

Erucar, Ő., Yılmaz, M. ve Vostanis P. (2023). Understanding adverse childhood experiences (aces) and subsequent adult psychopathologies through the lens of attachment theory: A position paper. *Karatay Sosyal Arařtırmalar Dergisi*, (11), 309-333. DOI: 10.54557/karataysad.1348004

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**UNDERSTANDING ADVERSE CHILDHOOD EXPERIENCES  
(ACES) AND SUBSEQUENT ADULT PSYCHOPATHOLOGIES  
THROUGH THE LENS OF ATTACHMENT THEORY: A  
POSITION PAPER**

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**Abstract**

Adverse Childhood Experiences (ACEs) are recurring incidents during childhood that hold the potential for traumatic impact and possibly lead to negative, lasting impacts on both mental and physical well-being. Ample evidence, established by longitudinal, clinical, and observational studies, shows the relationship between ACEs, such as abuse and neglect, and psychopathology in both the early years of life and in adulthood. Since ACEs are commonly reported in both clinical and general populations, it is vital to understand the mechanisms of impact and possible prevention methods. Besides biological explanations, learning theories and cognitive mediators that have been mostly used to understand the mechanisms that led to subsequent psychopathologies, emerging evidence suggests social environment and interpersonal relationships might explain the association between ACEs and subsequent psychopathology. These various models provide us with insights that the effects of ACEs on later psychological disorders are intricate and occur simultaneously. This study aims to provide a comprehensive position on how

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attachment theory is relevant to understand the mechanism that led to subsequent psychopathologies in individuals with ACEs. It is important to understand the role of attachment in the relationship between ACEs and psychopathology to identify potential treatment targets of prevention and intervention for individuals who experienced ACEs.

**Keywords:** Adverse Childhood Experiences, Psychopathology, Attachment.

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**Olumsuz Çocukluk Deneyimlerini (ACE) ve Sonraki Yetiřkin Psikopatolojilerini Baęlanma Teorisi Merceęinden Anlamak: Bir Görüř Makalesi**

**Öz**

Olumsuz Çocukluk Yařantıları (ÇOY), çocukluk döneminde travma potansiyeli taşıyan ve muhtemelen hem zihinsel hem de fiziksel refah üzerinde olumsuz, kalıcı etkilere yol açan tekrarlayan olaylardır. Boylamsal, klinik ve gözleme dayanan ampirik arařtırmalar, ihmal ve istismar benzeri çocukluk çaęı olumsuz yařantıları (ÇOY) ve hem çocukluk hem yetiřkinlikte gözlemlenen psikopatolojiler arasındaki iliřkiyi desteklemektedir. ÇOY hem klinik hem de genel popülasyonda yaygın olarak rapor edildięinden, etki mekanizmasını ve olası önleme yöntemlerini anlamak hayati önem taşımaktadır. Çoęunlukla üzerinde durulan biyolojik temelli açıklamalar, öğrenme teorileri ve biliřsel araçlara dayanan mekanizmaların yanı sıra, bulgular sosyal çevre ve kiřilerarası iliřkilerin de ÇOY ve ilerleyen zamanlarda ortaya çıkan psikopatolojiler arasındaki iliřkiyi açıklayabileceęini önermektedir. Bu çeřitli modeller bize ÇOY'un daha sonraki psikolojik bozukluklar üzerindeki etkilerinin karmařık olduęu ve eř zamanlı olarak ortaya çıktıkları konusunda fikir vermektedir. Bu çalıřma baęlanma teorisinin ÇOY'lara sahip bireylerde ilerleyen zamanlarda ortaya çıkan psikopatolojileri açıklayan mekanizmalarla iliřkisi üzerine var olan alanyazına dair kapsamlı bir görüş sunmaktadır. Baęlanmanın ÇOY ve psikopatolojiler arasındaki iliřkide oynadıęı rolü anlamak, ÇOY deneyimi olan bireyler için geliřtirilecek önleme ve müdahale çalıřmalarında potansiyel tedavi hedeflerinin belirlenmesinde faydalı olacaktır.

