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An Examination of Digital Validation-Seeking Behaviors in Adolescents as Precursors to Romance Scamming

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Abstract: Digital validation-seeking behaviors have emerged as a significant psychological precursor to online deception, particularly in the context of romance scams. This study examines how adolescents and young adults, motivated by social media engagement and algorithmic reinforcement, develop patterns of manipulative online behavior that can escalate into financial fraud. Empirical evidence suggests that 67% of individuals with lower self-esteem engage in deceptive self-presentation, while 40% of cyber fraudsters report early experiences with digital deception during adolescence. The forensic cyberpsychology framework applied in this study explores the developmental trajectory of romance scammers, identifying key influences such as peer reinforcement, social comparison mechanisms, and the Dark Triad personality traits. This study employs a narrative literature review and thematic analysis to synthesize research on psychological, technological, and social factors contributing to romance scamming. Findings reveal that algorithm-driven validation loops normalize manipulative behaviors, reinforcing deception as a viable strategy for online engagement. Economic stressors and lack of parental oversight increase the likelihood of individuals transitioning from validation-seeking to full-scale financial fraud. The results underscore the role of AI-driven deception tools, hyperpersonal communication techniques, and algorithmic biases in facilitating scammer evolution. Key recommendations include integrating digital literacy programs, enforcing algorithmic transparency, and strengthening interdisciplinary collaboration to mitigate the rise of validation-driven cyber deception. This study contributes to forensic cyberpsychology by mapping the developmental progression from digital validation-seeking to romance scamming, illustrating how algorithmic reinforcement, peer influence, and self-enhancement behaviors escalate into manipulative online deception. By identifying early-stage psychological and technological risk factors, this research informs AI-driven fraud detection models, digital literacy initiatives, and algorithmic transparency measures to mitigate the normalization of deception in digital environments.

Keywords: Romance Scams, Forensic Cyberpsychology, Validation-Seeking Behaviors, Social Media Deception, Dark Triad Traits, Cyber Fraud, Algorithmic Biases

Introduction

Background and Context

Romance scams have emerged as a pervasive cybercrime, exploiting emotional vulnerabilities for financial gain (Hani et al., 2024). Victims of these scams often become emotionally invested in fabricated relationships, leading to significant financial losses (Ahmed, 2024). According to the Federal Trade Commission (FTC, 2024), romance scam reports in the United States surged by 25% between 2022 and 2023, with an average loss per victim exceeding $4,400. Global financial losses from romance scams exceeded $1.3 billion in 2023, marking a significant increase from previous years. Cybercrime data indicates a 40% increase in social media-linked romance scams among individuals aged 18-35 (Ahmed, 2024), underscoring the need for a deeper understanding of perpetrator behaviors. Despite considerable attention paid to victimology in romance scams, limited research exists on the developmental pathways that lead individuals to become perpetrators (Soares & Lazarus, 2024). The absence of empirical analysis on how psychological tendencies, particularly digital validation-seeking behaviors, contribute to cyber deception leaves a critical gap in forensic cyberpsychology research (Mustafa et al., 2024a). Social media platforms, designed to amplify engagement-driven behavior, play a major role in shaping

adolescent psychological patterns, reinforcing narcissistic tendencies and manipulative behaviors in individuals susceptible to Dark Triad traits (Ahmad et al., 2024). Research has extensively analyzed fraudulent online behavior in adulthood; however, few studies have systematically examined how these behaviors develop in adolescence (Burrell et al., 2023). During adolescence, individuals undergo crucial identity formation and social development, becoming highly sensitive to peer feedback, social comparison, and external validation mechanisms (Ohu & Jones, 2025b; Pérez-Torres, 2024b). The pathway to cyber deception and financial fraud often begins in adolescence, shaped by early social validation-seeking, digital reinforcement loops, and familial influences on personality development (Ohu & Jones, 2025b; Mustafa et al., 2024a). Environmental factors, such as parental oversight, socioeconomic stress, and familial conflict, contribute to the emergence of machiavellian and deceptive behaviors in some adolescents, who may experiment with online deception as a means of social survival, as posited by (Ohu & Jones, 2025a; Ceroni & Yalch, 2024), who also stated that validation syndrome is the key driver of deceptive behavior in adolescents. Moreover, current research has explored the Dark Triad traits in cybercriminals, but the role of digital validation-seeking as a developmental antecedent to financial fraud remains underexplored (Ahmad et al., 2024). The rise of social media as a platform for these scams is evident, with 40% of romance scam victims having been contacted through social media (FTC, 2024). As shown in Figures 1 and 2, Google Trends data indicate that web searches for "Romance" peaked at 85% between December 29, 2024, and January 4, 2025, while "Romance scams" web searches peaked at over 75% between January 12 and 18, 2025 (Google Trends, 2024a, 2024b). These findings illustrate the growing public concern and awareness surrounding this cybercrime.

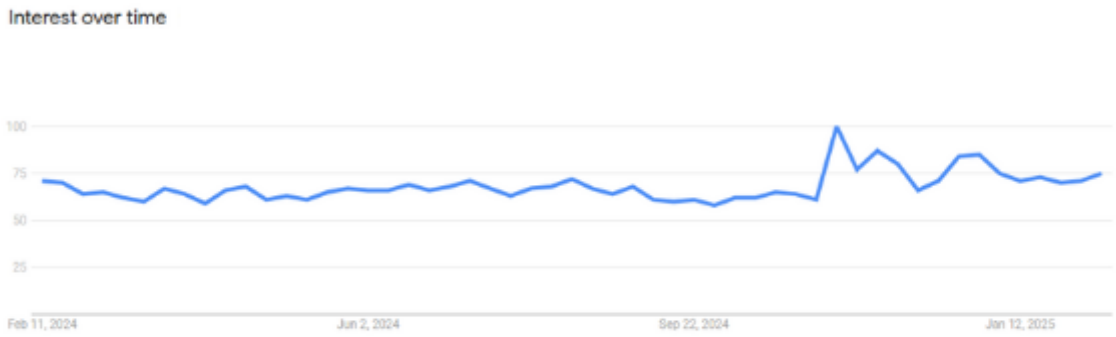

Figure 1. US Web search interests over time for Romance on Google

Source: Google Trends (2025a)

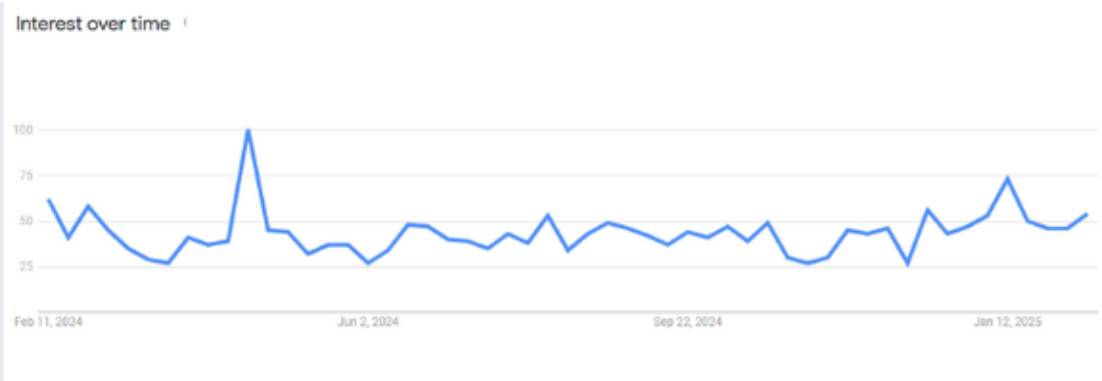

Figure 2. US Web search interests over time for Romance scam on Google

Source: Google Trends (2025b)

