I Experienced More than 10 DeFi Scams: On DeFi Users' Perception of Security Breaches and Countermeasures

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What is Decentralized Finance (DeFi)?

A financial ecosystem built
on **blockchain** platforms like Ethereum.

Executed through smart contracts, provides a
variety of **financial services**.
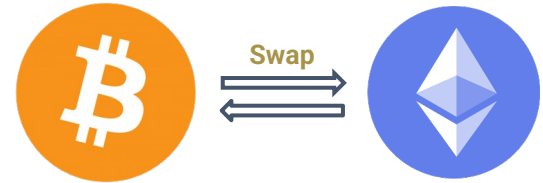
DeFi Protocols

Jul 15, 2024

- Liquid Staking $49.186b
- Lending $47.549b
- Dexes $20.427b
- Restaking $17.609b
- Liquid Restaking $12.595b
- CDP $9.408b
- Yield $8.012b
- Farm $4.463b
- Derivatives $3.948b
- Services $2.397b
- Others $12.206b

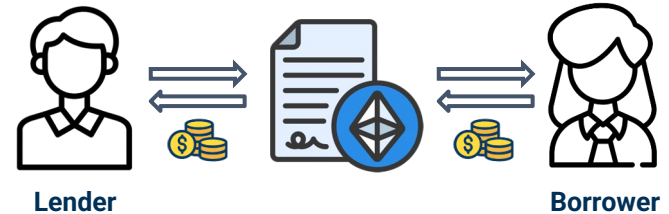**43** Protocol Categories, sorted by Total Value Locked (TVL)

Exchanges
(e.g., Uniswap, Curve)

Swap

Lending
(e.g., AAVE, Compound)

Lender

Borrower

Liquid Staking
(e.g., Lido)

Receipt tokens

Staker

Image source:
DefiLlama, 7/15/2024

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Our lab member shared with us:

What was this?

DeFi Hacks & Scams

Incident Impacts

CeFi

Silicon Valley Bank bank run ➡ **collapse**
- users withdrew $42 billion in a single day

DeFi

Curve DEX has suffered multiple hacks ➡ **survival**
- 08/2022: front-end exploit, $575K loss
- 07/2023: smart contract exploit, $69M loss
- the second largest DEX based on TVL

Curve DEX (CRV)

Total Value Locked

> $2.21b

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Research Questions

RQ1 Why do people **continue to use** DeFi despite numerous DeFi incidents being reported?

RQ2 What **DeFi risks** are users concerned about, and how do they **mitigate** these risks?

RQ3 How do victims **respond** to DeFi incidents?

RQ4 How do DeFi users **perceive regulation**?

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Methodology

Semi-structured **interview**
with DeFi users
(N = 14)

1st study

Real-world victims

Large-scale online **survey**
with DeFi users
(N = 493)

2nd study

Recruitment
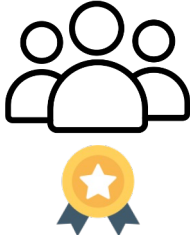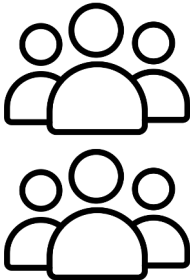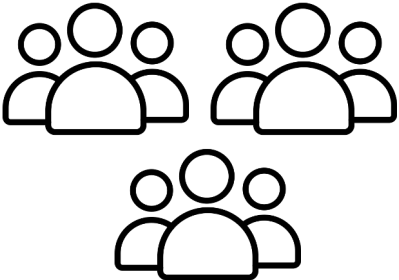
Crypto users
+
U.S. residents

DeFi users
(self-reported)

DeFi users
(validated)

Research Questions

RQ1 Why do people **continue to use** DeFi despite numerous DeFi incidents being reported?

RQ2 What **DeFi risks** are users concerned about, and how do they **mitigate** these risks?

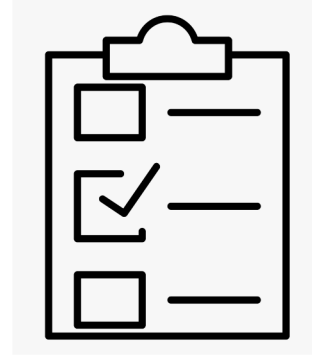**RQ3** How do victims **respond** to DeFi incidents?

RQ4 How do DeFi users **perceive regulation**?