**Anahtar Kelimeler:** Çocukluk Çaęı Olumsuz Yařantıları, Psikopatoloji, Baęlanma.

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### **Adverse Childhood Experiences (ACEs)**

Adverse childhood experiences (ACEs) refer to repetitive events that have the potential to be traumatic, are exposed during childhood and may have adverse long-term effects on both psychological and physiological health (Anda, Tietjen, Schulman, Felitti, & Croft, 2010; Merrick et al., 2019). The general use of the term ACE is sometimes equated with "childhood trauma," and even these terms are often used interchangeably and without precision in the related literature (Pasha-Zaidi, Afari, Urganci, Sevi, & Durham, 2020). American Psychiatric Association (2013) defined trauma as being exposed to or witnessing a life-threatening event or learning about a loved one exposed to this kind of event. Traumas encompass broader experiences such as car accidents, earthquakes, and war exposure. On the other hand, ACEs refer specifically to human-induced events or risky environments potentially harmful to child development.

ACEs are commonly grouped into three main categories: Abuse (physical, emotional, sexual); neglect (physical, emotional); and domestic dysfunction, i.e. mental illness, incarceration, domestic violence, substance abuse and divorce/separation (Petrucci, Davis, & Berman, 2019) (Table 1). Physical abuse includes violence towards children, such as beating, slapping, and throwing objects; emotional abuse encompasses verbal forms of maltreatment, such as humiliation, intimidation, shouting, criticising, and blaming; and sexual abuse encapsulates sexual behaviours towards children, such as penetration, touching, and making child watch porn. Emotional neglect takes the form of not meeting the child's need for affection or approval, whilst physical neglect includes not meeting the child's need for food, shelter, or cleaning. ACEs are mostly not isolated events; that is, having one ACE increases the possibility of others (Dong et al., 2004, p. 775), and perpetrators are primarily parents or close ones.

The measurement of ACEs has recently been a subject of debate regarding its simplicity and subsequent clinical significance. The Adverse Childhood Experiences (ACEs) Questionnaire (Felitti et al., 1998) and its different versions (Holden, Gower & Chmielewski, 2020) are commonly used in ACE research. They typically involve binary responses to questions about each of the adversities listed in Table 1. However, recent perspectives on ACE measures suggest that future research should consider developing new measurements that consider the severity,

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frequency, duration, and timing of ACEs to capture a more comprehensive understanding of their impact (Lacey & Minnis, 2019).

**Table 1:** Three Types of ACEs

<b>Abuse</b>	<b>Neglect</b>	<b>Domestic Dysfunction</b>
Physical	Physical	Household mental illness
Emotional	Emotional	Incarcerated household member
Sexual		Household domestic violence
		Household substance abuse
		Divorce

ACEs are common not only in the clinical settings but also in the general population (Finkelhor, Vanderminden, Turner, Shattuck, & Hamby, 2014). In a large-sampled survey conducted in the USA, 61.5% of adults in the general population reported at least one ACE; whilst one in every four participants reported 3 or more ACEs (Merrick et al., 2017). Another study showed similar results, 55% of 48,526 adults revealed at least one ACE; whilst almost 14% reported  $\geq 4$  ACEs (Campbell, Walker, & Egede, 2016). Risk factors that increase the number of ACEs identified as gender, i.e., female; race, i.e. black; ethnicity, i.e. Hispanic, multiracial; lower educational level, unemployment, low income and sexual orientation, i.e. gay, lesbian, bisexual (Merrick et al., 2019; Petrucelli et al., 2019). The most reported ACEs were emotional abuse (34%), parental divorce or separation (28%), and substance abuse (27%) (Merrick et al., 2017). However, the findings should be considered cautiously as neglect was not assessed in this study.

The pioneering study on the impact of ACE on health was conducted by Vincent Felitti and his colleagues (1998) after they observed that sexual abuse was quite common among people with eating disorders. They conducted a large-scale study with 13,394 adults to investigate the prevalence of other ACEs and their impact on physical and psychological health. Participants who reported four or more ACEs were at heightened risk for alcohol and drug addiction, depression and suicide attempts, and

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smoking than those without ACEs. Moreover, a dose-response relationship was revealed between ACEs and the presence of diseases, which showed that the number of ACEs correlated with health conditions, including cancer, cardiovascular diseases, chronic lung disease and skeletal fractures (Felitti et al., 1998). Most recent studies also revealed a strong association between ACEs and various health issues and health-risky behaviours, which are the leading causes of early death, such as autoimmune diseases (Dube et al., 2009), cancer (Ports et al., 2019); alcohol (Strine et al., 2012) and drug abuse (Swedo et al., 2020), sexual risk behaviour (Hillis, Anda, Felitti, & Marchbanks, 2001) and smoking (Strine et al., 2012); as well as several psychopathologies (Cecil, Viding, Fearon, Glaser, & McCrory, 2017).

