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FROM FINANCIAL SELF-EFFICACY TO DEFI ADOPTION INTENTION: THE MEDIATING ROLE OF PERCEIVED FINANCIAL CAPABILITY

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KEYWORDS

Financial Self-efficacy; Decentralized Finance; Perceived Financial Capability; DeFi; Adoption Intention; Pakistan; Social cognitive theory

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ABSTRACT

Based on Social Cognitive Theory and financial capability viewpoints, this research explores the link amid financial self-efficacy (FSE) and the intention to use decentralized finance (DeFi) and explores if perceived financial capability (PFC) has as a mediating role amid FSE and the intention to use DeFi. A quantitative survey design with a single method was used and data were gathered from 387 users of cryptocurrency in Pakistan between the ages of 22, who have used, explored, or seriously considered using any DeFi application or service. The hypothesized direct and indirect relationships were tested by regression analysis and Hayes's PROCESS macro in SPSS. The results revealed a positive connection amid financial self-efficacy and intent to adopt DeFi, and perceived financial capability is a noteworthy mediator in this association. The mediation is partial, suggesting that financial self-efficacy impacts the intention to adopt DeFi both directly and via perceived financial capability. The research augments the increasing literature on DeFi-adoption by introducing the concept of an individual-level financial psychological mechanism, and extends financial capability research to the decentralized digital finance sector. The results offer implications for DeFi service providers, policy makers and regulators looking to promote responsible and informed engagement with new digital financial services, as well as for financial education providers.

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Introduction

The swift development of monetary administrations has essentially altered the manner in which people access, gauge and take part in monetary markets. In addition to traditional financial technology (FinTech), blockchain-based financial systems have provided new ways for financial intermediation, allowing for the execution of transactions and financial services to be delivered via distributed networks, smart contracts and decentralized applications. Decentralized Finance (DeFi) is a notable developments in this evolution, which aims to deliver financial services similar to the traditional centralized financial system without the need for traditional centralized intermediaries (León & Lehar, 2025). As the number of cryptocurrencies and blockchain applications has increased, the number of retail users has also grown, leading to either participation in or potential adoption of DeFi. Studies on cryptocurrency adoption have shown that technological, psychological, financial and social factors are all important to cryptocurrency adoption. Perceived usefulness, perceived trust and perceived ease of use, for instance, were found to be recurring determinants throughout the literature in a recent systematic review of cryptocurrency adoption (Alrehaili et al., 2024). However, the current growing body of adoption literature is still based on technology-based constructs. Fewer efforts have been made to focus on the psychological tools people can use to feel capable in their use of increasingly complex financial technologies. This omission is of particular significance in DeFi. These are not like many traditional digital financial services, in which users are not required to comprehend blockchain wallets, smart contracts, token systems, decentralized exchanges, liquidity pools, transaction costs, network confirmations, personal-key security, or possibly more complex financial risks. That means that acceptances of DeFi could be based not just on its utility or trustworthiness, but also on the capacity of users to easily use and understand it.

In the present study, the focus lies in one of these psychological resources namely financial self-efficacy. It is a general self-confidence in the capability to efficaciously execute financial activities and financial situations management. It is based on Bandura's (1986) work on self-efficacy, which states that self-efficacy beliefs affect an individual's approach to a challenge, amount of effort expended, persistence when encountering obstacles, and interpretation of potential obstacles. In consumer finance, financial self-efficacy is increasingly recognized to be imperative determinant of financial decision-making and behavior. The recent review by Gulati and Singh (2024), which examined 64 studies, emphasizes that financial self-efficacy is a learned and potentially developable psychological belief associated with a variety of financial outcomes. DeFi participation frequently involves uncertainty and unfamiliar procedures. Individuals who believe that they can understand financial problems, make appropriate financial decisions and overcome financial difficulties may therefore be more willing to investigate and adopt DeFi services. The second construct in this study is perceived financial capability. In the contemporary literature, financial capability has been conceptualized in different ways, but present-day research generally treats it as broader than financial knowledge alone. It encompasses the capacity to use financial familiarity and skills, engross appropriate financial behavior and using accessible financial prospects to attain desirable outcomes. A systematic review by Xiao et al.

(2022) synthesized the financial-capability literature and identified substantial conceptual overlap among financial knowledge, skills, self-efficacy, financial behavior, access and financial well-being. Xiao & Porto (2022) similarly conceptualized financial capability through knowledge, behavior and skills, demonstrating that these components are relevant to financial outcomes.

