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Review Article

Early Maladaptive Schemas and Internet Addiction: A Systematic Review

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ABSTRACT

Background: Internet addiction (IA) and its subtypes such as problematic use of social media, online gaming addiction, online pornography addiction, and smartphone addiction are increasingly recognized as behavioral disorders with significant psychosocial consequences. Early maladaptive schemas (EMSs), pervasive cognitive and emotional patterns formed in childhood, are thought to be the basis of vulnerability to these addictions. This review was conducted to systematically investigate the relationship between EMSs and various types of IA according to the PRISMA guidelines.

Methods: A comprehensive literature search was conducted using Scopus, Web of Science, and PubMed. The inclusion criteria were peer-reviewed quantitative and meta-analyzed studies in English that examined EMSs and any form of IA. Data extraction and study selection were performed according to the PRISMA standards.

Results: Nine studies met the inclusion criteria including cross-sectional (6 studies), causal- comparative (one study), review (one study) and meta-analytic (one study) designs, covering general IA, problematic use of social media, online gaming addiction, online pornography addiction, and smartphone addiction. Disconnection/rejection, impaired autonomy/performance, and impaired limits were the most consistently implicated EMS domains in the study.

Conclusion: EMSs are strongly associated with multiple forms of IA. Schema-focused interventions may be beneficial for prevention and treatment.

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Introduction

The rapid proliferation of internet access and digital technologies has led to increasing concerns about problematic internet use, commonly referred to as internet addiction (IA). IA is characterized by excessive and uncontrollable online engagement that persists despite negative consequences and is associated with adverse psychological, social, and academic outcomes [1]. Although IA is not formally recognized in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [1], it is increasingly acknowledged as a significant public health concern. Notably, the International Classification of Diseases (ICD-11) includes gaming disorder as a related condition, underscoring the clinical relevance of behavioral addictions [2]. IA encompasses a range of problematic online behaviors, including excessive use of social media, online gaming, online pornography, and smartphone use, all of which may impair social, academic, and occupational functioning [3–6].

Early Maladaptive Schemas (EMSs), a core construct of Schema Therapy [7], are pervasive and dysfunctional cognitive-emotional patterns that originate in adverse early life experiences and influence coping strategies across the lifespan. Schemas such as emotional deprivation, social isolation, and defectiveness/shame shape self-perception and interpersonal functioning and have been implicated in various psychological disorders [7,8]. Given their role in maintaining maladaptive behaviors, EMSs have been increasingly examined as potential vulnerability factors for behavioral addictions, including IA.

Emerging evidence suggests that individuals with certain EMSs may be more prone to developing IA as a maladaptive coping strategy. For example, Shajari et al. (2016) reported significant associations between IA severity and schemas such as emotional deprivation and defectiveness/shame, suggesting that internet use may serve to compensate for unmet emotional needs or feelings of inadequacy [9]. Other studies have identified schemas related to social isolation and subjugation as key predictors of IA, particularly among adolescents, highlighting the role of interpersonal schemas in online escapism [9]. However, the literature remains heterogeneous, and methodological limitations—such as small sample sizes and predominantly cross-sectional designs—limit conclusions regarding the most consistently implicated schemas and causal mechanisms.

This systematic review aims to synthesize and critically evaluate empirical evidence on the relationship between EMSs and IA and its subtypes, including problematic social media use, online gaming, online pornography use, and smartphone addiction. Specifically, it seeks to identify the EMS profiles most consistently associated with IA, examine potential mediating or moderating factors, and assess the methodological strengths and limitations of existing studies [3,4,9–11]. Clarifying the interplay between EMSs and IA may inform targeted prevention and treatment strategies. If EMSs are confirmed as foundational vulnerability factors, schema-focused interventions could enhance existing therapeutic approaches for IA, such as cognitive-behavioral and mindfulness-based treatments, thereby contributing to more effective clinical applications in the digital age.