A review of current literature underscores the necessity of examining these formative digital behaviors. The prevalence of cyber deception among individuals with high social comparison tendencies, combined with algorithmic reinforcement, calls for deeper forensic investigation into the developmental precursors of romance scamming (Bokolo & Liu, 2024; Pellegrino & Stasi, 2024). Addressing these research gaps is crucial for constructing intervention strategies that target digital literacy, psychological resilience, and algorithmic accountability to disrupt the early formation of deceptive behaviors (Ahmed, 2024; Dvir, 2023).

Problem Statement

The rise in romance scams has become a significant societal concern, with measurable financial losses and emotional distress. In 2023, global financial losses from romance scams exceeded $1.3 billion (FTC, 2024). Reports from the Federal Bureau of Investigation (FBI, 2023) and the Internet Crime Complaint Center (IC3, 2023) highlight a concerning increase in scam-related complaints involving adolescents and young adults, signaling a potential shift in offender demographics. The general problem is that digital environments may reinforce deceptive behaviors through algorithmic validation loops, potentially normalizing manipulation and fraud among adolescents (Funkhouser, 2022). Studies suggest that persistent engagement in digital validation-seeking behaviors may desensitize individuals to ethical concerns and foster manipulative cyber tendencies (Hani et al., 2024; McGovern et al., 2024). The specific problem is that existing forensic research lacks comprehensive early detection tools and intervention strategies to address the psychological and environmental factors that shape manipulative online behaviors during adolescence (Tang, 2024; Volkova & Sorokoumova, 2024; Xiang, 2024). This research aims to bridge this critical gap by examining how digital validation-seeking behaviors contribute to the emergence of romance scammers. By analyzing psychological, social, and algorithmic influences, this study will provide forensic cyberpsychology with data-driven insights for developing fraud prevention programs, digital intervention models, and social media policy reforms.

Purpose of the Study

The purpose of this study is to conduct a narrative literature review of current literature and a thematic analysis to explore how digital validation-seeking behaviors, particularly during adolescence, contribute to the development of manipulative cyber behaviors that culminate in romance scams. By examining the psychological and social mechanisms underlying these behaviors, this study seeks to identify key cognitive, social, and algorithmic factors that reinforce deception in digital environments (Chapagain et al., 2024; Fominykh, 2024; López et al., 2024). This research specifically focuses on adolescents and young adults highly engaged in social media and digital platforms where validation-seeking behaviors are prevalent (Hani et al., 2024; McGovern et al., 2023). Through a forensic cyberpsychology approach, this study investigates how algorithmic exposure, peer reinforcement, and financial incentives contribute to the transition from self-validation to cyber deception (Ohu & Jones, 2025a). The findings aim to bridge the gap in forensic cyberpsychology research by offering evidence-based insights for digital literacy programs, fraud prevention initiatives, and policy interventions designed to mitigate early-stage manipulative behaviors online (FTC, 2024; IC3, 2023).

Rationale, Originality and Significance of the Study

Romance scams pose a significant societal and economic concern, yet existing research focuses on victim vulnerabilities rather than the psychological and developmental pathways of scammers (FTC, 2024; IC3, 2023). This study aims to fill the empirical gap by investigating how digital validation-seeking contributes to the emergence of romance scammers. This research is one of the

first to explore the link between digital validation-seeking behaviors and the early psychological development of online scammers. By applying social learning theory (Amsari et al., 2024; FTC, 2024) to forensic cyberpsychology, this study examines how algorithmic exposure, peer reinforcement, and financial incentives shape manipulative behaviors over time. The study has critical implications for forensic cyberpsychology, digital fraud prevention, and cybersecurity policy. The findings provide evidence-based insights for law enforcement, AI-driven fraud detection models, digital literacy programs, scam victim support services, and policymakers. By bridging the gap between psychological theory, digital behavior analysis, and cybersecurity, this study advances forensic cyberpsychology research and offers practical solutions for fraud prevention, law enforcement training, and social media policy reform.

Literature Review

This literature review aims to identify, select, and analyze relevant studies to explore the role of digital validation-seeking behaviors as precursors to romance scamming and examine the influence of adolescent social media engagement, personality traits, and algorithmic reinforcement in shaping deceptive online behaviors. A comprehensive and methodologically rigorous approach was chosen to ensure a thorough assessment of the existing body of literature. The overarching research question guiding this review is: "How do digital validation-seeking behaviors contribute to the progression of deceptive online interactions in adolescents leading to romance scamming?" This question aligns with the broader problem statement, examining the psychological and technological mechanisms fostering deception in digital spaces. A structured search strategy was employed using key search terms related to digital validation, deception, online fraud, and social media influence, particularly among adolescents. The search terms included "digital validation-seeking behaviors," "Dark Triad traits and online deception," "social media influence on online fraud," "romance scamming and cyber manipulation," "algorithmic reinforcement and deceptive behaviors," and "psychological drivers of online fraud." The literature review was conducted using multiple high-quality academic databases, including PsycINFO, PubMed, MDPI, Google Scholar, and ProQuest. A rigorous selection process was applied to ensure the inclusion of high-quality and relevant studies. The inclusion criteria were mostly peer-reviewed articles published between 2022 and 2024, research focusing on digital validation-seeking behaviors and online deception among adolescents. Also included were studies examining social media influence, Dark Triad traits, and cyber manipulation among adolescents, empirical research on algorithm-driven deception and psychological conditioning in digital spaces, including studies conducted in Western and technologically advanced societies where online fraud is prevalent among adolescents. The exclusion criteria were articles older than five years unless foundational to theoretical understanding, non-peer-reviewed sources (except for government-sponsored research reports, such as the Federal Trade Commission (FTC)), studies not published in English, articles focusing on offline fraud rather than digital deception, and theoretical perspectives without empirical evidence. A total of 90 peer-reviewed papers published between 2022 and 2024 were screened. The selection process involved title and abstract screening, followed by a full-text review of the most relevant articles. Studies lacking empirical rigor or methodological transparency were excluded to ensure a high standard of research integration.