DeFi adoption intention represents an individual's inclination or planned readiness to espouse or use decentralized financial services. Behavioral intent has long been documented as a central proximal predictor of technology adoption. The technology acceptance tradition suggests that individuals form behavioral intentions based on their evaluation of a technology and their perceived ability and willingness to use it. However, emerging research indicates that the determinants of DeFi adoption may differ from those of conventional FinTech because DeFi combines technological complexity with financial risk, decentralization, pseudonymity and reduced reliance on traditional intermediaries. Lockl and Stoetzer (2021), for example, examined distrust in banks as a potential driver of DeFi adoption and found that distrust did not significantly predict consumers' intention to adopt DeFi. Their findings are significant because they question the notion that consumers will gravitate towards decentralized finance by default when they aren't happy with centralized financial institutions. Instead, it seems that when it comes to adoption, there are more subtle psychological and technological considerations at the user level. This is a point which is very relevant in Pakistan. Pakistan is an emerging digital-finance context where there is interest in cryptocurrencies, as well as a high degree of uncertainty relating to financial participation through technology, financial literacy, and consumer protection and regulation. Among Pakistani banks, fintech adoption is found to influences sustainability performance (Saad et al., 2026; Khan et al., 2025). Recent findings from Pakistan suggest that some aspects like as awareness, financial literacy, trust, design, and performance expectation and effort expectancy (Li et al., 2023) play a part in prompting the intentions to espouse cryptocurrencies. Further, more recent, studies conducted on Pakistan also suggest that financial knowledge and awareness, perceived risk, and other factors can affect behavioral intentions for cryptocurrencies (Shehzadi & Rena, 2025). But these studies mostly focus on cryptocurrency adoption and not DeFi adoption.

The current study, therefore, addresses a theoretically and empirically relevant gap. Existing cryptocurrency and DeFi studies have emphasized technological acceptance, perceived usefulness, trust, security, risk, social influence and institutional factors. At the same time, financial self-efficacy research has primarily examined financial behavior, financial management, investment and financial well-being (Esmaeilzadeh et al. (2026). There is considerably less research connecting financial self-efficacy to adoption intention for decentralized financial technologies, and even less research explaining this relationship through perceived financial capability. This study therefore proposes that financial self-efficacy operates through two mechanisms. First, it may directly increase DeFi adoption intention because individuals who feel poised in managing financial matters are expected to prepared to approach complex financial innovations. Second, financial self-efficacy may enhance perceived financial capability, which in

turn increases willingness to adopt DeFi. The latter mechanism provides an explanation for why financial confidence may translate into technology-adoption intention. Accordingly, this research endeavour to scrutinize the connotation amid financial self-efficacy and DeFi adoption intention among Pakistani cryptocurrency users and to examine if perceived financial capability mediates this association.

Literature Review and Hypotheses

Theoretical Foundation

Social Cognitive Theory offers the principal theoretical grounding for the proposed model. Bandura (1986, 1997) argued that human behavior is influenced by the dynamic collaboration of personal cognitive factors, behavior and environmental circumstances. Self-efficacy is a vital element of SCT, which is judgment of individual concerning his or her capability to shape and perform actions essential to attain anticipated results. Self-efficacy affects behavioral choices because people are more expected to approach actions, they have faith of performing efficaciously. It also affects persistence. When individuals encounter obstacles, people having sturdier beliefs of efficacy are more probable to exert effort and continue attempting to achieve their goals. Conversely, low self-efficacy can result in avoidance, reduced effort and premature disengagement. Financial self-efficacy applies this logic to financial decision-making. It represents self-assurance in one's capability to accomplish financial actions, solve financial problems and manage financial circumstances. Recent research demonstrates that financial self-efficacy is linked to fiscal behavior besides investment-related outcomes (Palmer et al., 2021; Dare et al., 2023). Gulati et al. (2024) review further demonstrates that FSE has become a distinct research domain with implications for financial decision-making, behavior and well-being. SCT provides a logical explanation for why FSE should influence DeFi adoption intention.

SCT alone, however, does not fully explain the proposed mediating mechanism. Financial competence generally denotes the capacity to opt for suitable financial choices and translate financial knowledge and skills into effective financial action, and financial capability theory, provides a complementary explanation (Garcìa-Santillàn, 2026). Recent scholarship emphasizes that capability extends beyond knowledge and incorporates behavior, skills, confidence and the ability to exploit financial opportunities. Xiao et al. (2022) established that the financial-capability literature embraces multiple conceptualizations but consistently links capability with individuals' capacity to employ financial familiarity and accomplish necessary financial behaviors. Xiao & Porto (2022) similarly found that financial behavior, skills and knowledge make distinct contributions to financial well-being. Potocki and Białowąs (2023) further noted that financial capability encompasses related constructs such as financial literacy, knowledge, skills, self-efficacy, financial capacity, financial behavior and financial access. This view highlights the psychological nature of FSE as a predictor of perceived financial capability. People who think they could do a good job of financial responsibilities are more likely to think they can do a good job with financial opportunities and challenges.

Decentralized Finance (DeFi)

The decentralized finance is a new form of financial infrastructure, mainly using public blockchain networks and smart contracts. DeFi apps rely on blockchain-based protocols, which automate and coordinate financial functions instead of being exclusively reliant on centralized financial institutions (Kesavan, Polisetty & Subbaiyan, 2026). These feature decentralized exchange, lending and borrowing, stablecoin transactions, derivatives, asset management and liquidity provision. The technology of DeFi provides significant opportunities for benefits. DeFi can help to build programmable financial services, minimize certain types of intermediations, improve transparency of transaction records, and provide greater access to financial applications (León & Lehar, 2025). There are, however, other risks and responsibilities that decentralization entails as well. Smart contract vulnerabilities, cyberattacks, loss of private key, market volatility, liquidity risk, and complex governance structures may result in exposure for users. Ozili (2022) noted that DeFi has become an emerging research domain as it has the potential to bring a paradigm shift to financial intermediation and pose financial-stability and regulatory challenge. Likewise, topical studies have demonstrated the difference amid centralized and decentralized cryptocurrency exchanges and the trust and risk structures of both platforms (Hägele, 2024).

