

Examining the Drivers of Cryptocurrency Addiction – A Study with Special Reference to Indian Gen Z

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ABSTRACT

Cryptocurrency is on the rise and majority of the crypto investors are Gen Z in India. This study is an attempt to investigate the drivers of cryptocurrency addiction among Gen Z in India using a mixed-method approach (quantitative and qualitative). The study integrated three behavioral addiction theoretical frameworks to conceptualize the factors as per their relevance. Factor analysis and thematic analysis are used for data analysis. Results shows that psychological drivers like impulsivity and Fear of Missing Out (FOMO), along with social media exposure, have significant relation with problematic cryptocurrency trading. On the other hand, financial literacy is a protective factor that mitigates addictive crypto trading. The study highlights how digital immersion and speculative habit interconnect with behavioral vulnerabilities of Indian Gen Z, thereby driving them susceptible to compulsive engagement with cryptocurrency platforms. The findings suggest the need for constructive interventions from a 360-degree angle, right from educational programs, app-based safeguards (like limits on trading or transactions, risk alerts, etc.) regulatory oversight, to protect vulnerable young Gen Z investors.

Keywords *Cryptocurrency addiction, Indian Gen Z, FOMO, Impulsivity, Behavioral addiction, Social media, Financial literacy*

INTRODUCTION:

Cryptocurrencies in India have rapidly penetrated the financial ecosystems, and attracted millions of investors' interest particular from Gen Z (born in 1995-2010). The Gen Z is popularly known for their risk-taking orientation, digital fluency, and exposure to online communities, and they are the most active audience in speculative crypto markets. Although there are financial innovations and inclusion in cryptocurrency, the uncertainty, volatility, and regulatory challenges of the market pose huge risks of compulsive trading behavior. According to Gemini's 2025 Global State of Crypto report, 48% of Gen Z respondents either have owned cryptocurrency assets or currently own, compared to 35% of the general population globally. Further, Gen Z makes up 71 per cent of the total crypto investors in India.

So far, the frameworks of behavioral addiction have extensively applied to understand the determinants of gaming, gambling, and social media, among various demographics. However, there is a limited research on behavioral addiction particularly on Gen Z, a young generation, that contributes almost 3/4th of the total crypto investors in India. This study explores the determinants that drive Gen Z to get addicted in cryptocurrency trading by using the variables of psychological (FOMO,

impulsivity), cognitive (financial literacy), social (social media exposure).

The cryptocurrency came in 2010 in India and as of 2025 there are over 100 million crypto owners. However, from the last five years, there were huge spike in number of cryptocurrency investors across Indian cities especially tier2 and tier3 areas. According to some reports, India has the highest number of crypto owners and second in terms of adoption rate. Despite the non-regulatory nature of the asset, more than 60% of Indian states are emerging as Cryptocurrency adopters. In 2022, Indian government has legalized the cryptocurrencies in India and made 30% tax rate on income gains from it.

Gen Z have high level of social media exposure and the pervasive influence of such exposure creates an environment where young generation not only exposes to peer behavior but also to the unverified and exaggerated success stories in crypto trading. However, the unique Indian socio-economic landscape has a large young population having high aspirations for economic growth, and it coupled with intense competition for economic opportunities. In such a case, cryptocurrency appears to be a quick and fascinating way to financial independence and wealthy life. Its rapid price fluctuations with potential for substantial returns grabbed the attention particularly to young generation (Kim et al., 2020). These perceptions

added compounds to the vulnerabilities in getting addicted. Furthermore, the high smartphone usage among Gen Z has made them digitally independent and accessible in performing financial activities more than ever. The regulatory policy in India on cryptocurrencies might have created an environment of uncertainty that perhaps involuntarily encourage risky and speculative behaviors among less informed Gen Z. This scenario highlights the significant need for a multi-faceted approach to examine the determinants that lead to crypto addiction and address problematic cryptocurrency trading among Gen Z in India.

