

The Psychology of Procrastination: The Role of Early Childhood Adversity in Adult Procrastination Behaviour

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Abstract

Procrastination is the voluntary delay of intended tasks despite anticipating negative consequences. Once viewed primarily as a problem of poor time management or insufficient motivation, it is now increasingly understood as a difficulty in self-regulation and emotion regulation. Individuals may postpone tasks not because they lack ability or intention, but because task engagement evokes distressing emotions such as anxiety, fear of failure, shame, uncertainty, or self-doubt. Consequently, procrastination may function as an emotion-focused coping strategy that provides temporary relief from psychological discomfort while contributing to poorer academic, occupational, and psychological outcomes over time. This review examines the potential role of early childhood adversity and adverse childhood experiences (ACEs) in adult procrastination by integrating evidence from procrastination research, developmental psychology, attachment theory, and trauma literature. It explores psychological mechanisms through which early adversity may increase vulnerability to chronic procrastination, including difficulties in emotion regulation, executive functioning, attachment security, and self-regulation. The evidence reviewed does not support a direct causal relationship between childhood adversity and adult procrastination. Rather, early adversity may contribute to developmental vulnerabilities that increase susceptibility to procrastination through indirect psychological pathways. Adopting a developmental perspective may facilitate more comprehensive assessment and inform interventions that address both the behavioural and emotional processes underlying chronic procrastination.

Keywords: *Procrastination; Early Childhood Adversity; Adverse Childhood Experiences; Emotion Regulation; Attachment; Executive Functioning; Self-Regulation*

Introduction

Procrastination refers to the voluntary delay of intended tasks despite anticipating negative consequences [21]. Although occasional delay is a normal aspect of everyday life, chronic procrastination can impair academic achievement, occupational performance, psychological well-being, and overall functioning. Earlier perspectives viewed procrastination primarily as the result of poor time management, low motivation, or weak self-discipline. Contemporary research, however, has challenged these assumptions, suggesting that procrastination reflects difficulties in self-regulation. Rather than indicating a lack of motivation or ability, delaying tasks often serves as a means of reducing or avoiding unpleasant emotions associated with task engagement.

The likelihood of procrastination increases when individuals perceive a task as emotionally distressing, particularly when it evokes anxiety, fear of failure, uncertainty, shame, or self-doubt [17]. Although avoidance provides temporary emotional relief, it ultimately contributes to poorer academic performance, increased stress, diminished well-being, and reduced goal attainment [21,24]. Earlier theoretical perspectives similarly emphasized the emotional function of procrastination. Ellis and Knaus [5] proposed that irrational beliefs about achievement and self-worth promote avoidance, whereas Burka and Yuen [4] suggested that procrastination protects self-esteem from perceived failure. These perspectives were subsequently supported by empirical evidence identifying fear of failure and task aversiveness as major predictors of procrastination [19].

A developmental perspective provides further insight into why some individuals are more vulnerable to chronic procrastination. Early childhood experiences play a fundamental role in shaping emotion regulation, executive functioning, stress responsivity, and self-concept. In this review, early childhood adversity refers broadly to adverse childhood experiences (ACEs), including abuse, neglect, emotional maltreatment, and household dysfunction. Such experiences may disrupt psychological development and have lasting effects on emotional and cognitive functioning without implying that all individuals exposed to adversity develop trauma-related difficulties [6,16,23].

These developmental influences overlap with psychological processes consistently associated with procrastination. Attachment theory provides a useful framework for understanding these relationships. Bowlby [3] proposed that early interactions with caregivers shape internal working models of the self and others, influencing emotional security, coping, and responses to stress throughout life. Similarly, Ainsworth, *et al.* [1] demonstrated that secure attachment develops through consistent and responsive caregiving, whereas inconsistent or emotionally unavailable caregiving may contribute to insecure attachment, lower self-confidence, and greater difficulty regulating emotions. Consequently, individuals with insecure attachment may be more likely to rely on avoidance-based coping when confronted with challenging or evaluative situations.