Research studies about the adoption of DeFi are still relatively new. Lockl and Stoetzer (2021) concluded that the lack of trust in banks was not a significant factor in determining the intention to adopt DeFi, which means that an institutional explanation is insufficient. The more recent studies have included trust, the perceived usefulness, security, risk tolerance, digital literacy, and social influence as predicting factors for decentralized-finance adoption. For instance, such studies have also shown the relevance of perceived security, digital literacy, risk tolerance, trust and social influence of technology for intention to adopt DeFi (Esmaeilzadeh et al., 2026; Thakkar et al., 2026). Thus, DeFi adoption is a multi-faceted behavioral phenomenon. Technological and institutional features are important, but the level of psychological resources that individuals have may also play a role in whether they feel they can participate in decentralized finance.

Financial Self-Efficacy and Decentralized Finance Adoption Intention

Proponents of the adoption of DeFi should expect that financial self-efficacy should positively affect the intention to use DeFi because a person's self-efficacy affects their willingness to approach or avoid challenging financial situations. Adoption of DeFi is not a technologically driven decision. Often users are expected to make financial decisions in the face of uncertainty (León & Lehar, 2025). A potential DeFi user might have to consider possible returns, transaction fees, risks associated with the protocol, liquidity, and token features and security measures. This decision must be driven by both the financial literacy and trust and confidence in the use of that financial knowledge. Individuals having a high financial self-efficacy are more likely to think that they can comprehend financial information, make sound financial choosing, and bounce back from financial challenges. These values should help to lessen psychological obstacles to trying out new financial services.

There is empirical financial research to back this general proposition. Palmer et al. (2021) demonstrated the importance of financial self-efficacy in explaining financial management behavior, while Dare et al. (2023) argued that self-efficacy is linked to positive financial behaviors and financial well-being. Khan, Ahmad and Siddiqui (2026) found positive role of innovation in FinTech with respect to financial inclusion. A comparable research by Qi et al (2025) explored the association of financial self-efficacy with financial behavior, and discovered that financial self-efficacy (FSE) remains pertinent to financial decision making even in conditions of uncertainty. Another connection that is relevant is investment research. This is supported by the study carried out by Shah et al. (2024) on investors in Pakistan where they found that financial self-efficacy is a vital variable in the financial literacy and investor behavior relationship. This is particularly relevant for the current research as cryptocurrency and DeFi are the contexts of financial decision-making under uncertainty, and thus have behavioral properties similar to those of other investment situations. For the purposes of the current study, the expected effect is on intention to adopt, not on the quality or safety of subsequent financial behavior. The proposed relationship is thus:

H1: Financial self-efficacy positively influence decentralized finance adoption intention.

Financial Self-Efficacy and Perceived Financial Capability

The conceptual association amid financial self-efficacy and perceived financial capability leads to the relationship between these two variables in the real world. The connection amid financial self-efficacy and perceived financial capability is derived directly from their conceptual relationship. Financial self-efficacy is one's confidence in financial capabilities, while perceived financial capability is a person's self-perception that he/she has the ability and resources to effectively manage financial activities. Constructs are different but there is a theoretical link between them. If an individual feels he or she can solve his or her financial issues, then he or she is more likely to rate personal financial decision making as manageable (Gulati et al., 2026). Individuals having good financial history, will have even more confidence in their capability to make good money in future. However, low self-efficacy can make people think that financial situations are hard to manage or that they are incapable of them. The relevance of confidence and self-efficacy is reinforced by the current literature of financial capability. Within the constructs related to financial capability, financial self-efficacy is clearly identified by Potocki and Białowąs (2023). Similarly, Xiao & Porto (2022) shows that financial capability is multi-dimensional, which also includes financial knowledge, behaviour, and skills. The study of financial capability and financial confidence also shows that financial confidence can be a crucial element of financial capability. The link could be stronger in the context of cryptocurrency users. In cryptocurrency markets, individuals have to seek out information on their own and make financial decisions in a setting where traditional financial intermediation is lessened. These users might therefore perceive themselves as more able to cope with these conditions, and thus feel more financially self-efficacious. Thus:

H2: Perceived financial capability is positively influenced by financial self-efficacy.