Materials and Methods

This review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, ensuring transparency and reproducibility in study identification, screening, eligibility, and inclusion **(**Figure 1**).** The inclusion criteria for anticipation in the study were peer-reviewed quantitative and meta-analyzed studies that examined the relationship between early maladaptive schemas and any type of IA (general IA, problematic social media use, online gaming addiction, online pornography addiction, and smartphone addiction), published in English, and sufficient data for effect size estimation. The exclusion criteria applied to non-English articles, conference abstracts, and studies lacking sufficient data or focusing solely on substance addiction. Databases (Scopus, Web of Science, and PubMed) were searched using terms: ("early maladaptive schemas" OR schem*) AND (internet OR addict* OR behav* OR sex* OR porn* OR pornography OR "social media" OR "social network*" OR "cell phone" OR smartphone OR "mobile phone" OR gambling OR gambl* OR "video gam*" OR WhatsApp OR Telegram OR Instagram OR TikTok OR YouTube OR Twitter OR Facebook) between 2010 and 2025. Two reviewers independently screened the titles, abstracts, and full texts. 1245 records identified from the databases,1120 records were screened, 36 records excluded (20 records due to low quality,13 records for irrelevancy to the main subject and 3 records owing to unavailable full-text), and finally 9 records included in the review. The extracted data included study design, sample size, population, EMSs domains, IA subtype, and key findings [5, 12]. PRISMA flow diagram is visualized in Figure 1. The main schema domains and early maladaptive schemas are presented in Table 1[3].

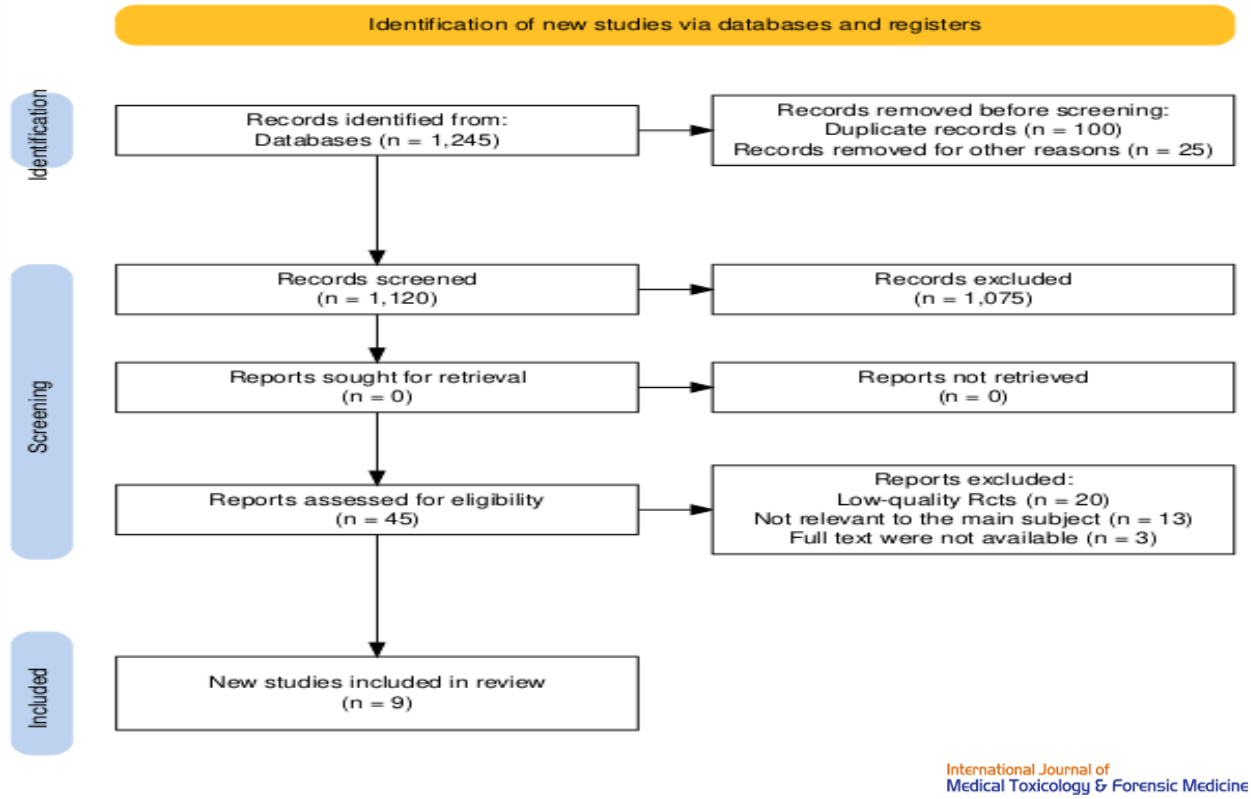

Figure 1. PRISMA flow diagram summarizing the study selection process.