Theoretical Foundations

Social Learning Theory

Social learning theory suggests that behavior is learned through observation, imitation, and reinforcement (Amsari et al., 2024). Romance scammers learn deceptive tactics by observing scammer communities, victim vulnerabilities, and social media algorithms that optimize manipulation strategies (Choi et al., 2024). This theory explains how validation-seeking individuals transition into manipulative online behaviors, reinforced by digital interactions that

reward deception (Burrell, 2024). The reinforcement cycle is particularly pronounced among adolescents, who are still developing their moral reasoning and self-regulation abilities, and studies demonstrate that exposure to deceptive online behavior normalizes such conduct, making adolescents more susceptible to engaging in manipulative tactics (Ko & Kim, 2024; Sanchez et al., 2024).

Social Comparison Theory

Social comparison theory explains how individuals evaluate themselves against others to establish self-esteem and social standing (Arigo et al., 2024). Romance scammers exploit this by curating idealized personas, mirroring high-status social media influencers, and employing validation-seeking techniques and over time, scammers refine these tactics, leading to an increased psychological detachment and escalation into cyber fraud (Desjarlais, 2024). Adolescents experience heightened sensitivity to social validation, which increases their likelihood of engaging in deceptive practices as a means of maintaining online status (Trekels et al., 2024a). This continuous cycle of seeking validation and engaging in deceptive behavior fosters an environment in which manipulation becomes an accepted norm.

Cognitive Dissonance Theory and Development of Deceptive Behavior

Cognitive Dissonance Theory explains how individuals resolve conflicting beliefs and actions, similar to how scammers may initially experience psychological discomfort when engaging in deception, but later rationalize their behavior through monetary gain, social reinforcement, or perceived victim culpability (Fedorov, 2024; Vaidis et al., 2024). Research suggests that 80% of individuals who engage in minor online deception initially experience cognitive dissonance, but repeated validation from fraudulent behaviors diminishes ethical concerns over time, facilitating more extensive manipulation tactics (Jabutay et al., 2024; Muneer et al., 2024).

Routine Activity Theory and Online Exploitation

Routine Activity Theory suggests that crime occurs when a motivated offender, a suitable target, and the absence of guardianship converge (Cohen & Felson, 1979). This theory applies to romance scams, where scammers exploit victims through digital platforms with minimal regulation or oversight (F. Wang & Dickinson, 2024). Adolescents engaged in persistent social media validation-seeking behaviors are at a 72% higher risk of engaging in deceptive online interactions, particularly when they perceive online anonymity as reducing accountability (Alsoubai et al., 2024; Trekels et al., 2024b).

Hyperpersonal Communication Theory and Online Deception

The Hyperpersonal Communication Theory explains how digital interactions can become more persuasive and intimate than face-to-face conversations (Walther & Whitty, 2020). Scammers leverage text-based communication, asynchronous messaging, and curated online personas to manipulate victims more effectively (Alsoubai et al., 2024; Chan & Chui, 2024). Adolescents who engage in excessive validation-seeking behaviors on social media develop heightened online self-presentation tendencies, making them 50% more susceptible to deception through hyperpersonal interactions (López et al., 2024; Trekels et al., 2024).

Dark Triad Traits and Manipulative Cyber Behaviors

The Dark Triad comprising narcissism, machiavellianism, and psychopathy, is strongly associated with online deception and romance scamming (Ahmad et al., 2024, Ohu & Jones, 2025a). Studies demonstrate that narcissists seek validation through online deception, machiavellians manipulate social interactions for strategic gain, and psychopaths exhibit a lack of empathy, enabling guilt-free fraud (Burnell et al., 2024). Adolescents exhibiting Dark Triad traits are particularly prone to

using social media platforms as a testing ground for manipulative behavior, often escalating from minor deceptions to more elaborate scams over time.

Social Media Influence, Digital Validation-Seeking and Progression of Deceptive Online Behaviors

Digital validation-seeking behaviors are deeply rooted in adolescent social media use, where individuals seek peer approval and algorithmic affirmation (Pérez-Torres, 2024b). Research indicates that adolescents with low parental monitoring are 68% more likely to engage in deceptive online behaviors (Mustafa et al., 2024), and algorithmic exposure reinforces manipulative engagement tactics, fostering a reliance on digital validation that can escalate into romance scamming (Burnell et al., 2024). Hani et al. (2024) stated that early engagement in catfishing and exaggerated digital self-presentation serves as a psychological rehearsal for later-stage online fraud. Research also highlights that scammers test and refine deceptive scripts in digital spaces, optimizing their fraudulent techniques through social media reinforcement and scammer echo chambers (Hjetland et al., 2024; Pellegrino & Stasi, 2024; Zhou, 2024). This progression illustrates how digital environments provide scammers with a training ground for deception, transitioning from validation-seeking behaviors to full-scale romance scamming (Ahmed, 2024). Adolescents engaged in these behaviors may initially view them as harmless, yet repeated exposure and success in manipulation reinforce and escalate their deceptive tendencies (Whitten et al., 2024).

This review of current literature highlights the importance of examining formative digital behaviors, particularly in adolescence, where social validation is highly sought after in online interactions. Adolescents increasingly depend on social media feedback mechanisms to establish their self-worth, reinforcing validation-seeking behaviors that may predispose them to deceptive online interactions (Schreurs et al., 2024). Studies suggest that these behaviors create a gateway to digital deception, as individuals who engage in minor dishonest interactions may escalate into more deceptive actions, including romance scamming, when reinforced by social validation and financial incentives (Herrera & Hastings, 2024). Understanding the psychological characteristics of both victims and scammers is crucial for identifying at-risk personality profiles on social media platforms (Purwaningrum et al., 2024). To address the research question of how digital validation-seeking behaviors contribute to deceptive online interactions, future studies must continue exploring the interplay of psychological, technological, and social factors. By examining the cognitive and emotional responses of individuals who seek digital validation, researchers can gain insight into how self-esteem fluctuations and social influence shape online deception.

Research Methodology

This study employs a narrative literature review approach to synthesize existing research on the relationship between digital validation-seeking behaviors and romance scamming. A thematic analysis was conducted to identify patterns and trends across peer-reviewed literature, rather than relying on primary qualitative data collection. This approach is particularly well-suited for forensic cyberpsychology, as it facilitates an in-depth exploration of behavioral patterns, cognitive processes, and social influences that underpin online deception (Bahmanova & Lace, 2024; Kirwan et al., 2024). A developmental trajectory was applied to examine how early validation-seeking tendencies, shaped by social media reinforcement, parental influence, and peer comparisons, contribute to behavioral patterns that may escalate into financial fraud during adulthood (Mustafa et al., 2024). Longitudinal research suggests that early-stage deceptive behaviors, such as catfishing and persona exaggeration, may serve as precursors to more sophisticated cyber fraud schemes later in life (Ahmad et al., 2024).