### **ACEs and Subsequent Adult Psychopathologies**

Besides the adverse physiological health outcomes, evidence suggests that ACEs have a detrimental impact on mental health in adulthood (Cecil et al., 2017). Post-traumatic stress disorder (PTSD), depression, and anxiety disorders commonly occur in adults exposed to ACE (Merrick et al., 2017). The association between ACEs and eating disorders (EDs) are also well-established and evident across different subtypes of EDs (Brewerton, 2007; Rienecke et al., 2022). Emotional abuse among other types of childhood traumatic experiences (i.e. emotional, sexual, and physical abuse, physical and emotional neglect) demonstrated a strong relationship with EDs (Guillaume et al., 2016). Personality disorders, such as antisocial (DeLisi, Drury, & Elbert, 2019) and borderline personality disorder (Kendler et al., 2000) may develop following ACEs.

The impact of ACEs on the development of subsequent psychopathologies may differ based on the type of the events. In a recent longitudinal study conducted by Lewis et al., (2021), individuals exposed to ACEs at age 18 were more likely to experience post-traumatic stress disorder, major depressive disorder, and generalized anxiety disorder in adulthood than children without any trauma experience or with acute trauma, such as losing a parent or having an accident. It is vital to note that parents who are abusive or neglectful have a much more destructive impact on children's mental health than parental loss. Besides emotional difficulties, ACEs are also demonstrated to be related to externalising

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problems such as aggressive behaviour and rule-breaking in children (Hunt, Slack, & Berger, 2017).

A dose-response relationship between ACEs and the development of possible subsequent psychopathologies in adulthood has also been evidenced in a number of studies According to a recent study conducted with 7,465 adults, of which 80% of the participants reported being exposed to at least one ACE showed a significant relationship between the ACE scores of the participants and the possibility of alcohol and substance abuse, as well as depressive symptoms and suicide attempts (Merrick et al., 2017). Results indicated the cumulative effect of ACEs that might increase the risk of developing subsequent psychopathology.

Considering the link between ACEs and various psychopathologies, some researchers point to ACEs as a transdiagnostic risk factor for child mental health problems and subsequent adult psychopathology. They explain the transdiagnostic process as follows: children with ACEs are sensitive to threat-related cues in their social lives, they experience emotional isolation, and they struggle with regulating their emotions, all of which can lead to various psychopathological outcomes in their adult lives (McLaughlin et al., 2020). Other researchers, with a different perspective, argue that ACEs do not meet the criteria for being a transdiagnostic risk factor. Although they elevate the risk of subsequent psychopathology, they do not exclusively lead to any specific diagnosis and there is no evidence on that they lead all psychopathologies. Instead, these researchers suggest that ACEs increase the risk of internalizing and externalizing problems, which are considered among the most significant transdiagnostic risk factors for subsequent psychopathology in adulthood (Eaton et al., 2015). Hence, ACEs' classification as transdiagnostic risk factors is an ongoing debate and warranting further research to elucidate the association between ACEs and psychopathologies.

On the other hand, not all individuals who have experienced ACEs subsequently develop psychopathology. Psychological resilience, which can be defined as an individual's ability to adapt positively in the face of difficulties, is considered one of the key factors that buffer against the negative outcomes of ACEs (Oshri et al., 2020). It is important to note that a dose-dependent relationship is likely to exist between resilience, ACEs and psychopathology. An increase in the number of ACEs compromise the capacity to be resilient towards developing

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psychopathology (Daníelsdóttir et al., 2022). Individuals high in levels of resilience still exhibited fewer psychopathology symptoms when the number of ACEs experienced was increased (Goldenson et al., 2021), emphasising the importance of resilience as a protective factor.