Perceived Financial Capability and Decentralized Finance Adoption Intention

Perceived financial capability should also influence DeFi adoption intention. Adoption of decentralized finance necessitates people to be certain of that they can manage the associated financial and technological demands (Gulati et al., 2026). A user who perceives himself or herself as financially capable is more likely to believe that DeFi services can be evaluated and managed effectively. Such individuals may be more willing to explore DeFi products, evaluate risks, compare alternatives and make decisions involving decentralized financial services (Abdallah-Ou-Moussa et al., 2025). This argument is consistent with the capability perspective, which distinguishes possessing the financial knowledge from the capacity to utilize it effectively. The financial-capability literature indicates that fiscal acquaintance unaided does not inevitably produce effective financial accomplishment. Skills, behavior and confidence are also relevant (Xiao et al., 2022; Xiao & Porto, 2022). The relationship is also consistent with technology-adoption research. Traditional models accentuate usefulness and ease of use, while subsequent research has incorporated facilitating conditions, self-efficacy, trust and risk. In a DeFi environment, perceived financial capability can operate as a personal facilitating condition: users who perceive themselves as capable may experience fewer psychological barriers to adoption. Evidence from Pakistan supports the broader relevance of financial capability for digital-finance adoption. Li et al. (2023) observed that financial literacy was among the factors connected to cryptocurrency usage intention among Pakistani consumers. However, financial literacy and perceived capability should not be treated as identical constructs. Financial literacy concerns knowledge and understanding, whereas perceived capability concerns the person's apparent ability to apply resources and manage financial situations. Accordingly:

H3: Perceived financial capability has a positive effect on decentralized finance adoption intention.

The Mediating Role of Perceived Financial Capability

The central contribution of the present study is the proposed mediating effect of perceived financial capability. The direct connection amid FSE and DeFi adoption intention is theoretically plausible, but it does not explain the psychological process through which confidence becomes adoption intention. Mediation analysis addresses this issue by asking whether FSE increases perceived financial capability, which subsequently increases DeFi adoption intention (Alzahrani & Bhunia, 2025). The proposed mechanism can be understood through SCT. Financial self-efficacy constitutes a cognitive belief about one's ability to perform financial activities. Strong efficacy beliefs encourage individuals to approach challenging financial situations and develop confidence in their capacity to deal with those situations (Hernandez-Perez & Cruz-Rambaud 2025). This enhanced perception of capability can then support behavioral intentions towards complex financial services (Peter & Mathew, 2025). This process is reinforced by financial

capability research. Financial capability is not just about objective knowledge and is becoming a recognised area of research. It helps to include the ability to apply knowledge, skills and confidence in the financial context. Financial self-efficacy may therefore be viewed as an antecedent that enhances financial capabilities. There is support in the recent literature for looking at the role of mediation and not just direct effects. The mechanisms linking financial self-efficacy to financial outcomes, such as financial behavior and financial well-being, have been increasingly of interest in research on financial self-efficacy (Dare et al., 2023; Qi et al., 2025). Likewise, studies on DeFi have started to investigate psychological factors such as trust as mediators. Therefore:

H4: Perceived financial capability has mediating effect in the association amid financial self-efficacy and decentralized finance adoption intention.

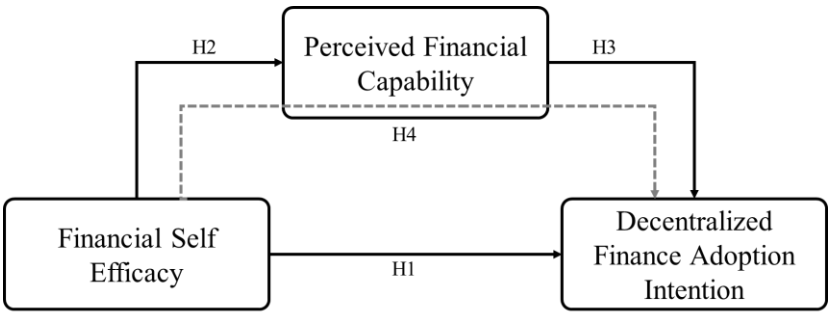

Figure 1: Conceptual Framework of the study

Methods

Methodology and Procedures

This study used a quantitative mono-method research design with a cross-sectional survey design. The data were gathered by using a structured questionnaire. Participants had to meet eligibility requirements to participate. The inclusion criteria were used to ensure that the respondents would have a sufficient exposure to cryptocurrency and DeFi to make meaningful evaluations about the study constructs. The questionnaire was divided into two general sections. Demographic and background information were collected in the first section. The second used previously published scales to measure the three major constructs. Prior to statistical analysis, responses were screened for eligibility, completeness and suitability. IBM SPSS was used to analyze data. Direct relationships were tested using regression analysis. The perceived financial capability was used as the mediator to evaluate the indirect influence of financial self-efficacy on DeFi adoption intention, which was then tested using Hayes' PROCESS macro.

Population and Sample

The target population consisted of adult users of cryptocurrencies in Pakistan who were already familiar with cryptocurrencies and knowledgeable about the concept of decentralized finance. The study concentrated on retail users, as they have different financial decision-making compared to institutions, professional traders and organizations. Contributors were recruited who were at least 22 years of age, be familiar with the world of cryptocurrencies, and be aware of the concept of decentralized finance. Exposures covered using cryptocurrency and/or investigating cryptocurrency services or seriously considering using DeFi applications, services. A purposive sampling technique was used. The participants have been invited from the online cryptocurrency, blockchain, FinTech and investment communities of Pakistan. The method used was purposive sampling because it was necessary to have participants with a specific characteristic, they had to be familiar with cryptocurrencies and be aware of the DeFi project. Finally, 387 complete and usable responses were collected and kept for analysis. The sample size is sufficient for the multiple regression analysis and a simple mediation analysis with three main variables. The sample size is also larger than the minimum typically recommended for the estimation of regression relationships with a small number of predictors. Table 1 shows the sample characteristics.