The inherent characteristics of crypto like extreme volatility, gamified trading platforms, 24/7 market access, and the speculative nature of crypto assets, appear the similarities to gambling (Griffiths, 2018; Mills & Nower, 2019). This has raised concerns that it could potentially develop a behavioral addiction, and eventually a

problematic engagement. The crypto addiction is a relatively new concept however due to its significant impact on the society, it is gaining traction in academics and research, as it could be a potential public mental health concern (Senocak et al., 2024). This study is an attempt to explore this emerging concern among Indian Gen Z by integrating three popular behavioral models i.e. Biopsychosocial Model, Cognitive-Behavioral Model of Behavioral Addictions, and Social Learning Theory. The study provides a comprehensive understanding of the determinants contributing to crypto addiction (problematic cryptocurrency engagement) among Gen Z, the most vulnerable demographic category.

2. Literature Review

The recognition of behavioral addictions by researchers on digital usage like internet use, online gambling, and gaming, offered a foundation ground to understand the emerging digital behaviors, in this case, cryptocurrency trading.

Behavioral Context	Observations	Reference
	Significant commonalities of etiological and symptomatic of problematic cryptocurrency trading with well-established behavioural addictions like internet gaming disorder, gambling disorder, etc. Both crypto trading and gambling involve financial risk, the aim of quick monetary gains, and exposure to variable supporting schedules that build powerful condition behaviour.	Griffiths (2018)
Behavioural Addictions: Parallels with Gambling and Gaming	Uncontrolled gambling has high level of impact of cognitive distortions like gambler's fallacy, illusion of control, sensation-seeking, and impulsivity. These are key psychological vulnerabilities.	Shaffer & Cornish (2004)
	Instantaneous nature of transactions and the 24/7 availability of crypto platforms are going parallelly with the immersive qualities and accessibility of internet gaming, which has been significantly associated with obsessive engagement, emotional dysregulation, and neglect of responsibilities.	Kardefelt-Winther, (2014)
	Research from Neurobiological further supports the parallels of accessibility and immersive qualities, indicating that both behavioural addictions and substance involve in dysregulating the brain's reward system, mainly the dopamine system. The unpredictable and intermittent nature of wins in crypto trading lead to increase the dopamine release, resulting to neurochemical adaptations as seen in other addictions.	Potenza (2006)
	A distinct category for cryptocurrency addiction is yet to formally recognized, however, many researchers and academicians started exploring the conceptualization of its behavioural addiction.	Griffiths (2018); Mills & Nower (2019)
Addiction	Many studies found that the characteristics of crypto trading like the potential for quick gains or losses, extreme volatility, accessible through mobile apps, strong influence of social media, etc. make it conducive to problematic user engagement.	Sonkurt & Altınöz, (2023); Senocak et al. (2024)
	Some researchers conceptualize the crypto addiction as a subtype of gambling addiction or stock market trading addiction.	Griffiths (2018)
	Many studies started identifying common patterns among users showing problematic crypto trading. The patterns like excessive time spent on crypto trading platforms, compulsive checking of prices, huge financial losses, neglect	Addiction Center, n.d.;

	occupational responsibilities and social responsibilities, and getting emotional distress like depression, anxiety when they are not able to trade crypto.	Senocak et al. (2024)
Youth Vulnerability and the Indian Context	Teenagers and Gen Z (young adults) are more vulnerable to make behavioral addictions because of ongoing brain development, affecting reward sensitivity and impulse control. Also, their heavy usage and reliance on social media and digital technologies for social interaction influence the formation of such behaviour.	Twenge (2017)

3. Theoretical Framework

The study adopted a multi-faceted approach by synthesizing the following three prominent theoretical models to understand the complexity of drivers of cryptocurrency addiction.

3.1. Biopsychosocial Model

The theory deals with the addiction arises from the biological, psychological, and social factors.

Biological Factors: Individuals’ sensation, impulsivity, or genetic predisposition increase the vulnerability to get engage in risky behaviors, including crypto trading (Sonkurt & Altinoz, 2023).