Although procrastination and childhood adversity have each been extensively studied, relatively few empirical investigations have examined their relationship directly. Most available evidence comes from related fields, including procrastination research, developmental psychology, attachment theory, and trauma research. By integrating these perspectives, the present review examines how early childhood adversity may contribute to adult procrastination through psychological mechanisms involving self-regulation, attachment, executive functioning, fear of failure, and self-beliefs. Rather than proposing a direct causal relationship, it argues that childhood adversity may increase vulnerability to procrastination indirectly by influencing the psychological processes that underlie avoidance-based coping.

Theoretical foundations

Understanding the relationship between early childhood adversity and adult procrastination requires integrating complementary psychological perspectives. Procrastination is best understood as the outcome of interacting emotional, cognitive, motivational, and developmental processes rather than as an isolated behavioural habit. Likewise, childhood adversity is unlikely to influence later behaviour through a single mechanism. Instead, it affects several psychological systems that shape self-regulation and adaptive coping.

Self-regulation theory provides the primary framework for understanding procrastination. Self-regulation refers to the capacity to manage thoughts, emotions, and behaviours in pursuit of long-term goals. Steel [21] conceptualized procrastination as a self-regulatory failure in which immediate emotional relief is prioritized over future rewards. When tasks evoke anxiety, uncertainty, or fear of failure, avoidance offers more immediate emotional relief than pursuing longer-term goals, despite anticipated negative consequences.

Steel's [21] Temporal Motivation Theory (TMT) further explains procrastination by suggesting that motivation reflects the interaction of four key factors: expectancy, value, impulsiveness, and delay. From this perspective, individuals are more likely to procrastinate when they doubt their ability to succeed, perceive little value in a task, exhibit higher impulsivity, or perceive the rewards of task completion

as too distant to outweigh immediate emotional relief. From this perspective, emotionally challenging tasks with delayed rewards are particularly vulnerable to procrastination because the immediate relief gained from avoiding the task often outweighs the perceived benefits of completing it. Temporal Motivation Theory complements self-regulation theory by illustrating how motivational processes reinforce a preference for short-term emotional comfort at the expense of long-term goal attainment.

Emotion regulation theory further explains why procrastination persists over time. Sirois and Pychyl [17] argued that procrastination functions as an emotion-focused coping strategy in which delaying an aversive task temporarily reduces negative emotions. Although this provides short-term relief, it also reinforces a cycle of avoidance that ultimately increases stress and psychological distress.

Together, these perspectives provide a framework for understanding how emotional, cognitive, and motivational processes contribute to procrastination. Ellis and Knaus [5] proposed that irrational beliefs about achievement, failure, and self-worth encourage avoidance, whereas Burka and Yuen [4] suggested that procrastination serves to protect self-esteem from perceived failure. These propositions were later supported by empirical evidence identifying fear of failure and task aversiveness as significant predictors of procrastination [19]. Collectively, this body of work suggests that procrastination reflects attempts to regulate anticipated emotional discomfort rather than merely avoid work.

Attachment theory provides a developmental explanation for individual differences in emotion regulation and coping. Bowlby [3] proposed that early relationships with caregivers shape internal working models of the self and others, influencing emotional security and responses to stress throughout life. Ainsworth, *et al.* [1] further demonstrated that consistent and responsive caregiving promotes secure attachment, whereas inconsistent or neglectful caregiving is associated with insecure attachment and greater difficulties in emotion regulation. These developmental patterns may increase sensitivity to criticism, rejection, and failure, making avoidance-based coping strategies more likely.

The Adverse Childhood Experiences (ACE) framework extends this developmental perspective by demonstrating the long-term effects of childhood adversity. The original ACE Study found that childhood abuse, neglect, and household dysfunction were associated with an increased risk of a broad range of adverse physical and psychological outcomes across adulthood [6]. Subsequent research has shown that chronic childhood stress can disrupt emotion regulation, executive functioning, and stress-response systems [16,23]. The overlap between these developmental processes and the psychological mechanisms involved in procrastination suggests that the ACE framework offers a valuable lens for understanding how early adversity may increase vulnerability to avoidance-based coping.