Measurement Scales

The Financial Self-Efficacy Scale (FSES) developed by Lown (2011) was used to assess financial self-efficacy. The scale measures people's confidence in dealing with financial situations and handling financial challenges. The Perceived Financial Capability Index (PFC) developed by Rothwell and Khan (2014) was used to measure perceived financial capability, consisting of five items. The measure reflects the respondents' self-perceived ability to handle financial issues. Five items were adapted from the DeFi behavioral-intention measure presented by Lockl and Stoetzer (2021) to measure DeFi adoption intention. Scale is a measure of the desire or ability of a person to adopt decentralized financial services. Each construct was measured on a common Likert-type response format, with higher scores representing higher amount of the construct being measured.

Table 1: Demographic Characteristics of Respondents

Demographic characteristic	Category	Frequency (n)	Percentage (%)
Age (years)	22 – 29	143	37.0
	30 – 39	132	34.1
	40 – 49	76	19.6
	50 and above	36	9.3
Gender	Male	298	77.0
	Female	84	21.7
	Non-Response	5	1.3
Educational qualification	Intermediate/College	39	10.1
	Bachelor's degree	157	40.6

	Master's degree	137	35.4
	MPhil/MS	43	11.1
	PhD	11	2.8
Employment status	Salaried employee	151	39.0
	Self-employed/business	91	23.5
	Freelancer	61	15.8
	Student	47	12.1
	Unemployed	21	5.4
	Other	16	4.1
Cryptocurrency experience	Less than 1 year	53	13.7
	1-3 years	145	37.5
	4-5 years	112	28.9
	More than 5 years	77	19.9

N=387

Data Analysis and Results

Descriptive Statistics and Correlations

The descriptive statistics (Table 2) reveal that the respondents' financial self-efficacy (FSE), financial capability (PFC) and DeFi adoption intention (DAI) are all moderately high (M=2.84, SD=0.62; M=2.91, SD=0.70; M=2.88, SD=0.82, respectively). The standard skewness values were between −0.18 and −0.11 and the kurtosis values were between −0.51 and −0.38. The values are in the vicinity of zero and suggest that there are not significant deviations from normal distributions. The correlation analysis showed the positive and significant correlation of all three constructs. FSE was favourably related with DAI (r=0.52, p<0.001) and PFC (r=0.58, p<0.001). PFC was also correlated with DAI and the relationship was positive (r=0.56, p<0.001). These associations are in line with the conceptual model proposed and support preliminary hypotheses regarding the hypothesized positive relationships between financial self-efficacy, perceived financial capability, and the intention to use DeFi.

Table 2: Correlations and Descriptive

Variable	Min	Max	Mean	SD	Skewness	Kurtosis	Correlations		
							PFC	DAI	FSE
PFC	1.20	4.00	2.91	0.70	-0.18	-0.42	1		
DAI	1.10	4.00	2.88	0.82	-0.11	-0.51	.56*	1	
FSE	1.17	4.00	2.84	0.62	-0.16	-0.38	.58*	.52*	1

Note: N=387; PFC=Perceived Financial Capability; DAI=DeFi Adoption Intention; FSE=Financial Self-Efficacy; * p < .001 (two-tailed). All variables were measured using a 1-4 response scale.

Assessment of Assumptions

The dataset was checked for the assumptions of ordinary least-squares regression (OLS) prior to running regression and mediation analyses. The three assumptions normality, linear and multi-collinearity were tested. The skewness and kurtosis were examined to check normality and the obtained values indicated that the distributions of the study variables were not far from normal and did not show significant deviations from normality. Relationships between predictor and outcome variables were evaluated for linearity with the use of deviation-from-linearity statistics, and were found to be reasonably linear. The variance inflation factor (VIF) statistics were used to assess multicollinearity and VIF values did not exceed the acceptable limits, so multicollinearity was not a problem with the predictors.

Regression Analysis

To explore the relationship between financial self-efficacy (FSE), perceived financial capability (PFC), and DeFi adoption intention (DAI), a set of regression analyses and a mediation analysis were performed. The direct relationships were tested by multiple regression analysis; the indirect role of PFC was tested by Hayes' PROCESS macro with bootstrapping. To have a clear idea of the association amid financial self-efficacy and DeFi adoption intention, first a simple linear regression was performed (Table 3). The regression model was statistically significant, $F(1,385)=143.52$, $p<0.001$, explaining 27.0% of the variance in DeFi adoption intention ($R^2=0.270$, adjusted $R^2=0.268$). Financial self-efficacy was significantly positively related to DeFi adoption intention with $\beta=0.520$, $t=11.98$, $p<0.001$. It can therefore be concluded that the more respondents felt financially self-confident, the more likely they were to have a stronger intention of adopting and using DeFi services. These results corroborate H1. Second, a regression examination was done to assess the effect of financial self-efficacy on perceived financial capability. The model was statistically significant, $F(1,385)=196.65$, $p<0.001$, with FSE explaining 33.8% of the variance in PFC ($R^2=0.338$, adjusted $R^2=0.336$). Financial self-efficacy was associated positively and significantly with Perceived financial capability, $\beta=0.581$, $SE=0.047$, $t=14.06$, $p<0.001$. This is consistent with H2. A third regression model was assessed by including both financial self-efficacy and perceived financial capability as predictors of DeFi adoption intention. The overall model was statistically significant, $F(2,384)=99.39$, $p<0.001$, and explained 34.1% of the variance in DeFi adoption intention ($R^2=0.341$, adjusted $R^2=0.337$). When PFC was added to the model, both predictors continued to be significant. Financial self-efficacy continued to bear a momentous positive influence on DAI, $\beta=0.320$, $SE=0.056$, $t=6.45$, $p<0.001$. The perceived financial capability was also highly significant and positively correlated with DAI, $\beta=0.291$, $SE=0.058$, $t=5.90$, $p<.001$. The findings show that the positive perception of financial capability is statistically connected with the intention to use DeFi, despite taking into account financial self-efficacy. Thus, H3 was upheld.