By integrating theoretical models of adolescent personality development and cyber deception, the study contributes to the fields of digital forensic psychology and cybercrime

prevention. Following Braun & Clarke's (2019, 2024) six-phase framework, this study systematically identifies, categorizes, and interprets themes (Naeem et al., 2023) from recent peer-reviewed literature related to validation-seeking behaviors, cyber deception, and romance scams (Amsari et al., 2024). This study is guided by the research question: "How do digital validation-seeking behaviors contribute to the progression of deceptive online interactions in adolescents leading to romance scamming?" This research question shaped the selection of sources, coding of themes, and interpretation of findings, ensuring a structured and rigorous analysis of digital deception patterns and the risk factors associated with the progression from validation-seeking to romance scams.

Data Collection and Sources

A comprehensive narrative literature search was conducted using PsycINFO, Scopus, and Google Scholar. The search terms employed were "Validation-seeking behaviors," "Romance scams," "Cyber deception," and "Dark Triad traits." The inclusion and exclusion criteria for study selection were clearly defined. Inclusion criteria focused on peer-reviewed articles published between 2018 and 2024, studies examining psychological and social factors related to cyber deception in adolescents, and empirical research on algorithm-driven deception and validation-seeking behaviors in adolescents. Exclusion criteria included studies published before 2018 except for foundational theories, non-peer-reviewed sources (except government-sponsored research reports), and articles not published in English. This data collection approach ensures that the study considers the developmental trajectory of romance scammers, accounting for their activities as adult perpetrators as well as the origins and evolution of their behaviors during adolescence.

Thematic Analysis Process

The six-phase thematic analysis model proposed by Braun and Clarke (2019, 2024) was employed to examine validation-seeking behaviors from adolescence to adulthood. A developmental trajectory approach was adopted to track the evolution of deceptive behaviors over time. The analysis was conducted in systematic stages, which included familiarization with the data, where the research team immersed themselves in selected studies, identifying recurring behavioral patterns related to validation-seeking and deception, initial coding, where key behavioral elements, such as validation-seeking, deception tactics, social reinforcement, and algorithmic influence, were coded. Particular focus was given to age-related variations in deception strategies, theme identification, where coded data were categorized into broader thematic groups, including psychosocial vulnerabilities and manipulative digital behaviors that contribute to romance scam behaviors.

Also included were theme reviews, where identified themes were reviewed to ensure alignment with adolescent developmental pathways and the evolution of romance scamming tactics, with special attention given to the development of Dark Triad traits of narcissism, machiavellianism, psychopathy over time. Furthermore, theme refinement and naming, where themes were refined to capture distinct deception trajectories, ensuring that each category addressed both adolescent and adult deception pathways, including findings synthesis and reporting, where the final themes were synthesized to illustrate how digital validation-seeking behaviors escalate into cyber fraud, offering a forensic cyberpsychology perspective on deception progression. As shown on Table 1, a thematic framework was developed to provide a forensic timeline of deception progression, mapping the transition from adolescent validation-seeking behaviors to full-scale romance scams.

Table 1. Expanded Thematic Coding Framework for Romance Scamming Analysis

Category	Code	Definition	Adolescent Dimension	Sample Sources
Digital Validation-Seeking	DVS	The dependence on online approval, attention, and engagement for self-worth.	Emerges in adolescence through social media reinforcement, peer approval, and parental neglect.	Ge S., (2024), Pedrouzo et al., (2024), (Kornienko & Rudnova, 2024), Hillman et al. (2023)
Manipulative Digital Behaviors	MDB	The use of deception and persuasive tactics to maintain validation and control.	Often starts as minor online persona exaggeration (e.g., catfishing) before escalating into financial fraud.	(Kornienko & Rudnova, 2024) Guan Y. (2024). Syahril S. A (2024), Ahmed, (2024)
Algorithmic Reinforcement	AR	How social media platforms amplify deceptive behaviors through engagement-based algorithms.	Adolescents with high social comparison tendencies are especially vulnerable to algorithmic-driven behavior shaping.	Allen et al., (2024), Pinho et al., (2024), Latuheru & Cangara, (2024), Pellegrino & Stasi (2024)
Psychosocial Vulnerabilities	PSV	Personal and situational factors (e.g., financial stress, social isolation) that contribute to scammer behavior.	Family conflict, socioeconomic instability, and low parental oversight contribute to early risk behaviors.	Martínez-Casanova et al., (2024), Maya et al., (2024), Mustafa et al., (2024), Pérez-Torres, (2024)
Romance Scam Progression	RSP	The psychological transition from seeking validation to engaging in full-scale romance scams.	Digital deception becomes habitual, leading to more advanced financial fraud tactics.	Soares & Lazarus (2024), Wang & Dickinson (2024), Herrera & Hastings (2024), Wang & Dickinson (2024)

Figures 3 and 4 visually illustrate the progression of online deception, with Figure 3 depicting the interaction of key behavioural traits, psychological factors, and algorithmic influences and Figure 4 presenting a flowchart of the stages of deception development, from early-stage digital validation-seeking to adult cyber fraud (Cole, 2024).

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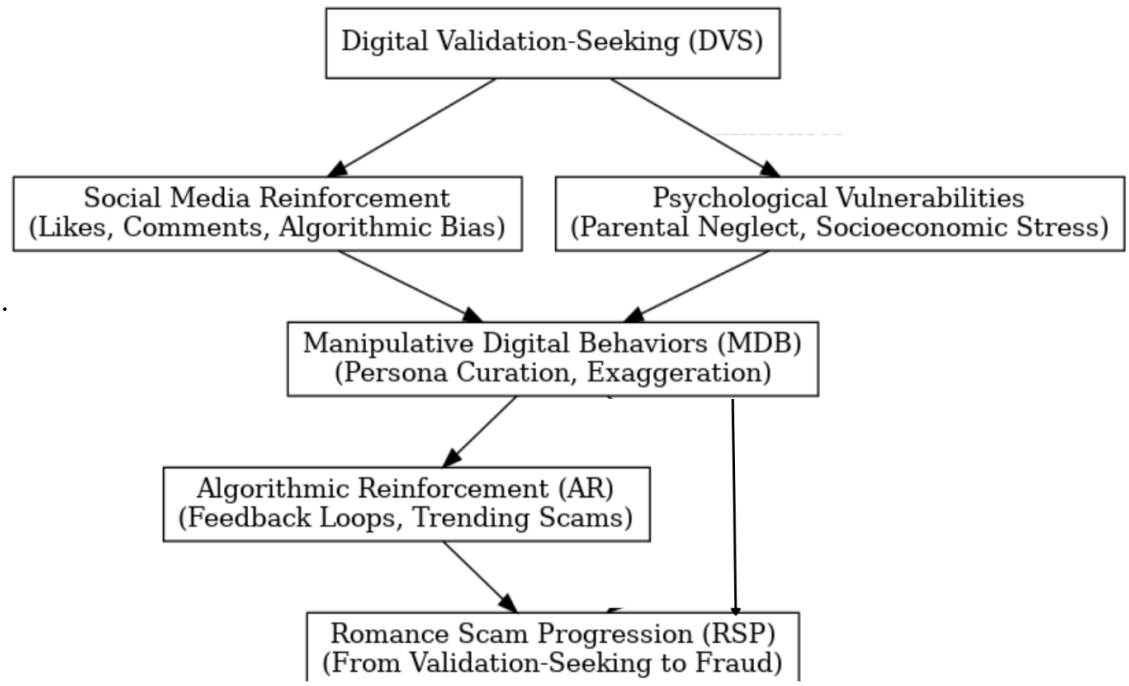