Collectively, these theoretical perspectives suggest that procrastination is best understood as the product of interacting emotional, cognitive, motivational, and developmental processes. Rather than proposing that childhood adversity directly causes procrastination, they provide a conceptual framework for understanding how early adverse experiences may increase vulnerability to procrastination through their influence on emotion regulation, executive functioning, attachment security, and self-beliefs.

Review of Literature

Procrastination as a self-regulation and emotion regulation problem

Contemporary research consistently conceptualizes procrastination as a difficulty in self-regulation and emotion regulation rather than a consequence of poor time management or inadequate motivation [17,21]. Individuals often delay intended tasks because task engagement evokes negative emotions, making avoidance an effective strategy for obtaining temporary emotional relief.

Solomon and Rothblum [19] identified fear of failure and task aversiveness as two of the strongest predictors of academic procrastination, demonstrating that emotionally threatening tasks are particularly likely to be postponed. Similarly, Steel's [21] meta-

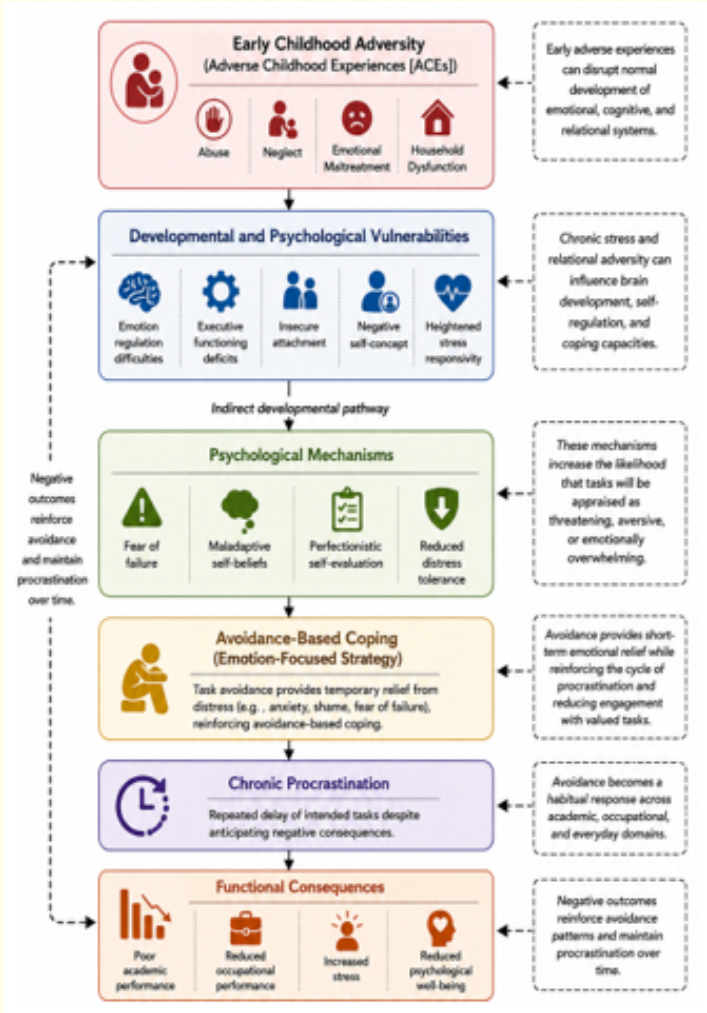


Figure 1: Conceptual framework illustrating the proposed indirect psychological pathways linking early childhood adversity to adult procrastination.