Table 3: Regression analysis results

Predictor	Model1: DAI			Model2: PFC			Model3: DAI		
	B	β	T	B	β	t	B	β	T
Constant	1.184	-	5.56	1.067	-	5.31	0.842	-	4.07
FSE	0.587*	.520	11.98	0.661*	.581	14.06	0.361*	.320	6.45
PFC	-	-	-	-	-	-	0.342*	.291	5.90
Model statistics									
	R^2	Adj. R^2	F (1,385)	R^2	Adj. R^2	F (1,385)	R^2	Adj. R^2	F (2,384)
	0.270	0.268	143.52	0.338	0.336	196.65	0.341	0.337	99.39

Note. N = 387. DAI = DeFi Adoption Intention; FSE = Financial Self-Efficacy; PFC = Perceived Financial Capability; B = unstandardized coefficient; β = standardized coefficient; Model 1 estimates the effect of FSE on DAI; Model 2 estimates the effect of FSE on PFC; Model 3 estimates the effects of FSE and PFC simultaneously on DAI; * p<0.01

Table 4: Mediation analysis results

Effect/Path	Coefficient	SE	t	LLCI	ULCI
Path a: FSE → PFC	0.661*	0.047	14.06	0.568	0.754
Path b: PFC → DAI	0.342*	0.058	5.90	0.228	0.456
Total effect (c): FSE → DAI	0.587*	0.049	11.98	0.491	0.683
Direct effect (c′): FSE → DAI	0.361*	0.056	6.45	0.251	0.471
Indirect effect (ab): FSE → PFC → DAI	0.226*	0.041	-	0.151	0.313

Note. N = 387. FSE = Financial Self-Efficacy; PFC = Perceived Financial Capability; DAI = DeFi Adoption Intention; * p<0.01

Mediation Analysis

PROCESS Model 4 was used to determine whether perceived financial capability has mediating influence in the association amid financial self-efficacy and DeFi adoption intention. The mediation model estimates:

- Path a: FSE → PFC
- Path b: PFC → DAI
- Path c: total effect of FSE → DAI
- Path c': direct effect of FSE → DAI after PFC is included
- ab: indirect effect through PFC

For mediation analysis, Hayes' PROCESS approach with 5,000 bootstrap samples was used. The analysis, presented in Table 4 indicated a significant positive effect of FSE on PFC (path *a*), *B*=0.661, *SE*=0.047, *t*=14.06, *p*<0.001, CI [0.568, 0.754]. In turn, PFC significantly predicted DAI while controlling for FSE (path *b*), *B*=0.342, *SE*=0.058, *t*=5.90, *p*<0.001, CI [0.228, 0.456]. The total effect of FSE on DAI (path *c*) was positive and statistically significant, *B* = 0.587, *SE* = 0.049,

$t = 11.98$, $p < .001$, CI [0.491, 0.683]. After PFC was introduced into the model, the direct effect of FSE on DAI (path c') remained statistically significant, $B = 0.361$, $SE = 0.056$, $t = 6.45$, $p < .001$, CI [0.251, 0.471]. However, the magnitude of the FSE coefficient decreased from 0.587 for the total effect to 0.361 for the direct effect. Most importantly, the indirect effect of FSE on DAI through PFC was statistically significant, with an estimated effect of 0.226, $SE = 0.041$. The 95% confidence interval for the indirect effect was (0.151, 0.313) with no overlap with zero, which suggests that the indirect effect is significant. Thus, H4 was supported. In fact, the direct effect of FSE on DAI was still statistically significant after PFC was added to the model, meaning that the findings suggest partial mediation instead of full mediation.

Overall, the results provide support for all four proposed hypotheses. Financial self-efficacy was positively related with perceived financial capability and DeFi adoption intention, and perceived financial capability was positively related with DeFi adoption intention. Moreover, the partial mediation model showed that the influence of financial self-efficacy on DeFi adoption intention was partially mediated by the financial capability of the individuals, indicating that financial self-efficacy had an indirect effect on DeFi adoption intention via the financial capability of the individuals.

