**Equine-Assisted Psychotherapy Promotes Resilience in Children
and Adolescents Impacted by Interpersonal Trauma**

by

Jill Barnstable

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Adenike Yesufu, PhD
Research Supervisor
City University of Seattle

Abstract

In this research project the author theorises that equine-assisted psychotherapy (EAP) improves the biopsychosocial symptoms associated with interpersonal trauma (IT) in childhood and adolescence and promotes positive development and resilience in children and adolescents impacted by IT. The author discusses the implications of the research to better understand the developmental effects of IT during childhood and adolescence and the implications of these effects for psychotherapy with children and adolescents impacted by IT. She also analyses and synthesises the research on the use of EAP with children and adolescents impacted by IT during their sensitive developmental years. Methodological limitations observed in the research of EAP with children and adolescents impacted by IT discussed include the lack of experimental research in the field to date, that few children under the age of 8 have been included in the research, and the under-representation of males in the qualitative research. Despite the current methodological weaknesses in the literature for EAP with children and adolescents impacted by IT, the existing findings related to this topic have shown that EAP is an effective, comprehensive treatment approach that improves the biopsychosocial ramifications of IT during childhood and adolescence. More important, the author discusses how the relational experiences during EAP promotes positive development and resilience in children and adolescents impacted by IT. She also critically considers the research and professional ethics with regard to studying EAP with children and adolescents impacted by IT. Finally, she discusses practical applications and makes recommendations for future research to improve EAP for children and adolescents impacted by IT.

Keywords: equine assisted psychotherapy, *children*, *adolescents*, *youth*, *interpersonal trauma*, *development*, *resilience*, *attachment theory*

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God: Thank You for being the Creator, Sustainer, and Redeemer of all.

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and Adolescents Impacted by Interpersonal Trauma

"Trauma is perhaps the most avoided, ignored, belittled, denied, misunderstood, and untreated cause of human suffering" (Levine, as cited in Levine & Kline, 2019, p. 3). Posttraumatic stress disorder (PTSD) was initially controversial when the American Psychiatric Association (1980) added it to the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*). Still, it is now clear that the PTSD diagnosis filled a significant gap in psychiatric theory and practice (Friedman, 2019). However, equivalent clinical research and treatments gaps still exist for children and adolescents impacted by interpersonal trauma (IT) D'Andrea et al., 2012; McCullough et al., 2015; Perry, 2005; Van der Kolk, 2005). Most interpersonally traumatised children do not meet the diagnostic criteria for PTSD, nor does the PTSD diagnosis capture the complex presentation of symptoms for children and adolescents impacted by IT (D'Andrea et al., 2012; Spinazzola et al., 2018; Van der Kolk, 2005). Ultimately, children and adolescents experience, interpret, and respond to life events differently from adults; yet destructive misperceptions wherein adults subject their children and adolescents to their own biases have resulted in the lack of a developmentally sensitive trauma diagnosis and inappropriate treatments for children and adolescents impacted by IT (D'Andrea et al., 2012; Levine & Kline, 2019; Perry et al., 1995; Spinazzola et al., 2018; Van der Kolk, 2005).

Children and adolescents whom IT affects biopsychosocially often receive nonspecific and comorbid diagnoses. However, this parsimonious diagnostic approach reduces the likelihood of positive therapeutic outcomes and effective treatments for children and adolescents impacted by IT (D'Andrea et al., 2012). As a result, maltreated children and adolescents are sometimes expected to participate in evidence-based treatment approaches that often ineffectively address

their complex mental-health and developmental needs (D'Andrea et al., 2012; Levine & Kline, 2019; Ziemann, 2019). The focus in working with children and adolescents who have been interpersonally traumatised should be on helping them to develop "new connections between their experiences, emotions and physical reactions" (Van der Kolk, 2005, p. 408). Thus, nontraditional, experiential, therapeutic practices based on the creation of new connections through experience rather than language might prove to be all the more necessary to treat children and adolescents who have experienced developmental trauma. Integrating my personal experience with horses and watching my three children create unique bonds with different animals, I appreciate and have faith in the restorative power of the human-animal connection. My children have expressed a felt sense of unconditional positive regard, containment, and safety in their relationships with animals. I have also observed how their relationships with animals have helped them to cope with school-, peer-, and sibling-related stress. Therefore, I believe that EAP could provide children and adolescents impacted by IT with a restorative relational experiences. In this research I explored how children and adolescents impacted by IT could potentially benefit from equine-assisted psychotherapy (EAP) as a relational and experientially focused therapy.