Psychological Factors: Factors like perceived economic scarcity, societal expectations, etc. influence Indian Gen Z desire for quick financial growth and motivate them to engage in high-risk investments. The factors under mental health conditions like depression, anxiety, or ADHD (Attention-Deficit/Hyperactivity Disorder) may prompt individuals to seek intense stimulation through crypto trading or escapism. Also, the FOMO (Fear of Missing Out), and an anxiety driven by a pervasive social media, can lead to either impulsive decisions to enter or exit from trading to missed opportunities or avoid perceived losses.

Social Factors: The Indian society is highly influenced and shaped by collectivistic nature like global connectivity of individuals fueled high aspirations, family expectations and peer influence strongly shape individual financial decisions. On top of these, celebrity endorsements, success stories, online communities, influencer marketing, etc. on social media platforms reinforce speculative trading behaviors and further shapes perceptions and reduces perceived risk.

3.2. Social Learning Theory

The theory emphasizes that individuals set their behaviors through imitation, observation, and reinforcement within a social context. The theory is highly relevance to this study of understanding how Indian Gen Z set their problematic crypto trading habits.

Observational Learning: Frequent observation of peers, family members, online influencers, participating or discussing about crypto trading like success stories of quick wealth accumulation, etc. often exaggerated, serve as powerful models.

Vicarious Reinforcement: Individuals witness others who apparently benefiting from crypto trading, it vicariously reinforces the individual behavior where the one engages in similar actions, and expecting similar profitable outcomes.

Self-Efficacy: By observing successful crypto investors, young individuals tend to belief in one's own ability to succeed similarly. They believe that they possess the necessary skills for trading volatile crypto market, however, the reality might be the other way (lacking genuine financial literacy).

3.3. Cognitive-Behavioral Framework for Behavioral Addictions

This framework focuses on the individual’s reciprocal relationship between their feelings, thoughts, and behaviors while developing an addiction (Beck, 1976). In the context of cryptocurrency trading, it shows:

Triggers and Desires: External cues about crypto like price alerts, social media posts, news headlines, etc., and internal cues like emotional distress, stress, etc. can trigger intense desires to trade.

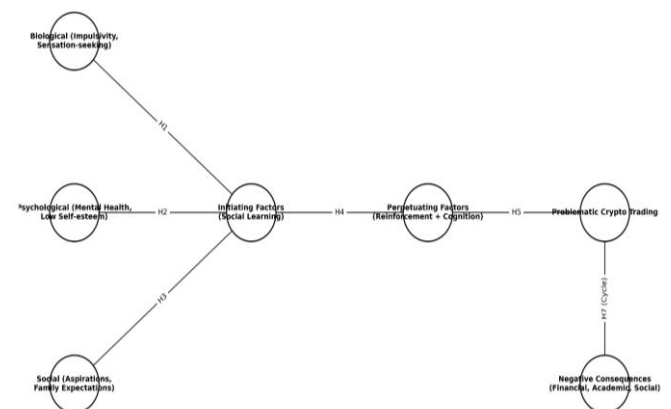
Cognitive Distortions: Individuals who exhibit cognitive distortions, irrational beliefs like predicting market movements illusion of control, etc. fall under problematic crypto traders. These distortions make them to continue to engage despite getting consistent losses.

Loss Chasing: Here, individuals continue to trade to recover their earlier losses, deepening their psychological and financial dilemma.

4. Conceptual Model

The study has integrated the three popular behavioural theories i.e. Biopsychosocial Model, Social Learning Theory, and the Cognitive-Behavioral Model to understand the factors that could lead to problematic cryptocurrency trading and eventually turning ordinary users to addicted users among Gen Z. (see Figure 1).