Recent studies also take different dimensions and features of ACEs into account and suggest that the impact of ACEs may differ based on their unpredictability and harshness (Ellis, Sheridan, Belsky, & McLaughlin, 2022). The unpredictability of the adversity can be in both caregiving practices, such as unstable responses to the child's needs, or in a broader context such as instability in housing and parental employment (Hawes and Allen, 2023), which forms the child's expectations from their environment. The unpredictable environment, therefore, not only disrupts the development of secure attachment with the caregiver but also affects the child's cognitive, social, and emotional development. Another dimension of the ACEs, i.e., harshness, has been examined under two separate concepts, which are threat and deprivation (McLaughlin, Sheridan, & Lambert, 2014). Threats include actual life threats, as in the APA definition of trauma (physical abuse), whilst deprivation refers to a lack of learning opportunities for a child by restraining emotional and cognitive stimuli as in neglect (Wang et al., 2022). Both concepts of harshness may impact both child development and the psychopathology that could be developed in later life. All these risk factors and models inform us that the impact of ACEs on subsequent psychopathologies is complex and simultaneous.

### **Prevailing Models Explaining Link Between ACEs and Subsequent Psychopathologies**

Prevailing models that explain the mechanism for the subsequent psychopathology in ACE survivors are biological and cognitive (Aafjes-van Doorn, Kamsteeg, & Silberschatz, 2020; Bryant, 2023). Biological models suggest that in response to a traumatic event autonomic nervous system, responsible for the fight or flight response, is triggered by the release of adrenaline and noradrenaline. To this effect, it has been suggested that ACEs can alter the central nervous system which is responsible for autonomic discharge and endocrine systems (Winzeler et al., 2016).



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Moreover, the impact of being exposed to ACEs have transferred between generations by biological biomarkers. For instance, findings from a recent study conducted with 155 mother-infant dyads revealed that maternal ACEs were found to be significantly related to telomere length in the infants, which is responsible for cellular stress and aging, and subsequent physical and mental health (Esteves et al., 2020). Interestingly, emerging evidence suggests that attachment security moderates the relationship between ACEs and telomere lengths (Dagan, Asok, Steele, Steele, & Bernard, 2017), indicating that even biological models have begun to consider the child's rearing environment when explaining the pathway between ACEs and subsequent psychopathologies.

One biological explanation proposes that psychopathologies result from ACEs disrupting neurobiological systems, such as the HPA axis and self-regulation mechanisms (Sturge-Apple, Davies, Cicchetti, Hentges, & Coe, 2016). Exposure to adverse events triggers the activation of the HPA axis, leading to increased cortisol levels. However, individuals who have been repetitively exposed to ACEs exhibit reduced cortisol levels (Miller, Chen, & Zhou, 2007). This suggests that the HPA axis becomes downregulated as a protective response to prevent the adverse effects of excessive cortisol production. Consequently, children with ACEs experience disruption in the HPA-axis system, which subsequently affects their self-regulation abilities (Wesarg, Van Den Akker, Oei, Hoeve, & Wiers, 2020). In a parallel manner to the evidence demonstrating the moderating role of attachment in the relationship between ACEs and psychopathology-related telomere length, there is also evidence indicating that attachment-based interventions can help normalize HPA-axis activities (Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008). This, again, provides the importance of attachment relationships on the biological mechanisms, which are widely used to explain the relationship between ACEs and psychopathology.

Cognitive models, on the other hand, highlight the significant influence of autobiographical memories, cognitive patterns, and evaluations as central elements in the development of trauma-related psychopathologies. According to this viewpoint, memories of traumatic events are stored and strengthened through intense sensory processing due to heightened arousal during the traumatic experience (Brewin, Dalgleish, & Joseph, 1996). In general, exposure to Adverse Childhood Experiences

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(ACEs) during early childhood has been linked to the development of negative cognitive styles. ACEs can give rise to internalized negative cognitions about oneself, others, and the world, which often become automatic and generalized in future interpersonal relationships (Aafjes-van Doorn, Kamsteeg, & Silberschatz, 2020). This aligns with cognitive models that are not mutually exclusive from Bowlby's internal working mechanisms (Bowlby, 2008) and psychodynamic explanations of schemas (Beck, 1967; Young, Klosko, & Weishaar, 2003). The interplay between early adverse experiences, cognitive processes, and attachment dynamics underscores the complexity of understanding the long-term effects of ACEs on cognitive and interpersonal functioning.