Note: Early childhood adversity (e.g. abuse, neglect, emotional maltreatment, and household dysfunction) may contribute to adult procrastination indirectly through developmental vulnerabilities and psychological mechanisms, including difficulties in emotion regulation, executive functioning, attachment security, self-concept, fear of failure, maladaptive self-beliefs, perfectionistic self-evaluation, and reduced distress tolerance. These processes may increase reliance on avoidance-based coping, resulting in procrastination as a short-term emotion-regulation strategy. The model represents a conceptual synthesis of the literature reviewed and illustrates proposed indirect pathways rather than direct causal relationships.

analysis found consistent associations between procrastination and impulsivity, low self-efficacy, poor self-control, and task aversiveness, highlighting the central role of self-regulatory processes.

Trait self-control has also emerged as an important predictor of procrastination. Individuals with lower self-control experience greater difficulty initiating, sustaining, and completing goal-directed behaviour, increasing their vulnerability to task delay. Moreover, self-control contributes to long-term goal attainment primarily through the formation of adaptive habits rather than effort alone [10]. Collectively, these findings support the view that procrastination reflects broader deficits in self-regulatory functioning rather than deficiencies in time management.

Longitudinal research provides further evidence for the emotion-regulation perspective. Although procrastinators initially experience lower stress by postponing demanding tasks, they subsequently report greater stress, poorer academic performance, and poorer health outcomes [24]. Extending these findings, Sirois [18] reported associations between procrastination, greater perceived stress, poorer health behaviours, and less favourable physical health outcomes, suggesting that its consequences extend beyond academic and occupational functioning to overall well-being. Consequently, procrastination has been conceptualized as a short-term mood-regulation strategy that temporarily alleviates distress while reinforcing avoidance and increasing long-term psychological costs [17].

Developmental perspectives on procrastination

Evidence suggests that the psychological capacities underlying procrastination begin developing well before adulthood. Executive functioning, emotion regulation, future-oriented thinking, and the ability to delay gratification develop progressively throughout childhood and provide the foundation for effective self-regulation.

Research involving school-aged children found that procrastination tendencies are associated with anxiety, conscientiousness, and goal-directed behaviour [15]. Extending this developmental perspective, Fuke, *et al.* [9] demonstrated that procrastination-related behaviours are observable in preschool children and are associated with executive control and future-oriented cognition, suggesting that individual differences in procrastination emerge early in development. More recently, Kamber, *et al.* [12] reported that childhood procrastination is also associated with social and behavioural characteristics, indicating that the development of procrastination is influenced not only by cognitive processes but also by children's broader social and emotional functioning.

Neurocognitive evidence further supports the role of executive functioning. Michałowski, *et al.* [14] found that individuals with higher levels of procrastination exhibited reduced attentional engagement and less efficient error monitoring during executive-control tasks, indicating measurable differences in cognitive processes underlying self-regulation.

Developmental research also underscores the importance of early environmental experiences. Supportive caregiving promotes emotion regulation, persistence, and adaptive coping, whereas chronic stress may disrupt the development of these capacities [16]. Taken together, these findings suggest that procrastination develops through the interaction of cognitive, emotional, social, and environmental influences across childhood, providing a developmental foundation for understanding how early adversity may contribute to later difficulties in self-regulation and goal-directed behaviour.

Childhood adversity and psychological vulnerability

Research consistently demonstrates that adverse childhood experiences (ACEs) have enduring effects on emotional, cognitive, and behavioural functioning. The original ACE Study established that childhood abuse, neglect, and household dysfunction are associated with an increased risk of a broad range of adverse physical and psychological outcomes in adulthood [6]. Subsequent research has shown that chronic childhood stress can disrupt emotion regulation, executive functioning, attention, and stress-response systems [16,23].

Neurobiological models further suggest that chronic childhood stress may alter the development of prefrontal cortical systems involved in executive control and emotion regulation [13]. These changes may reduce an individual's ability to regulate emotional distress and remain engaged with challenging tasks, thereby increasing vulnerability to avoidance-based coping and later self-regulatory difficulties.