Figure 1: Conceptual Model of Cryptocurrency Addiction Among Indian Gen Z



5. Research Methodology

5.1. Research Method and Sampling

The study used a cross-sectional, mixed-method (quantitative and qualitative) study. The study is conducted in 2 stages. In the first stage, a quantitative survey has conducted on 487 Indian Gen Z crypto traders representing age 18-25 year, to assess the determinants of crypto addiction and correlates them with the problematic cryptocurrency trading behaviors. In the second stage, qualitative in-depth interviews conducted on 25 Indian Gen Z crypto traders showing high-risk behaviors to explore their experiences and underlying drivers.

The sample was collected from different university/college students, and social media groups. All the participants were screened on the basis of their active engagement on crypto platforms. The sample represents diversity of Gen Z in socioeconomic background, gender, and urban-rural. Majority of the sample belongs to Southern Indian region. The data was collected during February 2025- August 2025.

5.2. Data Collection and Analysis Tools

Problematic Cryptocurrency Trading Scale (PCTS) 10-item scale was used based on the existing behavioral addiction scales. It deals with the indicators like preoccupation, withdrawal, tolerance, loss of control, negative consequences, chasing losses, and deception related to crypto.

Barratt Impulsiveness Scale (BIS-11) was used to assess individual traits like attentional, motor, and non-planning impulsivity.

Fear of Missing Out (FOMO) validated 10-item scale was used to assess the individuals' anxiety associated with missing out on positive experiences that others are having.

Survey and interviews conducted via online mode. All the confidentiality and data privacy were maintained throughout the study.

Interviews were audio-recorded with the permission and consent of participants, and transcribed verbatim.

Descriptive statistics, Pearson correlations, and multiple regression analysis were used.

On **PCTS scale, Exploratory Factor analysis (EFA)** was performed to examine its underlying factor structure and confirm its validity on the selected sample population.

Thematic analysis was used for analyzing the qualitative data (interview transcripts). We followed the six-phase guide of Braun and Clarke's (2006) to recognize the recurring patterns in perceptions, experiences, and motivations.

6. Findings & Results from the Quantitative Data

Characteristic	Category/Value	Percentage / Mean (SD)
Age (years)	Mean (SD)	21.3 (2.1)
Gender	Male	62%

	Female	38%
Status	University/College Students	75%
	Early-stage Employment	25%
Residence	Urban / Semi-urban	85%
	Rural	15%
Daily Social Media Use	Average hours per day	4.5 hours

PCTS Classification	Percentage of Sample	Description
Moderate to Severe Problematic Trading	18.5%	Significant impact on daily functioning, compulsive engagement
Mild / At-Risk Trading	35.0%	Early warning signs, elevated risk of problematic engagement
No Problematic Trading	46.5%	Normal or healthy trading behavior, no functional impairment

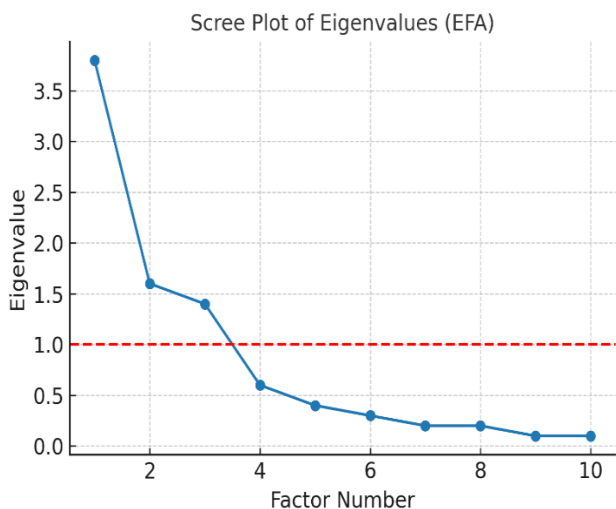
Factor Analysis of PCTS: The Exploratory Factor Analysis of the PCTS items revealed a **three-factor structure**, accounting for approximately 68% of the total variance.

Factor 1: Compulsive Engagement and Preoccupation: Items related to constant thinking about crypto, excessive time spent on platforms, and urges to trade.

Factor 2: Negative Consequences and Impairment: Items pertaining to financial losses, neglect of responsibilities, and strained relationships due to trading.