Understanding the complex and concurrent impact of Adverse Childhood Experiences (ACEs) on subsequent psychopathologies is vital, given the multifaceted nature of this relationship. While prevailing models, particularly the biological and cognitive perspectives, have dominated the literature, there remains a noticeable gap in our understanding of the role that environmental factors play in mediating the connection between ACEs and later psychopathological outcomes. Addressing this gap, one of the most influential theories in developmental psychology, the attachment theory, provides valuable insights into the intricate interplay between early adverse experiences and psychological well-being.

### **Attachment Theory: Basic Concepts**

Bowlby (1969) suggested that the relationship established with attachment figures is vital in times of stress as the infant seeks safety from their caregivers in response to threats and needs. Attachment security is formed in the early years of development, and it shapes the child's beliefs and expectations about themselves and others. Bowlby named this the "internal working mechanism", which is the foundation of the attachment styles that last into adulthood. The internal working mechanism consists of the interactions between the child and caregiver, which are internalised and formed mental representations of the self and others (Sherman, Rice, & Cassidy, 2015). Furthermore, individual differences in the functioning of the attachment system are called attachment orientations. Anxious or avoidant behaviours, which are two dimensions of orientation, are considered insecure attachment; whilst the individual is assumed to be

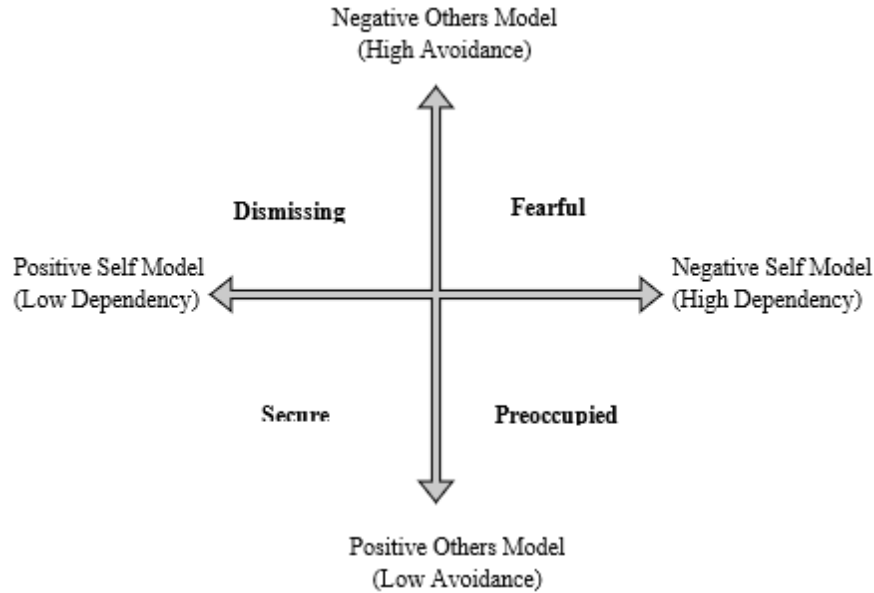
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securely attached if their anxiety or avoidance is low in the relationships (Marshall & Frazier, 2019).

Bowlby's American colleague Mary Ainsworth (1978) made important contributions to attachment theory with her studies with mothers and babies. Her experimental studies revealed that the caregiver being sensitive to the needs of the baby and being there both physically and emotionally in times of need protects the baby from threat and prevents overstimulation. Thus, the baby, who is sure that the attachment figure will be there as a 'safety base' and 'safe haven' in times of need, explores the world and learns social communication and life skills. On the other hand, the attachment is interrupted when the child is exposed to violence, abuse, neglect or separation.