Research Problem

Anecdotal evidence on the effectiveness of EAP to treat a myriad of biopsychosocial conditions is well documented (Fine, 2019; Frewin & Gardiner, 2005). Recently, professionals who advocate for EAP as an evidence-based therapy for trauma survivors have accumulated an empirical evidence base to support the value of EAP in treating trauma (Fine, 2019). Additionally, studies on the therapeutic value of the use of horses to treat children and adolescents with diverse social, emotional, and behavioural problems have also accrued (Fine,

2019). Nevertheless, the knowledge of EAP's therapeutic benefits for children and adolescents impacted by IT remains underdeveloped. There also remains a dearth of knowledge on comprehensive treatments for children and adolescents impacted by IT and interventions that promote their resilience (D'Andrea et al., 2012; Lawson & Quinn, 2013).

Justification

When children and adolescents impacted by IT do not receive appropriate treatment, the resulting sequela of emotional, behavioural, cognitive, and social disturbances (D'Andrea et al., 2012) can contribute to a host of neuropsychiatric and biological health problems throughout life (Dugal et al., 2016; Felitti, 2012). Attachment problems, eating disorders, depression, suicidal behaviour, anxiety, substance misuse, violent behaviour, mood disorders, PTSD, gynecologic disorders, chronic pain, headaches, fatigue, heart disease, cancer, chronic lung disease, diabetes, and autoimmune diseases are some of the conditions that positively correlate with IT during development (Dugal et al., 2016; Felitti, 2012; National Scientific Council on the Developing Child, 2020; Perry & Azad, 1999).The cataclysm of damage from IT during the developmental years affects the individual and potentially multiple generations to follow, because many of these children and adolescents often repeat the cycle of violence that has been foundational in their development in their own families and communities (O'Soup, 2017). In summary, the biological, psychological, emotional, social, spiritual, economic, and cultural costs of untreated developmental trauma are immeasurable (Bowlus et al., 2003; Jordan et al., 2014).

Furthermore, the focus of social and health care services for children and adolescents impacted by IT has mainly focused on psychopathology and the treatment of biopsychosocial symptoms (Stengård & Appelqvist-Schmidlechner, 2010). Because "curing illness may not necessarily result in health" (Barker, 2000, as cited in Friedli, 2012, p. 22), we must elaborate the

assessment of effective psychotherapeutic treatments beyond mere improvements in the biopsychosocial symptoms of children and adolescents impacted by IT. The evaluation of psychotherapeutic approaches targeted at children and adolescents impacted by IT would benefit from a consideration of the construct of resilience. In sum, effective interventions that address the complex implications of recovery and promote positive development and resilience for children and adolescents impacted by IT are critical to offset the potential damage to the individual, social, and cultural systems.

Research Question

In my research I assumed that children and adolescents impacted by IT have complex treatment needs that has resulted in a lack of therapeutic approaches that comprehensively address these needs. Querying, *"How does equine assisted psychotherapy (EAP) promote resilience in children and adolescents impacted by interpersonal trauma (IT)?"* I explored the existing literature for evidence that children and adolescents impacted by IT experience benefits from EAP beyond improvements in their biopsychosocial symptoms that have resulted from IT.

Researcher's Position

Integrating my experiential knowledge gained from working with children and adolescents impacted by IT with my relational experiences with horses, I have interpreted how specific qualities of horses can effectively address the complex needs many of these children and adolescents present in therapy. One unique quality of domesticated horses is that unlike other common domestic animals that are instinctually predatory (e.g. cats and dogs), horses have prey instincts (Frewin & Gardiner, 2005). Because of their prey instincts, horses are intuitively attuned to their environment's nonverbal and affective energy (Frewin & Gardiner, 2005), which offers them an unprecedented level of awareness of and attunement in the therapeutic milieu.