Factor 3: Emotional Dysregulation and Chasing Losses: Items reflecting using crypto to escape negative feelings and attempts to recover past losses. These factors align well with the core diagnostic criteria of behavioral addictions and the cyclical nature proposed by the Cognitive-Behavioral Model.

Figure 1: Scree Plot of PCTS Eigenvalues



This plot visually depicted the eigenvalues for each potential factor, ordered from largest to smallest. A clear "elbow" or inflection point was observed after the third factor, supporting the extraction of three factors, as indicated by the quantitative findings. This suggests that while problematic crypto trading is a single construct, it is composed of three distinct yet related dimensions.

Table 3: Rotated Factor Loadings for the Problematic Cryptocurrency Trading Scale (PCTS) Items.

PCTS Item Description	Factor 1 (Compulsive Engagement & Preoccupation)	Factor 2 (Negative Consequences & Impairment)	Factor 3 (Emotional Dysregulation & Chasing Losses)
1. Constantly thinking about crypto trading	0.82	0.15	0.10
2. Spending more time trading to get the same thrill	0.78	0.20	0.12
3. Feeling irritable when unable to trade	0.75	0.18	0.25
4. Attempting to cut down or stop trading, but failing	0.65	0.30	0.28
5. Trading affecting academic/work performance	0.10	0.79	0.15
6. Trading causing financial problems	0.15	0.85	0.20
7. Lying to others about trading activities	0.20	0.70	0.18
8. Using trading to escape problems/negative feelings	0.12	0.25	0.80
9. Continuing to trade despite negative consequences	0.18	0.35	0.72
10. Feeling strong urges/cravings to trade after a loss	0.22	0.10	0.75

Note: Loadings less than 0.3 are suppressed for clarity. Bold indicates primary loading.

loaded strongly (typically > 0.6) on one factor and weakly on others, confirming the distinctness of the three dimensions.

This table presented the factor loadings for each item on the three identified factors after Varimax rotation. Items

Table 4: Correlations Between Problematic Cryptocurrency Trading (PCTS) and Related Variables (N = 487)

Variable	Correlation with PCTS	Significance
Impulsivity	r = 0.58	p < .001
FOMO	r = 0.65	p < .001
Daily Social Media Use	r = 0.42	p < .001
Crypto-related Social Media Exposure	r = 0.51	p < .001
Anxiety Symptoms	r = 0.39	p < .001
Depression Symptoms	r = 0.35	p < .001

Financial Literacy	r = -0.32	p < .001
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Note: All correlations are Pearson's r values. Negative coefficient indicates an inverse relationship

Problematic Crypto Trading (PCTS) scores showed a **strong positive correlation** with Impulsivity (r = 0.58, p < 0.001) and FOMO (r = 0.65, p < 0.001). A moderate positive correlation was found between PCTS scores and daily social media usage (r = 0.42, p < 0.001), specifically exposure to crypto-related content (r = 0.51, p < 0.001). A moderate positive correlation was also observed between PCTS scores and self-reported symptoms of anxiety (r = 0.39, p < 0.001) and depression (r = 0.35, p < 0.001). Financial literacy showed a **negative correlation** with PCTS scores (r = -0.32, p < 0.001), suggesting lower financial understanding was associated with higher problematic trading.

Predictor	β (Standardized)	Significance
FOMO	0.38	p < .001
Impulsivity	0.25	p < .01
Social Media Crypto Content Exposure	0.20	p < .01

Note. β values are standardized coefficients from the multiple regression model.

Model Summary: A multiple regression model predicting PCTS scores found that **FOMO (beta=0.38, p < 0.001\$), Impulsivity (beta=0.25, p < 0.01\$), and Social Media Crypto Content Exposure (beta=0.20, p < 0.01\$) were significant positive predictors**, collectively accounting for approximately 55% of the variance in problematic trading behavior (Adjusted R² = 0.55).

6.1. Findings & Results from the Qualitative Data: Thematic Analysis

The following are the five key themes emerged from the qualitative data (interviews).