The attachment relationships established in the early years of life sustain to adulthood. Bartholomew (1990) defined four different attachment orientations by combining the internal working mechanism model with anxiety and avoidance attachment dimensions (Figure 1). According to his model, anxiety is associated with self-perceptions, whilst avoidance is related to perceptions about others. Individuals with a positive self-model ("I am lovable and worthy"), and positive others ("other people are reliable and sensitive to my needs") are low in anxiety and avoidance, respectively, thus they have secure attachment orientation. Those with a negative self ("I am not lovable and worthy") and positive others model have the preoccupied (or otherwise anxious) attachment pattern. Individuals with positive self and negative others ("other people are reliable and sensitive to my needs") models have dismissing/avoidant attachment patterns, and the negative self-negative others model has a fearful/avoidant attachment pattern.

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**Figure 1:** Bartholomew's (1990) model of attachment orientations

### **Justification of Using Attachment Theory as a Lens**

There is evidence supporting the biological and cognitive explanations for the relationship between ACE and adult psychopathologies (Aafjes-van Doorn et al., 2020; Raymond et al., 2018; Sheridan & McLaughlin et al., 2020). However, there is insufficient research emphasis on comprehending the social processes involved in understanding how an individual's interaction with their environment can either heighten or hinder the development of mental health issues. Emerging findings point out that interpersonal deficits and poor relationships are also vital to understand the development of psychopathologies following ACEs (Sach-Ericsson et al., 2016; Corcoran & McNulty, 2018). Moreover, biological models have begun to consider the role of attachment relationships when explaining the pathway between ACEs and subsequent psychopathologies (Dagan et al., 2017). We present a position paper, to provide our stance with the relevant evidence and offer

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recommendation for future research on the role of attachment styles in the relationship between ACEs and later psychopathology. The following section will provide information on one of the most influential theories when it comes to understanding social dynamics following an adverse event and its role in explaining the mechanism that leads to psychopathologies in adults with ACEs.

### **Attachment Theory as a Lens of Understanding the ACEs and Subsequent Adult Psychopathology**

Exposing ACEs during childhood adversely affect the formation of attachment representation of the self and others (Raby, Labella, Martin, Carlson, & Roisman, 2017). The insecure attachment formed in childhood with the attachment figure might survive through adulthood. Evidence suggests that there is an association between ACEs and the development of insecure attachment patterns in adulthood (Barnett & Howe, 2020; Kim, Baek, & Park, 2021). A recent meta-analysis included 56 studies revealed a significant relationship between childhood emotional abuse and neglect and insecure attachment in adulthood (Kim et al., 2021). Individuals who faced emotional abuse or neglect from their primary caregivers during their early years often exhibit a heightened fear of being abandoned or rejected in their adult lives. This can result in either an excessive preoccupation with close relationships or challenges in establishing trust.

Establishing evidence reveals a significant relationship between insecure attachment style and mental health problems. A recent study with 529 adults with ACEs showed that participants who scored high in anxious and avoidant attachment were more likely to show mental health problems (Howard, Gwenzi, Taylor, & Wilke, 2023). A longitudinal study with 154 women with history of ACEs revealed that the insecure attachment predicted the major depression and anxiety disorders (Bifulco et al., 2006).

Parents' own ACEs should be considered as this might affect their emotional availability thus attachment relationship with their infants and further negative parenting practices. A study with 186 mothers and their adult children showed that among the various forms of maltreatment experienced by mothers during their own childhood, it was the occurrence of physical neglect that consistently displayed the strongest connection to their emotional regulation issues, attachment patterns, and the likelihood

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of maltreatment in the subsequent generation (Langevin, Gagné, Brassard, & Fernet, 2023). Hence, parents' own history of maltreatment can form a risk for ACEs and the formation of insecure attachment with their children.

Attachment style has been found to mediate the relationship between ACEs and mental health (Barazzone, Santos, McGowan, & Donaghay-Spire, 2018). In a large-scale study, attachment mediated the relationship between ACEs, specifically emotional abuse, and borderline personality disorder features (Schulze, Cloos, Zdravkovic, Lis, & Krause-Utz, 2022). Furthermore, a 24-year longitudinal study conducted by Franz et al. (2014) unveiled that post-traumatic stress symptoms were persistent among individuals with an insecure attachment style. Additional research is imperative to gain a comprehensive understanding of the mechanisms through which attachment styles can either mitigate or amplify the risk of developing psychopathological conditions. One plausible explanation lies in the capacity of individuals with secure attachment styles to effectively draw upon their internal reservoirs of comfort during periods of heightened stress, thereby enhancing their resilience in contrast to those with insecure attachment styles (Barazzone et al., 2018). Additionally, it is highlighted by Brown and Shillington (2017) that ACEs originating from a main caregiver, who is also the attachment figure, could potentially create harmful stress known as toxic stress. This type of stress poses an additional risk to overall well-being and growth.