Executive functioning encompasses planning, inhibitory control, working memory, and cognitive flexibility, all of which are essential for initiating, sustaining, and completing goal-directed behaviour [2]. Deficits in these functions have consistently been associated with procrastination and may represent one pathway through which childhood adversity contributes to later self-regulatory difficulties. These developmental domains closely correspond with mechanisms implicated in procrastination, suggesting that early adversity may increase vulnerability to avoidance in emotionally demanding or evaluative situations.

Although evidence supports this developmental association, current research indicates that the relationship is indirect rather than causal. Recent studies demonstrate that self-regulation [22], as well as adult attachment and resilience [20], mediate the association between adverse childhood experiences and academic procrastination. These findings suggest that childhood adversity contributes to procrastination through multiple interacting psychological pathways rather than through a direct effect.

Attachment, self-worth, and fear of failure

Attachment theory provides an important developmental perspective on vulnerability to procrastination. Bowlby [3] proposed that early caregiver relationships shape internal working models that influence emotion regulation, coping, and responses to stress throughout life. Ainsworth, *et al.* [1] further demonstrated that inconsistent or emotionally unavailable caregiving may contribute to insecure attachment.

Individuals with insecure attachment are often more sensitive to criticism, rejection, and failure, making achievement-related situations particularly threatening. These characteristics overlap with psychological mechanisms consistently associated with procrastination, particularly fear of failure and avoidance of evaluation. For some individuals, these vulnerabilities may also contribute to maladaptive perfectionism, characterized by unrealistically high personal standards and excessive concern over making mistakes. When self-worth becomes closely tied to flawless performance, initiating a task may feel psychologically threatening because any perceived imperfection is interpreted as personal failure. Consequently, delaying the task may serve as a temporary strategy to avoid anticipated disappointment or negative self-evaluation [17].

Early cognitive-behavioural theories proposed that procrastination protects self-esteem by postponing situations in which competence may be evaluated [4,5]. Perfectionistic concerns may further contribute to this process, as individuals who equate mistakes with personal inadequacy may delay initiating tasks to avoid the possibility of failure or negative evaluation. Empirical research has shown that perfectionism, negative self-evaluation, and self-critical beliefs are closely associated with procrastination and emotional distress [8]. Consistent with these findings, Solomon and Rothblum [19] identified fear of failure as a major correlate of academic procrastination, whereas Ferrari [7] demonstrated that procrastination can function as a form of self-handicapping, allowing individuals to attribute poor performance to inadequate preparation rather than limited ability.

Synthesis of the literature

Collectively, the literature indicates that procrastination is a multifaceted phenomenon shaped by interacting emotional, cognitive, and developmental processes. Emotional avoidance, fear of failure, executive functioning, and self-regulation consistently emerge as central mechanisms underlying chronic procrastination [17,21,24].

Developmental research further suggests that adverse childhood experiences may influence these same mechanisms by affecting emotion regulation, attachment security, executive functioning, and self-concept [6,16,23]. Emerging evidence strengthens this developmental framework by demonstrating that the association between childhood adversity and procrastination is largely mediated through psychological factors, including self-regulation, adult attachment, and resilience [20,22]. Taken together, the evidence supports a developmental vulnerability framework in which early adversity increases susceptibility to chronic procrastination indirectly through its influence on emotional and self-regulatory functioning.

Discussion

The present review examined whether early childhood adversity contributes to adult procrastination by integrating evidence from procrastination research, developmental psychology, attachment theory, and the literature on adverse childhood experiences. Collectively, the findings indicate that procrastination is better understood as an emotion-focused coping strategy than simply a problem of poor time management or insufficient motivation. Individuals may postpone tasks because task engagement evokes distressing emotions such as anxiety, fear of failure, shame, or self-doubt. Although delaying these tasks provides temporary emotional relief, it reinforces avoidance and is associated with poorer long-term academic, occupational, and psychological outcomes [17,21].