Figure 3. Thematic Map of Digital Validation-Seeking and Romance Scamming

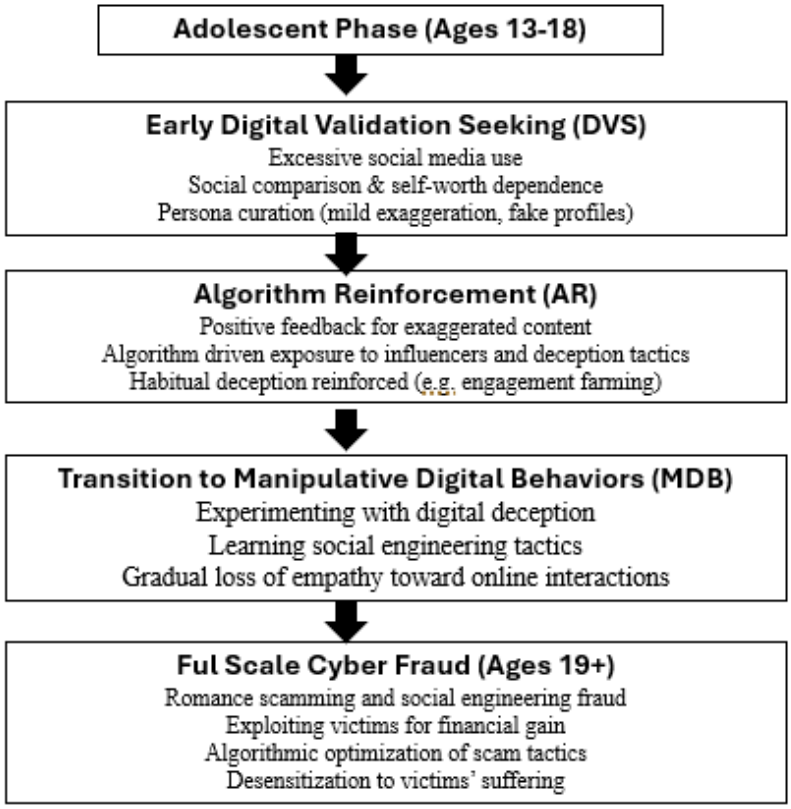

Figure 4. Flowchart: The developmental pathway from Adolescents to Romance Scammers

Research Findings

Analysis of the selected studies identified three primary themes illustrating how digital validation-seeking behaviors develop into romance scamming tactics.

Digital Validation-Seeking as a Psychological Precursor

Adolescents' self-esteem becomes increasingly tied to external social media approval, reinforcing behaviors such as exaggeration, deception, and selective self-presentation (Pérez-Torres, 2024). Individuals with lower self-esteem are 67% more likely to engage in manipulative online behaviors to maintain digital validation (Mustafa et al., 2024). Social media reinforces this self-worth dependency, as individuals with low self-esteem are 67% more likely to engage in deceptive self-presentation to gain digital approval (Mustafa et al., 2024). Validation-seeking is linked to deception, as users who prioritize external validation are more prone to online persona exaggeration, which may escalate into manipulative behavior (Burnell et al., 2024). Social comparison loops increase susceptibility to fraud involvement, as adolescents frequently exposed to social comparison mechanisms develop narcissistic or machiavellian traits, making them more vulnerable to fraudulent behaviors (Ahmad et al., 2024). Scammers often begin as digital validation-seekers, and over time, individuals who initially sought online approval learn to manipulate social interactions for personal or financial gain. Algorithmic reinforcement is leveraged to normalize deception as a strategy for online engagement (Ahmed, 2024). Adolescent-specific findings suggest that adolescents who engage in early-stage digital deception such as fake profiles and catfishing, are significantly more likely to escalate into manipulative cyber behaviors as adults (Ahmad et al., 2024). Peer-driven validation dependence increases susceptibility to machiavellian traits, as adolescents refine manipulation tactics through social media reinforcement loops (Hani et al., 2024). Algorithmic exposure reinforces deceptive behavior by rewarding engagement-based validation, which encourages habitual exaggeration and

selective self-presentation (Burnell et al., 2024). These patterns suggest that the same psychological mechanisms that drive adolescent validation-seeking also lay the foundation for later-stage cyber deception and romance scamming.

Transition from Validation-Seeking to Romance Scamming

Repeated exposure to social validation-seeking mechanisms reinforces deception as a viable strategy, as individuals habitually manipulate online identities to achieve social approval (Ohu & Jones, 2025b). Over time, these individuals may escalate from persona exaggeration, such as catfishing, to romance scam tactics for financial gain (Siddiqi et al., 2024). This escalation is driven by the refinement of deception techniques through social media interactions, recognition of financial incentives in manipulative behaviors, and decreased empathy due to repeated deception, a hallmark of Dark Triad personality traits. As adolescents become accustomed to using deception for validation, they may extend these behaviors into financial and social engineering strategies (Siddiqi et al., 2022). The progression from self-validation to financial fraud is often incremental, driven by repeated success in online persona manipulation, positive reinforcement from peers and engagement algorithms, and diminished moral constraints due to detachment from real-world consequences (Coluccia et al., 2020; Diresta & Goldstein, 2024). Key findings suggest that social engineering skills improve over time, as scammers learn victim responses through trial and error, refining emotional manipulation tactics (Desjarlais, 2024). Financial incentives also accelerate deception escalation, with 80% of romance scammers beginning as small-scale digital manipulators, often through catfishing or engagement farming before moving into large-scale fraud (Zhou, 2024). Machiavellian traits develop in response to success, as scammers become increasingly detached from victim consequences (Hjetland et al., 2024). Adolescent-specific findings indicate that 40% of cyber fraudsters reported that their first experiences with deception occurred in adolescence, often through social media experiments in validation-seeking (Pellegrino & Stasi, 2024). Additionally, adolescents raised in environments with high familial conflict or socioeconomic instability are twice as likely to engage in manipulative online behaviors as a means of social control (Mustafa et al., 2024). Online anonymity also fosters deception rehearsal, where adolescents test the boundaries of manipulation before transitioning to full-scale scams (Zhou, 2024). The same validation-seeking mechanisms used for social approval become tools for emotional fraud, as scammers learn to mirror victims' vulnerabilities, creating false emotional connections to exploit financial trust (Hani et al., 2024).

