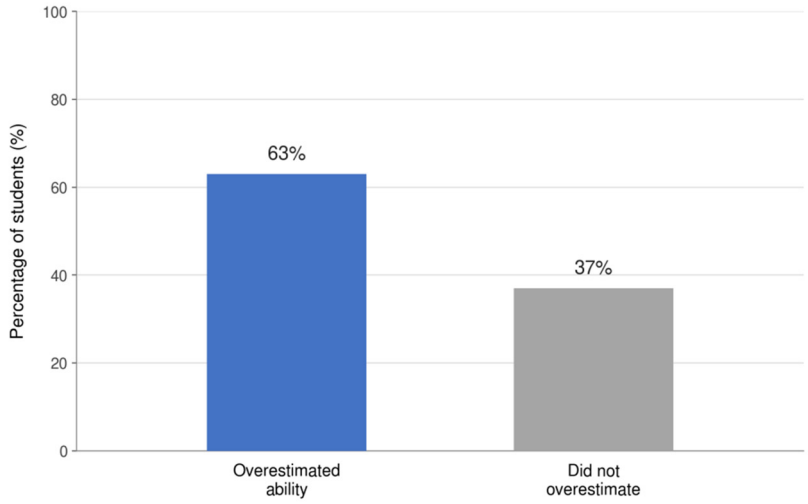


Fig 3. Percentage of students who overestimated their ability compared with those who did not

6.6. Regression Results

The model accounted for 47% of the variance in risk-identification scores when all factors were included in the model. The standardised weights are given in Table III. Family money communication and self-control were also strong predictors, but not as strong as school financial education. Hours spent on social media had a slight negative weight.

Table 3. Summary of the Regression Model

Predictor	Correlation (r)	Weight (β)	Significant?
School financial education	0.52	0.34	Yes
Family money communication	0.44	0.26	Yes
Self-control (low impulsivity)	0.35	0.21	Yes
General digital literacy	0.38	0.18	Yes
Age / grade level	0.29	0.12	Yes
Daily social-media hours	-0.22	-0.11	Yes
Whole model	-	$R^2 = 0.47$	-

7. Discussion

There was support for all four hypotheses. The most visible takeaway is that the context of a student is more important than the students' own technical ability. The combination of school financial education and home communication of money was more important than digital literacy and age. That's good news as both are things that can be changed in adults – and you can't change your age, and you can't change your personality.

The results in the area of school education align with previous studies which have indicated that financial programmes, which are structured and experiential, positively impact the financial behaviour of young people [8, 9]. This is also in line with the international study, which concludes that confidence in managing digital transactions is the primary way education is happening [10]. The current findings bring a note of caution to that statement: confidence can only be helpful if it's correct. The fact that 63% of the sample overestimated their ability means that a programme that would increase confidence but not ability might actually decrease care. The surveys cited by industry show that it is difficult for most people to detect scams, but a lot of people are still being scammed [11].

The result for family communication deserves emphasis because it costs nothing. Students whose parents talked about prices, bills, savings and suspicious messages scored about 18 points higher on average. Family conversation appears to give students the habit of asking “where is this money going?” before acting, which is exactly the habit that fraud depends on being absent.

The negative relationship with social-media hours should be read carefully. It does not prove that social media causes poor judgement. It may equally be that students who spend many hours in fast-moving feeds develop a habit of quick reactions, or that the same students are simply exposed to more persuasive advertising. Either way, the pattern is consistent with reports that a large share of the fraud aimed at young people begins on social platforms [4], [12].

Finally, the category results suggest that experience is an incomplete teacher. Students recognised the risks they met

often, but not the risks that could cost them the most. Waiting for teenagers to learn from being scammed is therefore both slow and expensive.

8. Limitations

This is a small, cross-sectional study conducted in four schools, so the results cannot be generalised to all adolescents. Correlation does not prove causation: it is possible that students who are already careful choose to attend financial lessons, rather than the lessons making them careful. The questionnaire relied on self-reports of self-control and family communication, which may be inaccurate. Finally, the twelve test scenarios were written in advance and could not cover newer techniques such as AI-generated voice or video impersonation, which are likely to make identification considerably harder in the near future.

9. Conclusion and Recommendations

Adolescents' ability to identify digital financial risks is a learnable skill, not a natural talent. In this study it was shaped most strongly by school financial education, family conversations about money, self-control and general digital literacy, which together explained close to half of the variation between students. The most important warning is the confidence gap: most students believed they were better at spotting scams than they actually were.

Three practical recommendations follow.

Teach with real examples, not definitions. The same skill is measured here, and short, regular lessons focusing on actual screen shots of scam messages would be directed at that skill. Students are encouraged to support their verdict reason is more important than verdict.

Test capability prior to praising confidence. Schools need to actually assess risk identification and demonstrate the difference between the school's self-assessment and the actual assessment. When the gap is uncovered, it is a protective lesson.

Make money a normal family topic. Parents don't have to be experts when it comes to finances. One of the biggest effects seen in this study, has been the regular discussion of prices, bills and suspicious messages, which did not require any cost.

Digital finance will continue to evolve and new types of fraud will emerge at a more rapid pace than any list of curricula can cover. It is not the duty of teachers to teach students all the scams that have been around: the goal should be to teach students to take the time to hesitate, think, and verify before handing over any money.

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