This pattern may develop into a self-reinforcing cycle in which emotional distress promotes task avoidance, avoidance provides temporary emotional relief, and the accumulation of unfinished tasks contributes to greater stress, guilt, and negative affect. These increasingly negative emotional experiences may, in turn, heighten the likelihood of further procrastination. Thus, psychological distress may both result from procrastination and contribute to its persistence. Individuals experiencing elevated stress or anxiety may be especially likely to postpone emotionally demanding tasks, creating a reciprocal relationship in which emotional distress and procrastination reinforce one another over time [17,24]. The impact of this reciprocal pattern extends beyond academic and occupational functioning. Chronic procrastination has also been associated with poorer physical health and reduced well-being, suggesting that persistent avoidance may negatively influence long-term functioning and overall quality of life [18].

A key finding of this review is that childhood adversity appears to influence procrastination indirectly rather than through a direct causal pathway. Early adverse experiences have been associated with difficulties in emotion regulation, executive functioning, stress responsivity, attachment security, and self-concept [6,16,23]. Because these developmental processes are also implicated in chronic procrastination, they provide plausible mechanisms through which early adversity may increase vulnerability to avoidance-based coping.

Recent empirical evidence further strengthens this developmental perspective. Tahani, *et al.* [22] found that self-regulation mediated the relationship between adverse childhood experiences and academic procrastination, whereas Song and Xu [20] identified adult attachment and resilience as significant mediating factors. Although both studies were cross-sectional and therefore cannot establish causality, they support the view that childhood adversity contributes to procrastination through multiple interacting psychological pathways rather than as an independent causal factor. However, because direct empirical evidence remains limited and the existing studies rely on cross-sectional designs, these proposed developmental pathways require further investigation through longitudinal and prospective research.

Importantly, childhood adversity should not be viewed as determinative of later procrastination. Many individuals exposed to adverse childhood experiences do not develop chronic procrastination or other self-regulatory difficulties. Protective factors, including secure interpersonal relationships, resilience, adaptive coping strategies, supportive educational environments, and effective emotion regulation skills, may reduce vulnerability and promote adaptive functioning despite early adversity. These findings highlight that procrastination is shaped by the interaction of both risk and protective factors rather than by childhood adversity alone.

The review also underscores the importance of attachment and self-worth in understanding procrastination. Individuals with insecure attachment may be more sensitive to criticism, rejection, and failure, making achievement-related situations more emotionally threatening. When combined with maladaptive beliefs that equate personal worth with performance, these vulnerabilities may encourage avoidance as a means of protecting self-esteem [4,5]. Perfectionistic concerns may further reinforce this process, as individuals who perceive mistakes as evidence of personal inadequacy may delay initiating tasks to avoid the possibility of failure or negative evaluation. Empirical evidence linking fear of failure and self-handicapping to procrastination supports this interpretation [7,19].

Taken together, the evidence supports a multidimensional understanding of procrastination in which emotion regulation, cognitive beliefs, executive functioning, developmental experiences, and situational demands interact to influence behaviour. This perspective helps explain why individuals with similar developmental histories differ in their tendency to procrastinate and why no single explanatory model or intervention adequately accounts for all cases.

These findings also have important clinical implications. Interventions that focus exclusively on time management or productivity skills may be less effective when procrastination is primarily maintained by emotional distress or maladaptive beliefs. Comprehensive assessment should therefore consider emotion regulation, self-regulatory capacity, fear of failure, self-critical thinking, attachment-related concerns, and relevant developmental experiences alongside observable behavioural patterns. Evidence indicates that Cognitive Behaviour Therapy (CBT) is effective in addressing maladaptive cognitions and avoidance behaviours associated with procrastination. Acceptance and Commitment Therapy (ACT), which emphasizes psychological flexibility, acceptance of difficult internal experiences, and values-based action, may also help individuals respond more adaptively to difficult emotions that contribute to procrastination [11]. Additional evidence-based approaches, including mindfulness-based and self-compassion interventions, may help reduce self-criticism, enhance distress tolerance, and promote more adaptive coping. Encouraging individuals to identify and label the emotions associated with challenging tasks may also help reduce avoidance by improving emotional awareness. This approach is consistent with affect-labelling strategies used in cognitive and mindfulness-based interventions. Rather than assuming that all procrastination originates from childhood adversity, a trauma-informed perspective encourages clinicians to consider developmental experiences as one of several interacting influences on self-regulation and coping, thereby supporting more individualized assessment and intervention.