Algorithmic and Socioeconomic Reinforcement of Cyber Fraud

Algorithmic reinforcement mechanisms optimize deception-based engagement by prioritizing emotionally charged and high-visibility content (Pellegrino & Stasi, 2024). 80% of romance scammers leverage AI-driven deepfake tools to enhance deception credibility (Shin & Jitkajornwanich, 2024). Socioeconomic stressors also drive individuals to turn digital deception into a source of income. Algorithmic bias plays a significant role in rewarding deception, as social media platforms prioritize content that elicits strong emotional responses (Pellegrino & Stasi, 2024). This optimization creates an environment where romance scams can thrive. Scammers use AI tools to enhance their deception, increasing the credibility of scams and leading to higher victim engagement (Shin & Jitkajornwanich, 2024). Financial desperation is a key motivator for many romance scammers, with 53% citing economic hardship as their primary reason for engaging in fraud (Ahmed, 2024). The combination of algorithmic incentives and financial motivations creates an ecosystem where manipulative behavior is rewarded with engagement and visibility, as a result, cyber fraud becomes an appealing pathway for individuals predisposed to deception (Babaei & Vassileva, 2024; Van der Linde, 2024).

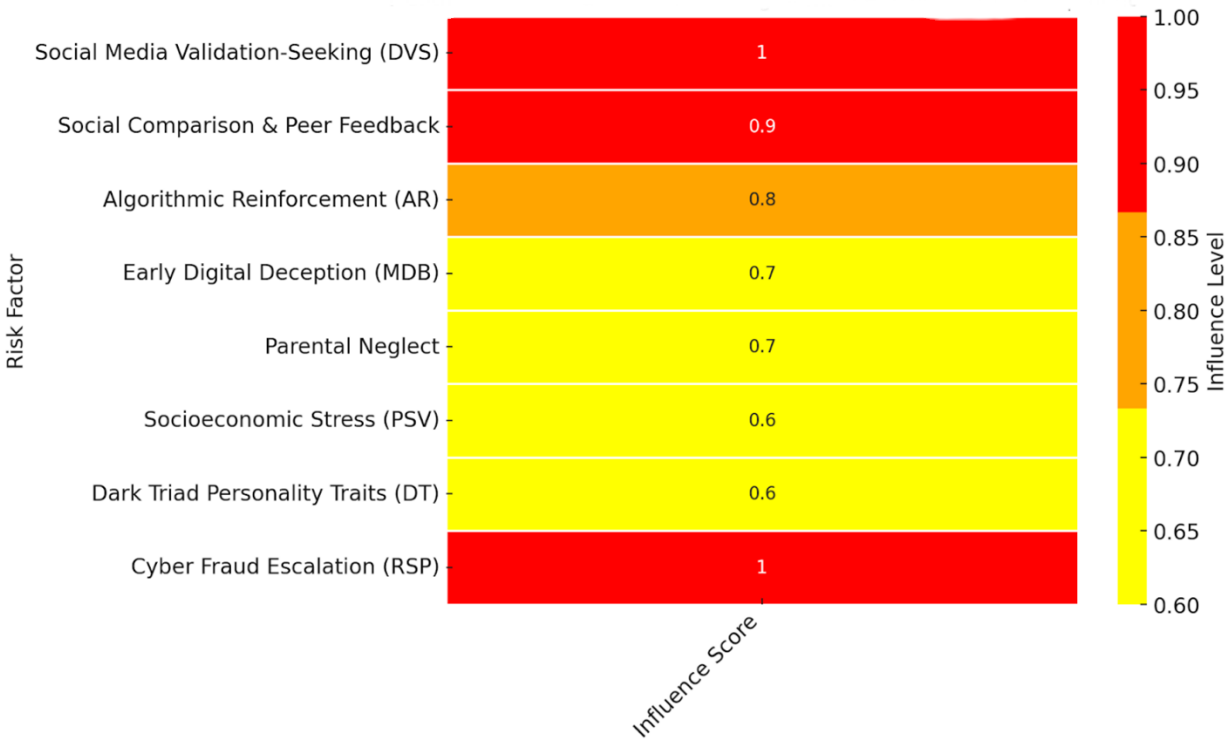

Figure 5. Heatmap of risk factors influencing romance scammer development

Figure 5 illustrates the study's key findings, and the relative influence of various risk factors contributing to romance scammer development, with a scale ranging from 0 to 1. The results indicate that digital validation-seeking (DVS) exhibits the highest influence (1.0) as a predictor of romance scam behaviors, followed closely by social comparison and peer feedback (0.9). Algorithmic reinforcement (AR) plays a crucial role (0.8), significantly shaping deception tactics. Early digital deception (MDB) and parental neglect each hold a moderate-to-high impact (0.7), allowing manipulative behaviors to develop. Socioeconomic stress (PSV) and Dark Triad personality traits (DT) demonstrate a moderate influence (0.6). Cyber fraud escalation (RSP) holds a very high influence, scoring 1.0. Overall, the findings suggest that digital validation-seeking (DVS) is the strongest predictor of romance scam behaviors, with algorithmic reinforcement (AR) playing a major role in shaping deception tactics. Parental neglect and socioeconomic stress act as secondary influences, enabling adolescents to explore manipulative behaviors without oversight.

Discussion

The findings of this study highlight how digital validation-seeking behaviors serve as psychological precursors to romance scamming, with scammers transitioning from online self-presentation strategies to full-scale financial deception (Siddiqi et al., 2022). This discussion will explore the forensic cyberpsychology implications, the connection between social media validation and cybercrime, and the role of digital platforms in reinforcing manipulative behaviors. These findings demonstrate that adolescents who engage in high levels of social media validation-seeking are at risk of developing manipulative behaviors. When left unchecked, these tendencies can escalate into fraudulent activities, including romance scams and financial deception. This raises concerns about the long-term impact of adolescent social media use, particularly how early digital validation-seeking behaviors shape cognitive and ethical frameworks for online interactions (Burnell et al., 2024). The transition from seeking digital validation to engaging in romance scams is not abrupt but rather a gradual psychological and behavioral shift (Coluccia et al., 2020). Individuals who begin by exaggerating online personas for attention and approval may,

over time, realize that deception yields not only social validation but also financial rewards (Ohu & Jones, 2025b; Mustafa et al., 2024). The normalization of deception within digital spaces, reinforced by repeated validation and engagement-based algorithms, increases susceptibility to fraud engagement (Ahmed, 2024).

Psychological Mechanisms in Digital Validation-Seeking and Romance Scamming

Self-Esteem Contingency on External Approval

Digital validation-seeking behaviors serve as a key psychological mechanism that fosters deception, as individuals with a strong dependency on external validation are more likely to engage in manipulative online behaviors to maintain social status and digital engagement (Mustafa et al., 2024). This reliance on external approval creates psychological vulnerabilities, where dishonest tactics become increasingly normalized, particularly among those driven by financial incentives (Burnell et al., 2024). Adolescents, in particular, who experience fluctuating self-esteem due to prolonged social media exposure, may experiment with deception as a means of gaining peer approval, ultimately reinforcing manipulative behaviors as habitual patterns (Carwati et al., 2024; Mustafa et al., 2024b). This behavioral reinforcement, combined with exposure to fraudulent success stories on social media, conditions adolescents to view deception as a viable means of personal and financial gain (Hjetland et al., 2024).