## **Discussion**

One of the possible explanations on the relationship between childhood adversities and later psychopathology can be through the disrupted capacity of forming interpersonal relationships and lack of social support. Exposure to childhood neglect and abuse can seriously impair the capacity to form and maintain relationships (Doyle & Cicchetti, 2017). Posttraumatic symptoms that can lead to interpersonal problems such as irritability, outbursts of anger, difficulty in feeling positive emotions, avoiding people who evoke memories of the traumatic event, and alienation from people, in general, can make it difficult for other people to establish and maintain a healthy relationship with the trauma survivor. This situation leads to social alienation and isolation in the ACE survivor; therefore, it may cause deprivation of social and relationship support with proven therapeutic effects in trauma (Brown & Shillington, 2017).

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Moreover, Victims of ACEs may tend to prefer unstable, chaotic relationships that they memorized in the early years of life rather than establishing healthy relationships in adulthood. Being harmed by the primary caregiver in childhood hinders the individual's ability to establish secure and stable relationships (Godbout, Rutz, MacIntosh, & Briere, 2013). Therefore, these individuals often choose their partners from among those who have mostly unresolved trauma or loss experiences, with whom they can somehow rekindle their unhealthy relationships with past attachment figures (Pearlman & Courtois, 2005). These relationships, which lead to more abuse and often result in abandonment and loss, increase the individual's distrust of people, and may cause the individual to not meet the need for connection and support, which is essential for development and recovery.

Whilst attachment insecurities are potential factors linked to psychopathology risk; the establishment, and maintenance of attachment security is thought to boost resilience and enhance mental well-being. Attachment theory suggests that interactions with supportive attachment figures induce feelings of safety, trigger positive emotions, and provide psychological resources for coping with challenges. Secure individuals exhibit improved emotional well-being, resilience to stress, and extended periods of positivity. Consequently, studies using "Security priming," a technique that activates mental representations of attachment figures through methods like subliminal images or names (Mikulincer & Shaver, 2007) showed improved emotional wellbeing and self-regulation in individuals with secure as well as insecure attachment (Gillath, Karantzas, Romano, & Karantzas, 2022; Gillath & Karantzas, 2019). This priming has also demonstrated the ability to enhance mood and counteract the negative effects of stress. For instance, subliminal priming reduced cognitive symptoms of PTSD and eating disorders in a non-clinical sample (Mikulincer, Shaver, & Horesh, 2006). Considering the evidence that ACE survivors mainly develop insecure attachment styles, future research can incorporate secure priming interventions to enhance their mental health.

Psychotherapy may be another way to modify attachment patterns as it shown to increase attachment security and decrease attachment anxiety (Taylor, Rietzschel, Danquah, & Berry, 2014). Initial indications also suggest that therapists fostering a sense of security can enhance clients' mental health. Positive assessments of a therapist's supportiveness

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predicted relief from depression (Zuroff & Blatt, 2006). Changes in attachment security were examined in the context of various therapeutic approaches. Time-limited dynamic psychotherapy, for instance, improved attachment security, and led to categorical changes from insecure to secure attachment types (Travis et al., 2001). Attachment security was improved in women with binge eating disorder who received group based cognitive behavioural therapy or psychodynamic interpersonal psychotherapy in another study yet no treatment type effects were evident (Tasca et al., 2007). More controlled research is necessary to comprehensively understand the enduring effects of security-enhancing therapeutic methods and the comparative effects of different treatment modalities on mental health outcomes.

For many years, biological and cognitive models have guided research aimed at understanding the link between ACEs and subsequent adult psychopathology. This position paper offers a comprehensive review and presents a recent model that centers on the attachment relationship in understanding the relationship between ACEs and adult psychopathologies. Further investigation is needed to elucidate the mechanisms through which ACEs contribute to later psychopathologies, particularly through the implementation of attachment-based therapies in individuals with ACEs.



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