Table 1. Description of schema domains and early maladaptive schemas.

Schema Domain	Early Maladaptive Schema	Description
Disconnection/Rejection	° Abandonment/Instability ° Mistrust/Abuse ° Emotional Deprivation ° Defectiveness/Shame ° Social Isolation/Alienation	Belief that close relationships will end soon; expectations that safety, stability, empathy, nurturance, and sharing of feelings will not be predictably met.
Impaired Autonomy/Performance	° Dependence/Incompetence ° Vulnerability to Harm or Illness ° Enmeshment/Undeveloped Self ° Failure	Belief in limited capacity to function independently, leading to high reliance on others; expectation of inability to survive and perform successfully.
Impaired Limits	° Entitlement/Grandiosity ° Insufficient Self-Control/Self-Discipline	Difficulty respecting social norms and others' rights; failure to meet common goals; lack of internal limits, long-term goals, and responsibility to others.
Other-Directedness	° Subjugation ° Self-Sacrifice	Focus on meeting others' needs for approval and emotional connection.
Overvigilance/Inhibition	° Emotional Inhibition ° Unrelenting Standards/Hypercriticalness	Suppressing personal needs to meet others' needs; expectation to suppress feelings and impulses; rigid standards for performance and behavior.

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Results

Nine studies met the inclusion criteria including cross-sectional (6 studies), causal- comparative (one study), review (one study) and meta-analytic (one study) designs. The populations included adolescents, university students, and adults. The types of IA studied were general IA, problematic social media addiction, online gaming addiction, online pornography addiction, and smartphone addiction. A summary of the included studies evaluating the relationship between EMSs and any type of IA is presented in Table 2. The schema domains and IA subtypes are summarized in Table 3.

Table 2. The summary of studies that link EMS domains to IA subtypes.

Reference	Study design (Population/ Sample size)	EMS Domains Linked to IA	Type of IA	Key Findings
Mohammadkhah et al. [10]	Cross-sectional (University students/ 826)	Disconnection/rejectionimpaired autonomy/performance impaired limits	General IA	Direct/indirect effects via executive functions
Ostovar et al. [3]	Cross-sectional (Adults/ 714)	Disconnection/rejectionimpaired autonomy/performance	General IA	Underlying EMSs may be a vulnerability factor
Shajari et al. [9]	Cross-sectional (University students/ 195)	All 5 domains	General IA	All domains as strong factor in the tendency to use internet
Beheshtian [12]	Causal- comparative (Female university students/ 200)	Abandonment, Emotional deprivation, social isolation, etc.	General IA	Higher EMSs in IA group
Vieira et al. [4]	Review (20 studies/ 60 to 2172)	Disconnection/rejectionimpaired limits	IA, Social networking (facebook), multiple addictive behaviours including IA	Positive relationship between schema activation and several addictive behaviours
Kahouei et al. [5]	Cross-sectional (Medical university students/ 384)	Social isolation/emotional inhibition, entitlement	Social network addiction	Association of some schemas with decreasing and increasing the chance of social network addiction
Aloi et al. [11]	Cross-sectional (Adolescents,young adults/1075	All the schema domains except for impaired autonomy and performance	General IA	Assessment of EMS during psychotherapy of patients with behavioral addiction
Sakulsriprasert et al. [6]	Systematic review and meta-analysis (33 studies /12,577)	Disconnection/rejection impaired autonomy	Behavioral addictions including IA	Impaired limits domain is the distinctive feature between substance addiction and behavioural addiction
Cudo et al. [13]	Cross-sectional (Facebook users/619)	social isolation/alienation and self-sacrifice schema	Problematic facebook user	Better understanding of mechanisms related to the development of problematic facebook user

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Table 3. Schema Domains and IA Subtypes.

Schema Domain	Key Schemas (Examples)	Linked Internet Addiction Types	References
Disconnection/Rejection	Abandonment, social isolation	General IA, social network	[3-6, 9-13]
Impaired Autonomy/Performance	Dependence, failure	General IA, Behavioral addictions	[3, 6, 9-11]
Impaired Limits	Entitlement, Insufficient Self-Control	Social network, general IA	[4, 5, 9, 10]
Other-Directedness	Subjugation, approval-seeking	General IA	[9]
Overvigilance/Inhibition	Emotional inhibition	General IA	[9]

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Discussion

The reviewed studies consistently demonstrate that early maladaptive schemas (EMSs)—particularly disconnection/rejection, impaired autonomy/performance, and impaired limits—are strongly associated with internet addiction (IA) and its subtypes, including problematic social media use, online gaming addiction, online pornography addiction, and smartphone addiction [4–6, 10, 12]. These schemas may predispose individuals to maladaptive coping strategies, such as excessive

internet use, to manage unmet emotional needs. Schema-focused interventions, including schema therapy, may help reduce the risk of IA. However, most available studies are cross-sectional, limiting causal inference; longitudinal and interventional research is needed.