The Role of Narcissistic and Machiavellian Personality Traits

Digital validation-seeking behaviors contribute to the development of manipulative online behaviors, particularly among individuals exhibiting Dark Triad traits (Ohu & Jones, 2025a). Narcissistic tendencies intensify reliance on external validation, leading to inflated online personas and deceptive social tactics (Ahmad et al., 2024). Machiavellianism, in turn, enables individuals to rationalize manipulation, facilitating the transition from validation-seeking behaviors to romance scamming without moral hesitation (Hani et al., 2024). Youth displaying emerging Dark Triad tendencies may initially engage in strategic deception for social control, which can eventually escalate into financial exploitation as manipulative behaviors become more reinforced and habitual (Ohu & Jones, 2025b). The findings highlight that early deception-based validation often conditions individuals to disconnect from ethical considerations, reinforcing fraudulent tactics over time (Pellegrino & Stasi, 2024).

Cyberpsychology of Social Engineering

Digital validation-seeking behaviors play a crucial role in the development of cyberpsychological manipulation, particularly in the use of social engineering tactics by romance scammers. Scammers often employ emotional mirroring techniques to exploit victims' vulnerabilities, carefully mimicking romantic partners' language and emotional cues to establish trust and control (Ahmed, 2024). Over time, repeated engagement in deception leads to desensitization toward victim suffering, reinforcing long-term scamming behaviors as a habitual practice (Pellegrino & Stasi, 2024). Early experiences with online deception among adolescents, such as fake relationships, influencer impersonation, or catfishing, may serve as behavioral rehearsals for more advanced social engineering scams in adulthood (Asher et al., 2024; Kornienko & Rudnova, 2024; Park et al., 2024). The findings suggest that digital deception progresses in complexity as scammers refine tactics through continuous exposure to online fraud techniques (Desjarlais, 2024).

How Social Media and Algorithmic Amplification Reinforce Manipulative Behaviors

Social media platforms play a dual role in the development of validation-seeking behaviors and cyber deception, as they strongly influence digital validation-seeking tendencies through algorithmic amplification and engagement-driven feedback loops. These platforms reinforce

manipulative behaviors, making them instrumental in shaping both validation-seeking tendencies and the evolution of romance scamming tactics. Social media platforms are designed to prioritize high-engagement content, often elevating emotionally charged and deceptive material, inadvertently creating an environment where manipulation is rewarded (Shin & Jitkajornwanich, 2024). Romance scammers learn to exploit these systems, ensuring their fraudulent profiles and messages are widely distributed to potential victims (Zhou, 2024). Adolescents who are exposed to algorithmically promoted deceptive content, such as viral pranks or staged social experiments, may internalize manipulative behaviors early, normalizing deception as an effective social and financial strategy. Furthermore, advancements in AI-driven deception, including deepfake videos and AI-generated messaging, provide scammers with more sophisticated tools for fraud, increasing deception complexity (Hjetland et al., 2024).

How Feedback Loops Reinforce Deception

Engagement-driven algorithms inadvertently train scammers in psychological manipulation, as platforms highlight and reward deceptive tactics that generate strong user responses (Hjetland et al., 2024). This creates a self-reinforcing cycle, where scammers refine emotional manipulation and social engineering techniques based on data-driven insights into victim engagement patterns. AI-assisted fraud, including deepfake romance scammers, is becoming increasingly sophisticated, further blurring the distinction between genuine and deceptive interactions (Ahmed, 2024). Additionally, youth who routinely engage in deception-based validation-seeking, such as fake personas in online gaming or social media role-playing, may internalize manipulative tactics as viable social strategies, ultimately increasing their susceptibility to transitioning into cyber fraud (Collier & Morton, 2024; Park et al., 2024; M. Wang, 2024).

The Impact of Socioeconomic Factors

Scammers from economically disadvantaged regions are significantly more likely to rationalize cyber fraud as a financial survival strategy, particularly when legal employment opportunities are scarce (Mustafa et al., 2024). This aligns with previous research on cybercriminal pathways, which suggests that financially motivated deception often begins with small-scale social media manipulation before escalating into full-scale fraud (Burrell et al., 2024). Adolescents from low-income backgrounds with limited access to economic mobility may perceive online deception as a low-risk, high-reward opportunity, reinforcing the transition from validation-seeking behaviors to structured cyber fraud (Kassem & Carter, 2024). These insights underscore the urgent need for interdisciplinary collaboration between cybersecurity professionals, forensic cyberpsychologists, and social media platforms to detect and disrupt scam networks at an early stage. Addressing algorithmic bias, promoting digital literacy, and creating AI-driven scam detection tools could help mitigate the growing intersection between social media validation-seeking and online deception.

Conclusion

This study examined the psychological precursors to romance scamming, focusing on the psychological, algorithmic, and socioeconomic mechanisms driving this transition. The findings indicate that validation-seeking behaviors progressively condition individuals to engage in online deception, as social media users who rely on external approval for self-esteem are more likely to exaggerate or fabricate online personas (Pérez-Torres, 2024). Over time, engagement-driven reinforcement normalizes deceptive behavior, making manipulation a viable strategy for both social and financial gain. The study found that Dark Triad traits facilitate scammer psychology, with narcissism fueling self-enhancement through deception, Machiavellianism enabling strategic manipulation, and psychopathy reducing empathy for victims (Ahmad et al., 2024). Social media platforms actively reinforce deceptive behaviors, as algorithmic biases reward engagement-driven manipulation tactics, making romance scams both financially and socially incentivized behaviors

(Shin & Jitkajornwanich, 2024). Early exposure to deceptive social tactics in adolescence increases long-term fraud risks, as individuals who engage in minor deception for validation are more likely to develop habitual manipulative behaviors that escalate into financial fraud (Collier & Morton, 2024; Kassem & Carter, 2024). Social reinforcement loops, peer approval, and algorithmic amplification play a significant role in shaping deception progression (Burnell et al., 2024). Socioeconomic factors also contribute to scammer motivation, with financial hardship increasing the likelihood of engaging in cyber fraud, particularly in regions where online deception is perceived as an alternative income source (Hani et al., 2024). To mitigate the rise of romance scams and digital deception, this study suggests three key intervention strategies including, Algorithmic Monitoring and AI-Based Fraud Detection, Digital Literacy and Psychological Resilience Training and Strengthening Law Enforcement and Policy Interventions.

Algorithmic Monitoring and AI-Based Fraud Detection

Social media platforms must enhance algorithmic transparency to mitigate the reinforcement of deceptive engagement strategies. AI-based fraud detection should be implemented to identify behavioral patterns linked to romance scams. Real-time monitoring of suspicious activities such as sudden profile changes, mass messaging, unusual engagement patterns, can help flag potential scams (Pellegrino & Stasi, 2024). Additionally, platform adjustments to de-prioritize deceptive engagement strategies could reduce scam exposure and disrupt the reinforcement cycle.