The present review also contributes to the emerging literature by integrating evidence from procrastination research, developmental psychology, attachment theory, neuroscience, and the adverse childhood experiences (ACE) framework to provide a developmental perspective on adult procrastination. Rather than viewing procrastination solely as a problem of time management, motivation, or personality, the review highlights how early adverse experiences may increase vulnerability to procrastination through their influence on emotional, cognitive, and self-regulatory development. By synthesizing findings across multiple disciplines and identifying potential developmental pathways, this review offers an integrative framework that may inform future research, clinical assessment, and intervention while encouraging further investigation into the complex relationship between childhood adversity and adult procrastination.

Overall, the evidence supports a developmental perspective in which early childhood adversity may increase vulnerability to chronic procrastination indirectly through its influence on emotional, cognitive, and self-regulatory processes. Viewing procrastination through this broader developmental lens extends current understanding beyond a behavioural problem and highlights the importance of addressing both the emotional and behavioural mechanisms that maintain chronic procrastination. Such an integrated perspective may facilitate more comprehensive psychological assessment and inform interventions that target the underlying processes contributing to persistent task avoidance.

Limitations and Future Directions

Despite the evidence suggesting meaningful associations between early childhood adversity and adult procrastination, several limitations should be acknowledged. First, direct empirical evidence examining this relationship remains limited. Only a small number of studies have investigated the association between adverse childhood experiences and procrastination directly [20,22]. Consequently, the conclusions of this review rely largely on the integration of evidence from related fields, including procrastination research, developmental psychology, attachment theory, and childhood adversity.

Second, much of the available evidence is based on cross-sectional research, limiting conclusions regarding developmental trajectories and causal relationships. Longitudinal studies are needed to examine how early adverse experiences influence the development of self-regulatory processes and contribute to procrastination across the lifespan.

Future research should further investigate the mediating and moderating roles of psychological and contextual factors, including emotion regulation, executive functioning, attachment security, self-concept, fear of failure, perfectionism, resilience, and social support. Examining these mechanisms may clarify why some individuals exposed to childhood adversity develop persistent procrastination, whereas others demonstrate adaptive self-regulation and resilience.

Finally, greater methodological diversity is needed. Research involving diverse age groups, cultural contexts, and clinical populations would help determine whether the developmental pathways proposed in this review are consistent across different populations and settings. Such research would strengthen understanding of the generalizability of the proposed developmental framework and inform the development of more targeted prevention and intervention strategies.

Conclusion

Procrastination is best understood as a multifaceted self-regulatory difficulty arising from the interaction of emotional, cognitive, and developmental factors rather than as a simple problem of poor time management or insufficient motivation. The evidence reviewed suggests that early childhood adversity may increase vulnerability to procrastination by influencing emotion regulation, executive functioning, attachment security, and self-concept. However, current evidence supports an indirect rather than a direct causal relationship, with these developmental influences operating through psychological mechanisms such as fear of failure, maladaptive self-beliefs, and avoidance-based coping.

Adopting a developmental perspective broadens understanding of chronic procrastination by recognizing it as an emotion-focused coping strategy rather than merely a failure of self-discipline. This perspective has important implications for assessment and intervention, highlighting the need to address underlying emotional, cognitive, and self-regulatory processes alongside behavioural strategies.

Although further longitudinal and mechanistic research is needed, integrating evidence from procrastination research, developmental psychology, attachment theory, and childhood adversity provides a more comprehensive framework for understanding the development and persistence of chronic procrastination. Such an integrative perspective may inform more targeted prevention strategies, enhance clinical assessment, and support the development of more effective interventions for individuals experiencing chronic procrastination.

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