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DeFi is more secure than CeFi? – seems not

security comparison

> *Because [of] the amount of hacks... it sounds like it would be very **difficult to secure** [DeFi].*

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DeFi is easier to use than CeFi? – seems not, either

usability comparison
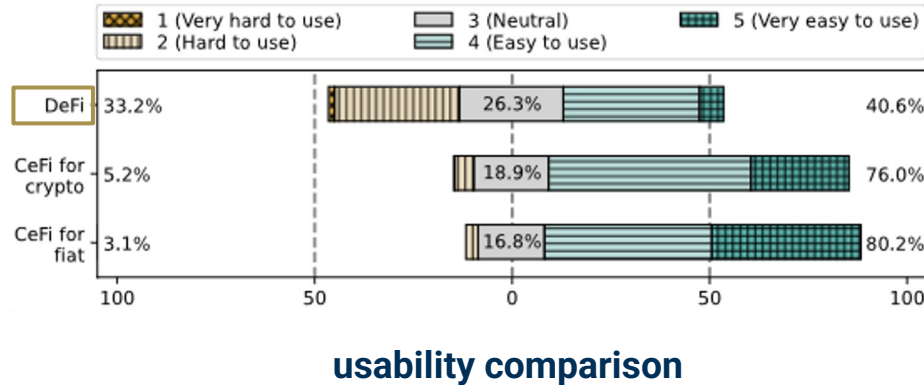
" *I had **a lot of trouble** at first figuring out what type of crypto I needed for gas fees. I was also shocked at how **expensive ETH fees** were.* "

DeFi Love Points

Rank
2

" *There are a lot of opportunities to have a **twenty percent APY** income.* "

Rank
1

" ***Decentralized** [service] is always more safe than centralized [service].* "

misconception
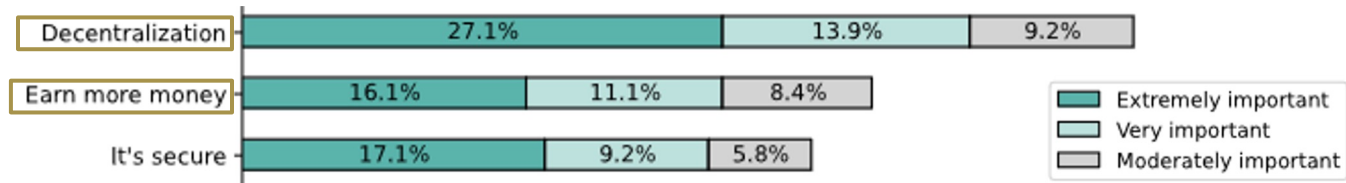
Decentralization: 27.1% | 13.9% | 9.2%

Earn more money: 16.1% | 11.1% | 8.4%

It's secure: 17.1% | 9.2% | 5.8%

- Extremely important
- Very important
- Moderately important

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Research Questions

RQ1 Why do people **continue to use** DeFi despite numerous DeFi incidents being reported?

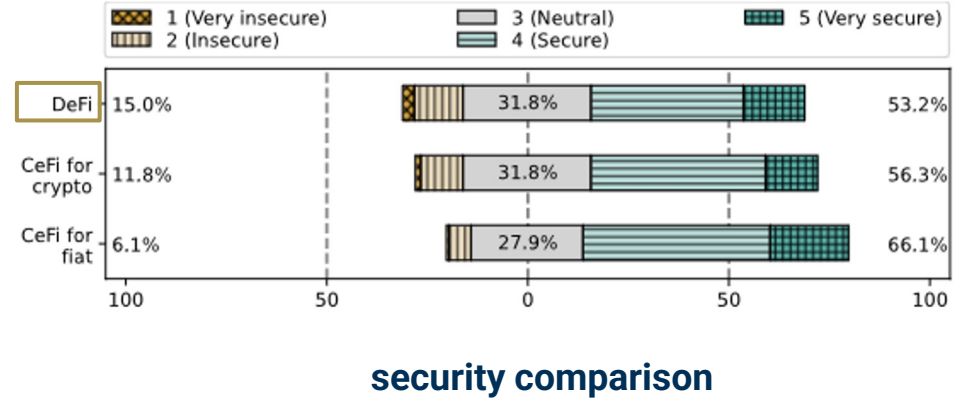**RQ2** What **DeFi risks** are users concerned about, and how do they **mitigate** these risks?

**RQ3** How do victims **respond** to DeFi incidents?

RQ4 How do DeFi users **perceive regulation**?