Discussion

This study aimed to examine if financial self-efficacy has an impact on the intention to adopt DeFi among the cryptocurrency users in Pakistan and if perceived financial capability could explain this relationship. The results validate all four hypotheses and suggest that financial self-efficacy directly and indirectly affects the intention to use DeFi. The empirical results confirmed that there is a positive connection between financial self-efficacy and the intention to adopt DeFi. The finding is congruent with the Social Cognitive Theory. Bandura (1986, 1997) states that people's self-efficacy affects their decision to engage in a behavior. People with higher efficacy beliefs are more apt to approach than avoid a task when it is perceived as complex or uncertain. DeFi offers a very apt setting for this theoretical debate. The outcomes are in accordance of the financial self-efficacy research in general. Financial self-efficacy was found to be related to financial management behavior by Palmer et al. (2021). Hernandez-Perez and Cruz-Rambaud (2025) similarly demonstrated the importance of financial self-efficacy for positive fiscal behavior and financial well-being. Gulati and Singh (2024) concluded that FSE is an important psychological construct associated with financial outcomes. The finding is also compatible with Shah et al. (2024) and Shahzadi et al. (2025), who studied investors in Pakistan and found that financial self-efficacy played an important role in the relationship between financial literacy and investment behavior. Nevertheless, the present finding extends previous research in an important direction. Previous studies have predominantly examined FSE in relation to conventional financial behavior, investment or financial well-being. This study demonstrates that its explanatory relevance extends to technology-mediated decentralized financial adoption.

Hypothesis 2 proposed that financial self-efficacy positively influences perceived financial capability. The results support this hypothesis. This finding is conceptually important because it helps clarify the relationship between two constructs that are sometimes treated interchangeably. The empirical relationship identified here indicates that stronger financial efficacy beliefs are associated with stronger perceptions of financial capability. The result is consistent with contemporary financial-capability research. Xiao et al. (2022) demonstrated that financial capability incorporates multiple dimensions and is related to financial knowledge, behavior, skills and confidence. Potocki and Białowąs (2023) similarly emphasized that financial capability overlaps with financial self-efficacy, financial behavior, financial capacity and financial knowledge. The finding is also consistent with research showing the importance of financial confidence. Research has found that financial confidence played an important role in explaining financial behavior (Morris et al. (2022; Qi et al., 2025). Xiao & Porto (2022) similarly demonstrated that different components of financial capability make distinct contributions to financial outcomes.

Hypothesis 3 predicted that perceived financial capability positively influences DeFi adoption intention. The results support this hypothesis. The finding suggests that people are more willing to consider decentralized financial services when they believe they are financially capable. Theoretically, this relationship is easy to understand. DeFi is a concept that encompasses financial choices that may be unfamiliar and technically sophisticated and also risk prone. People who think that they can comprehend and control financial issues ought to have less mental hurdles towards adoption. This finding aligns with the findings of Li et al. (2023) who concluded that financial literacy was one of the significant factors related to intention to use cryptocurrencies among Pakistani consumers. The present study, however, further confirms that finding by separating perceived capability from financial literacy. This discovery is in line with more recent study on digital financial ability. According to the literature, digital financial skills can help strengthen financial skills and financial decision-making (Al-Afeef & Alsmadi, 2025). The relationship between digital financial literacy, skills, capability and autonomy suggests that capability becomes increasingly important as individuals engage with technologically mediated financial environments.

The imperative outcome of the study is the significant partial mediation of the relationship between financial self-efficacy and DeFi adoption intention by perceived financial capability. This result means that financial self-efficacy influences DeFi adoption intention partly because individuals with greater financial confidence perceive themselves as more financially capable, and this perceived capability subsequently increases their intention to adopt DeFi. The finding provides empirical support for a psychological mechanism that has received limited attention in the DeFi literature. The partial nature of the mediation is theoretically meaningful. It indicates that perceived capability is an important but not exclusive mechanism. Financial self-efficacy may directly influence DeFi adoption because confident individuals are more willing to explore new financial technologies, tolerate uncertainty and engage with unfamiliar financial systems. Simultaneously, confidence may increase perceived financial capability, which further

strengthens adoption intention. This work complements earlier research by Dare et al. (2023) who showed pathways linking financial self-efficacy to financial outcomes, and by Qi et al. (2025) who explored how financial self-efficacy translates into financial behaviour during economic uncertainty. It also adds to this financial behaviour literature to the domain of emerging technology adoption. In the context of the recent review by Gulati et al. (2026), this finding is noteworthy. They found many antecedents, moderators, and outcomes of financial self-efficacy, as well as significant opportunities for further contextual and theoretical development. The finding from the mediation also adds to the DeFi literature. Previous DeFi research has involved analysing institutional distrust, trust, perceived usefulness, risk, security and digital literacy and social influence. The example of Lockl and Stoetzer (2021) has shown that the lack of trust in banks does not directly correspond to the use of DeFi. Research in the latest decentralized-finance era has demonstrated that technological trust, perceived security, risk tolerance and digital literacy can affect the adoption intention.