Theme 1: The attraction of getting financial freedom and becoming rich in quicker way: Many respondents expressed a strong desire for quick financial independence and accumulation of wealth, which contradict with the traditional, slower career paths. They consider Crypto as a shortcut to achieve it.

Reference Quote: "I know many people of my age buying cars, just from crypto earnings. Then why should I wait for 10 years to buy a car when I can make it in 10 months through crypto trading? (Age 20, male respondent)

Theme 2: Peer pressure (FOMO) and social validation: The individuals' constant exposure to influencers' and peers' success in crypto trading on social media created a significant mental pressure and a fear of being left behind.

Reference Quote: "Everyone on my college WhatsApp group was talking about this new crypto coin (name ignored). If I didn't buy it, I would be feeling like a fool. Because I don't want to simply watching them making money while I am sitting idle." (Age 19, female respondent)

Theme 3: Emotional regulation and escapism: Some respondents feel that crypto trading provides an intense distraction or a way to cope with underlying anxiety, stress, etc., particularly during unemployment or academic pressure.

Reference Quote: "When I was stressed with preparation of exams, I would just open the crypto app (name ignored), and check the charts, movement... it made me forget everything else." (Age 22, male respondent)

Theme 4: Illusion of control and cognitive distortions: Respondents exhibited their irrational beliefs on crypto market. For instance, they can predict market movements, they have the ability to recover losses, etc.

Reference Quote: "After I lost a huge amount, it was like the market owed me. But I kept investing more money in it, believing that this time I've figured it out, and I will make it more and recover all the losses." (Age 23, male respondent)

Theme 5: Significant negative consequences and secrecy: Respondents admitted that there were huge financial losses, neglecting academic responsibilities or professional responsibilities, experiencing more depression or stress due to straining family relationships due to lies.

Reference Quote: "I did not prepare well for my exams and failed in the result. Most of my night time goes to checking crypto rates while my parents think I'm studying. I borrowed money from my friends to invest in crypto but I've lost almost all the money, which I can't tell anyone." (Age 21, female respondent)

7. Discussion and implications

The findings reinforce the multi-theoretical frameworks used in the study for understanding cryptocurrency addiction among Gen Z in India. The observed prevalence of problematic trading reflects global concerns about digital behavioral addictions. The findings of the factor analysis show how the dimensions of compulsive engagement, emotional dysregulation, and negative consequences, support the conceptualization of problematic crypto trading behavior as a distinct behavioral addiction. The positive correlations with FOMO and impulsivity pointed out the psychological vulnerabilities are line with the Biopsychosocial Model. It is also clear that how Gen Z's inherent impulsivity and digital connectivity have increased the susceptibility to the quick, and always-on nature of crypto markets. The negative association of Gen Z with financial literacy reflects how decisions are often driven by emotions or social influence rather than informed.

The clear evidence of influence of social media, influencers, and peers on Gen Z to get them into a mood of becoming rich in quick way reinforced the relevance of Social Learning Theory in the conceptual model. Further, such forces foster vicarious reinforcement, encouraging Gen Z to risky trading behaviors. The study also shows how Gen Z continued to be crypto trading addicted and maintain compulsive engagement despite experiencing negative outcomes. This reinforces the Cognitive-Behavioral Model in conceptually explaining the continuation of addiction through emotional regulation, escapism, and cognitive distortions.

8. Conclusion

The findings of the study, backed with a multi-faceted theoretical framework, revealed that crypto addiction is not merely a financial issue but a complex behavioral addiction driven by a mixture of biological predispositions, powerful cultural and social influences, and psychological vulnerabilities. The attraction of quick money making, the influence of social media and cognitive distortions like FOMO, create a scope for problematic engagement with crypto trading. This is an emerging public health concern where cryptocurrency addiction among Indian Gen Z is gaining traction and that demands urgent attention to address, which requires concentrated efforts from 360-degree, right from mental health professionals, policymakers, educational institutions, to parents.

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