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Concerned Risk

an exit scam, the team suddenly disappears

exploit of the vulnerability in smart contracts
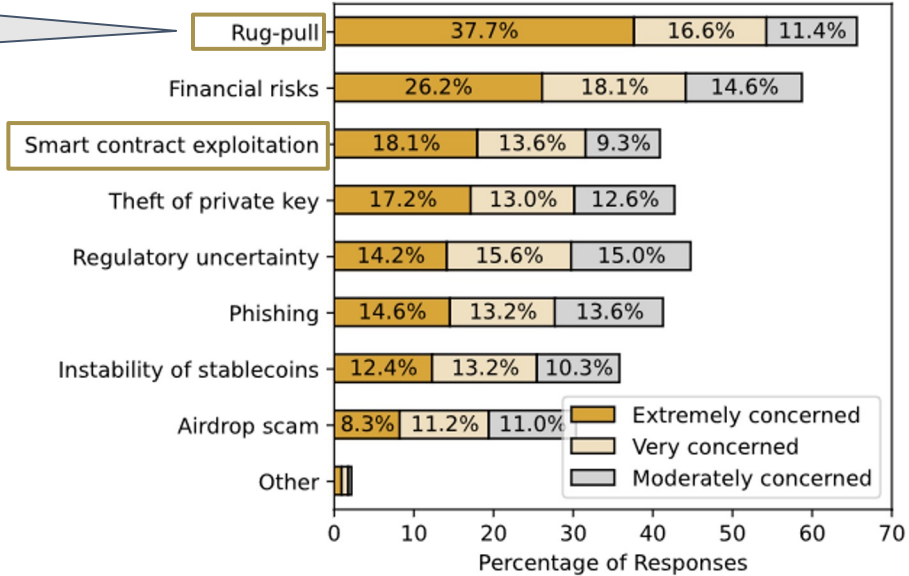
Risk Mitigation 🚨

Low adoption of **effective technical measures**
- e.g., revoke <u>token approvals</u> regularly
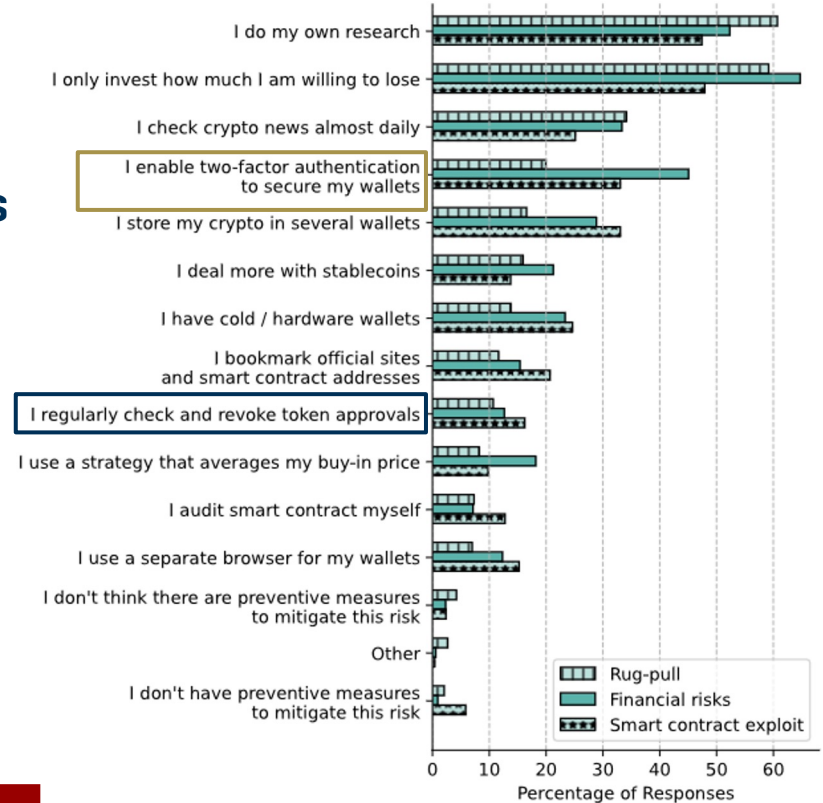
> grant dApps access to a user's wallet