The financial literacy, awareness, trust, performance expectancy, effort expectancy, and design were important in Pakistan in relation to the intention of using cryptocurrencies, as found by Li et al. (2023). The present research does not conflict with these results, but rather brings a supplementary psychological perspective. Likewise, studies on financial decision making among the Pakistani university students have shown the relevance of financial literacy, financial behavior, financial experience, financial attitude and socialization (Ali et al., 2025). Shah et al. (2024) concluded that financial self-efficacy was a crucial factor, and the financial literacy had an impact on investment behavior. Based on these findings, it can be concluded that financial decision making in Pakistan is not only determined by the technological characteristics. The perception of financial knowledge, confidence, experience and capability may all have a role in how people interact with new financial opportunities.

Implications and Conclusion

This study has implications for theory in several ways. First, it has expanded the scope of Social Cognitive Theory to the field of decentralized financial technology. While financial self-efficacy has been widely researched regarding financial behavior, relatively little research has explored financial self-efficacy's effects on the willingness to adopt DeFi. Efficacy beliefs are also found relevant in predicting the intention to adopt DeFi when financial activity is technologically mediated, as the finding shows a positive relationship between FSE and intention to adopt DeFi. Secondly, the study makes a contribution to financial capability theory, by introducing perceived financial capability as an explanatory mechanism, instead of just an outcome. The outcomes illustrate that the perceived capability positively and significantly influence the DeFi adoption intention and financial self-efficacy has a significant positive impact on the perceived capability. Thirdly, the study connects two previously separate streams of literature. The studies on financial self-efficacy usually address financial management and investment aspects, while the studies on DeFi adoption usually address technological and institutional aspects. The present study connects these fields. Last but not least, the study provides emerging market evidence. A lot of the

technology-adoption literature has been written in technologically developed economies. The research findings of cryptocurrency users in Pakistan broaden the geographical reach of DeFi studies.

The results have implications for DeFi platforms and service providers. Firstly, DeFi providers must not believe that technological functionality is enough for adoption. The confidence of users is important as well as their financial capacity. Platforms need to therefore include educational interfaces to educate the user about transactions, fees, risks, security protocols, and platform protocol. Secondly, DeFi platforms need to create onboarding strategies that instil user confidence without fostering overzealous betting behavior. Tutorials, simulations, clear explanations, and education dashboards may help augment users' sense of capability. Third, financial educators can utilize the results to develop financial education programs that embed financial knowledge and boost confidence-building exercises. In the traditional financial education, learning information is emphasized. Based on the present findings, it is recommended that education should also help to reinforce users perceived financial knowledge application ability. Fourthly, policymakers should know that responsible DeFi adoption cannot happen without disclosure. A financial and digital-capability program should compliment consumer protection efforts. Fifth, because of the partial mediation finding, it can be argued that the financial capability factor accounts for only part of the adoption phenomenon. Fifth, the partial mediation finding suggests that financial capability would not be a sufficient cause of the adoption phenomenon. DeFi providers need to also consider usability, security, and trust and risk. Then, expanding user-experience and consumer-protection strategies should be accompanied by capability building. Last but not least, the results have implications for responsible innovation. The fact that there's increased uptake does not mean it's a policy goal without limits. DeFi engagement comes with financial and tech risks and ideally, when a person's self-efficacy is heightened, objective competence, risk awareness and informed decision making should also be raised.

Limitations and Future Research Directions

Several limitations should be acknowledged. Firstly, the study adopted cross-sectional research design. Thus, the relationships found should not be interpreted as full proof of a temporal relationship. The proposed model posits that financial self-efficacy affects perceived capability and adoption intention, but longitudinal studies would yield more solid evidence of causal ordering. Secondly, it was a self-report study. Perceptions of financial self-efficacy, financial capability and adoption intention might not necessarily align with respondents' financial knowledge or financial behaviour. Future studies should involve subjectively measuring financial competence along with objective assessment tests of financial competence using actual metrics of DeFi usage. Third, due to the use of purposive sampling, statistical generalizability is limited. The study participants may have a higher technological awareness and familiarity with cryptocurrencies than the general population of Pakistan, as they were selected from both the cryptocurrency and blockchain communities, as well as from FinTech and investment firms. Fourth, the study focused on the intention of adopting instead of actual adoption. It is not only

sufficient to know what people intend to do. Further studies should explore whether financial self-efficacy and perceived financial capability forecast real-world involvement in DeFi. Fifth, the study included only one mediator. Several psychological and technological elements might be the reason behind the adoption of DeFi. Future research should investigate trust, perceived security, perceived risk, digital financial literacy, technological self-efficacy, financial risk tolerance, perceived usefulness and social influence along with perceived financial capability. Sixth, comparative cross-country designs should be used in future studies. Pakistan's relationships with other emerging markets would be compared to determine if the observed relationships were due to general psychological mechanisms or to institutional conditions in Pakistan. Seventh, moderating variables should be examined in future research. The identified relationships in the present model can be reinforced or weaken by financial literacy, age, cryptocurrency experience, income, education, risk tolerance, and previous DeFi experience. Finally, future studies should adopt experimental design and longitudinal research. For instance, a DeFi educational intervention could be given to the participants and the researchers could look to see if financial knowledge and self-efficacy would lead to perceived capability and increased actual adoption behavior. Financial capability, digital capability, self-efficacy, risk perception, trust and technological competence are the most promising variables in a multidimensional model of DeFi readiness, as the overall blueprint for future research.

Declarations

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