Behavioral addictions in digital contexts are consistently linked to EMSs, highlighting the central role of cognitive and emotional vulnerabilities in the development and maintenance of these behaviors.

The disconnection/rejection domain appears most strongly associated with digital addictions. This domain includes schemas such as abandonment, emotional deprivation, defectiveness, and social isolation. Individuals characterized by these schemas often experience interpersonal insecurity and may turn to online activities to compensate for perceived rejection or insufficient emotional support [13–15]. Emotional deprivation is frequently reported among individuals with digital addictions, reflecting unmet needs for affection, empathy, and support, which online environments may temporarily substitute [15–17].

The impaired autonomy and performance domain—encompassing dependency, vulnerability to harm or loss, and failure—has also been linked to digital addictions [13, 14, 16]. Individuals with these schemas may struggle with problem-solving and coping with real-life challenges, using digital technologies as an escape. Difficulties in self-regulation and time management may further increase vulnerability to excessive internet, smartphone, or pornography use [11, 18].

The overcontrol and inhibition domain, including emotional suppression, perfectionism, and excessive self-control, has been observed particularly in online pornography addiction [18, 19], suggesting that addictive behaviors may also function as an outlet for internalized emotional restraint. In other hand, body awareness psychotherapy (BAP) is an effective intervention for reducing IA and enhancing emotional regulation and executive function [20].

The primary methodological limitation of this review is the reliance on cross-sectional studies, which precludes causal conclusions regarding the relationship between EMSs and IA. Most of the studies have small samples. Additionally, many studies examined schema domains rather than individual schemas, limiting specificity. Cultural representativeness may also be limited, introducing potential bias.

Overall, schema-based therapeutic approaches may help reduce digital addictive behaviors. Identifying and modifying EMSs may serve both preventive and therapeutic functions. Future research should examine longitudinal associations and evaluate the effectiveness of schema-focused interventions to strengthen clinical applications and reduce the psychological and social consequences of digital addiction.

Conclusion

According to the findings of this study regarding the impact of early maladaptive schemas on IA, it is recommended that professionals in this field pay closer attention to this area. This study provides new insights and implications for future clinical interventions aimed at minimizing or modulating the impact of early maladaptive schemas on IA. Integrating schema therapy with other therapeutic approaches may lead to more effective IA treatments. Interventions can be tailored to address specific schemas, such as the dissociation and rejection domains, as well as the impaired autonomy and performance domains, to improve coping styles against these schemas. Early maladaptive schemas are significant psychological risk factors for various forms of IA. Schema-focused assessment and intervention should be integrated into prevention and treatment programs for IA and its subtypes to improve patient outcomes. Future research should address causality and intervention efficacy. Summary of schema domains and IA subtypes is illustrated in Figure 2.

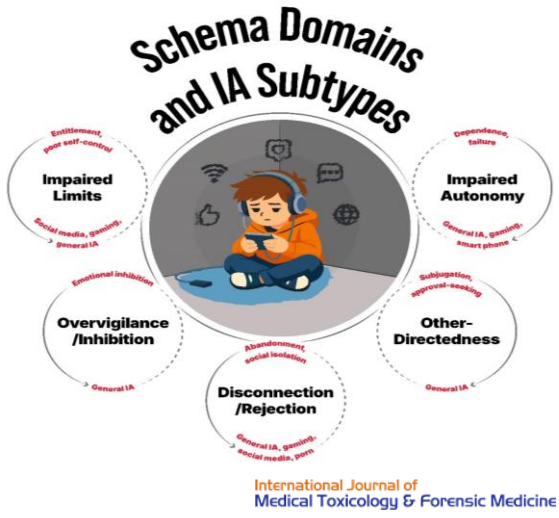

Figure 2. Summary of schema domains and IA subtypes.

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Conflicts of Interest

The authors report there are no competing interests to declare.

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