> **"** *Two-factor authentication has been one of the best solutions for keeping wallets safe.* **"**

misconception

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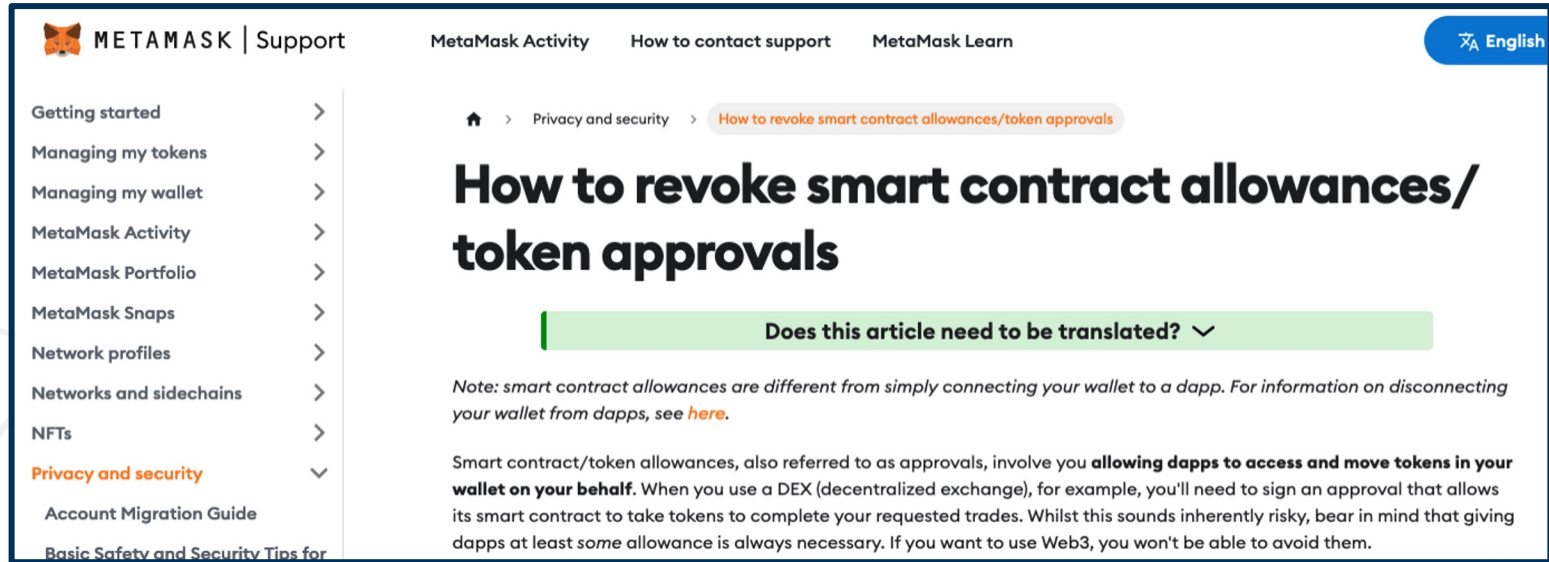
Recommendation: Increase Adoption of Security Practices

- Implement a reminder feature that regularly prompts users to review their current token approvals

MetaMask's educational material

Overconfidence in 2FA 🚨

Rug-pull	Smart contract exploit

to mitigate **technically**…

62%   65%

were using 2FA

57%   **49%**

were using 2FA **only**

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Recommendation: Correct Misconceptions

- Suggest clarifying the covered threats in the 2FA settings of custodial wallets

2-step verification

We use 2-step verification when we need to check it's really you using your account.

Your 2fa method

Security prompt
MORE SECURE

Text message (SMS)
LESS SECURE

no intro of the risks covered/not covered by 2FA

Coinbase's current 2FA interface

Incident Impact on Risk Mitigation

- Integral practices were not sufficiently adopted by **victims**
  - timely check and revoke token approvals
  - use hardware wallets

- The misconception about 2FA was also prevalent among the **victims**

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Response Actions 🚨

after a scam…

disconnected wallet from every site **27%**

26% *did nothing but moved on*

revoked every token approval on wallet **20%**

16% *invested more in other DeFi services*

Good

Good?

Perception Changes 🚨

" *My belief in cryptocurrency has grown stronger after [experiencing] that [DeFi scam] because I made good money from it...*
An opportunity to make money is something I believe in*.* "

" *I just felt like I was the victim of my own circumstance... Not doing enough research before diving into it...* ***it was my fault basically****.* "

> **50%** of victims did not change their belief...

of Incidents Encountered 🚨

Hack

Scam

1.8

4.7

some victims reported experiencing **> 10** scams…

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- Users' strong financial motivations seem to outweigh security priorities and concerns.

- Experience and education may be insufficient to help users employ better security practices.

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Link to paper:

Thank you!

Q & A

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