Digital Literacy and Psychological Resilience Training

Public awareness campaigns should emphasize how validation-seeking vulnerabilities make individuals susceptible to social engineering tactics used by scammers (Desjarlais, 2024). Schools and workplaces should integrate cyber hygiene training programs, ensuring that individuals can recognize deceptive engagement patterns and develop resilience against manipulative online interactions (Zhou, 2024). Further, educational initiatives should focus not only on victim awareness but also on preventing at-risk youth from transitioning into cyber fraud through online deception normalization.

Strengthening Law Enforcement and Policy Interventions

Cross-border collaboration between cybersecurity agencies, financial institutions, and social media companies should be strengthened to improve scam detection and prosecution efforts (Ahmed, 2024). Governments should introduce stricter identity verification protocols for online dating platforms, reducing the prevalence of fake profiles used in romance scams (Mustafa et al., 2024). Furthermore, early intervention strategies should focus on behavioral profiling, allowing for risk detection of individuals transitioning from digital deception to cyber fraud.

Future Research Directions

Longitudinal Studies on Scammer Behavioral Trajectories

Future research should conduct longitudinal studies to track individuals' transitions from validation-seeking behaviors to full-scale fraud, focusing on psychological, technological, and social reinforcements driving this evolution. Understanding early behavioral markers of digital deception may improve AI-driven fraud detection systems, enabling earlier intervention (Pellegrino & Stasi, 2024). Longitudinal studies should monitor adolescents engaging in high-validation digital behaviors, assessing how their online deception tactics evolve over time and whether early deceptive behaviors predict later financial fraud engagement. Neuroscientific studies should investigate cognitive reinforcement mechanisms, exploring whether repeated exposure to algorithmic engagement loops and deceptive social validation cycles rewires ethical decision-making processes, sustaining habitual manipulative behaviors. By integrating behavioral

tracking with neurocognitive analysis, future studies can provide a comprehensive understanding of how digital reinforcement mechanisms shape deception trajectories.

The Role of AI in Scam Evolution

As AI-driven scams become increasingly sophisticated, research should examine how deepfake technology, chatbot automation, and generative AI influence romance scam success rates and victim manipulation (Shin & Jitkajornwanich, 2024). AI-generated scam bots capable of real-time emotional responses could significantly increase online deception success rates, making it harder for victims to differentiate between human and machine-driven manipulation. Research should analyze how AI personalizes fraud techniques, particularly in adaptive scamming strategies where fraudsters use AI to tailor deception to individual victim profiles. AI-driven predictive analytics may enable scammers to optimize engagement strategies, dynamically adjusting communication styles and emotional triggers based on victim responses. Therefore, investigating fraud-as-a-service models, where scammers use AI-assisted phishing and automated deception, can shed light on how fraudulent tactics are continuously adapted, refined, and deployed at scale. Forensic analysis of AI-driven scam networks can reveal patterns in deception training and operational structures, providing insights into the future industrialization of cyber fraud.

The Ethical Responsibility of Social Media Platforms

Future studies should assess the ethical responsibility of social media companies in preventing scammer exploitation of engagement algorithms (Ahmed, 2024). Research should explore whether algorithmic transparency policies can mitigate scam networks' ability to manipulate digital validation-seeking behaviors. By examining how engagement-driven algorithms incentivize deceptive practices, future research can inform policy recommendations that promote algorithmic accountability and reduce the reinforcement of manipulative online behaviors. Research should also evaluate the effectiveness of algorithmic de-amplification of deceptive content in reducing the prevalence and reach of romance scams. Future studies should investigate real-time scam detection tools, focusing on automated fraud flagging mechanisms integrated into social platforms. Regulatory interventions, such as mandatory scam-prevention protocols for digital platforms, should be explored to ensure that platforms proactively prevent fraud exposure and reinforcement cycles. By integrating AI-driven fraud detection with policy-based oversight, future research can contribute to a multi-layered approach to mitigating digital deception at scale.

Final Thoughts

By integrating adolescents into this research, we establish a clear developmental pathway from early-stage digital validation-seeking to full-scale romance scamming. The findings demonstrate that social reinforcement mechanisms within digital spaces play a crucial role in conditioning deceptive behaviors, particularly in adolescents who rely heavily on external approval for self-esteem (Charmaraman et al., 2024; Mustafa et al., 2024). As social media algorithms reward high engagement content, including deceptive interactions, individuals who experiment with persona exaggeration, social engineering tactics, and manipulative validation-seeking behaviors may gradually transition into financially motivated online fraud (Soares & Lazarus, 2024; F. Wang & Dickinson, 2024). Romance scams are not simply financial crimes, but rather psychological manipulations deeply rooted in digital validation-seeking behaviors. Scammers exploit cognitive vulnerabilities by creating false emotional connections, mirroring victims' desires and insecurities to establish trust and dependency (Coluccia et al., 2020). The role of social media algorithms in amplifying manipulative engagement tactics further exacerbates this issue, making deception not only accessible but also socially reinforced. AI-driven deception technologies, such as automated scam bots, deepfake-generated personas, and real-time emotional response engines, are transforming online fraud into an increasingly complex and scalable operation (Shin & Jitkajornwanich, 2024). By understanding how social media reinforcement loops, cognitive

vulnerabilities, and economic incentives drive online deception, forensic cyberpsychology can inform more effective intervention strategies that target both potential victims and emerging scammers.

To combat the psychological and systemic mechanisms that sustain romance scamming, a multifaceted approach is necessary. This includes AI-driven fraud detection and algorithmic adjustments, comprehensive digital literacy and psychological resilience training, policy reforms and algorithmic transparency measures, and forensic cyberpsychology and behavioral profiling for scam prevention. AI-based fraud detection systems must be enhanced to analyze behavioral patterns and flag suspicious interactions in real time. Social media platforms should implement algorithmic adjustments to reduce the promotion of deceptive engagement tactics, minimizing exposure to manipulative personas and fraudulent networks. Educational programs must go beyond basic scam awareness and focus on developing cognitive resilience against deceptive online engagement strategies. Schools, universities, and workplaces should integrate cyber hygiene and deception awareness programs that equip individuals with the skills to recognize and resist social engineering manipulation. Governments and regulatory bodies should enforce stricter policies on algorithmic accountability, requiring social media companies to disrupt engagement-based reinforcement loops that normalize deception. Implementing identity verification protocols for online dating and financial transaction platforms can help limit the proliferation of fraudulent profiles and scam operations. Cyberpsychology research should focus on behavioral profiling techniques to identify at-risk individuals before they transition into organized fraud. By studying the cognitive reinforcement mechanisms driving digital deception progression, forensic experts can develop early intervention strategies that disrupt scammer evolution at its psychological root. As romance scams continue to evolve alongside emerging technologies, it is imperative to adopt preventative frameworks that mitigate the intersection of digital validation-seeking, psychological manipulation, and financial exploitation. Through a combination of AI-driven safeguards, psychological education, and ethical governance, stakeholders can work toward disrupting these harmful cycles and creating safer digital environments for individuals of all ages.

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