This can be particularly helpful in working with children and adolescents impacted by IT because secrecy is woven into their neurobiology throughout their development (Levine & Kline, 2019; Van der Kolk, 2005). The ability to keep secrets can develop to the extent that children and adolescents impacted by IT often acquire the ability to conceal their inner feelings or dissociate from their internal states (Van der Kolk, 2005) and are often misinterpreted in human-to-human interactions (Wallin, 2007). In my relational experiences with horses, horses instinctually detect these internal states and authentically reflect them back to people through their behavioural responses which could facilitate more accurate affect attunement in therapy.

Additionally, as prey animals, horses are similar to children and adolescents impacted by IT in their hypervigilant physiological response to threat (Frewin & Gardiner, 2005; Van der Kolk, 2005). The horse's hypervigilance allows for organic healing power provided through the horse in its ability validate the hypervigilance of interpersonally traumatised children and adolescents. Yet, unlike many children and adolescents who use dissociation or avoidance to adapt to their physiological threat response, horses acknowledge and trust their fear instincts. I believe that through this experience of validation, the horse might provide children and adolescents impacted by IT a safe and authentic relational experience through which they can honestly interpret their own internal experiences without judgement. Consequently, EAP can facilitate authentic and paradoxical learning experiences that enable children or adolescents to open up to more authentic experiences of themselves through their empathic connections with horses. After all, domesticated horses learn to trust human companions in spite of their fear instincts; as, "you don't train a half-ton flight animal that could kill you in the blink of an eye; you prove to him that he can trust you more than his own instincts" (Ainsworth, Twitter [October 12], 2017). It is my position that creating a dynamic and mutual bond of trust that supersedes

fear offers the potential for a powerfully cathartic relational experience that might be possible only with horses.

Delimitations

"No one totally escapes the long reach of trauma's shadow to some degree, at some time or another, during their lifespan" (Levine & Kline, 2019, p. 17); many children and adolescents are traumatically affected by accidents, natural disasters, invasive medical procedures and surgeries (Levine & Kline, 2019) . However, this research focuses on the neurobiological repercussions of IT experienced during childhood and adolescence. Additionally, this research is specific to how EAP promotes resilience in children and adolescents. It does not consider the benefits of EAP in adults who been adversely affected by IT during childhood or adolescence. Another delimitation of this research is that it focuses on the benefits of individual EAP and does not consider group-EAP interventions in its core analysis examining how does EAP promote resilience in children and adolescence impacted by IT.

Literature Review

In this research the foundation for my inquiry into the response of children and adolescents impacted by IT to EAP was attachment theory. John Bowlby (1988), the founder of attachment theory, emphasised:

> Without good theory as a guide, research is likely to be difficult to plan and to be unproductive, and findings are difficult to interpret. Without a reasonably valid theory of psychopathology, therapeutic techniques tend to be blunt and of uncertain benefit. Without a reasonably valid theory of aetiology, systematic and agreed measures of prevention will never be supported. (p. 42)

John Bowlby (1988) is recognised as the founder of attachment theory. However, he developed his theory through a collaborative approach with many other psychiatrists, psychoanalysts, and developmental psychologists that emphasised the importance of close relationships and real-life experiences in understanding human nature. Incapable of resigning

himself to the psychoanalytic assumptions of his day that healthy and pathological development originated in fantasy and internal conflict, Bowlby insisted, "Internal relationships reflect external relationships [and] real-life experiences have a very important effect on development" (Bowlby, as cited in Wallin, 2007, p. 14).

Mary Ainsworth (as cited in Bowlby, 1988) is another pioneer in attachment theory. Ainsworth discovered that the quality of nonverbal communication in the attachment relationship, the emotional availability of caregivers, and infants' approaches to their feelings are instrumental in developing attachment systems (Bowlby, 1988). Mary Main (1985, as cited in Wallin, 2007) further coalesced Bowlby's theory of attachment when she hypothesised that mental representations created through attachment relationships are "structured processes serving to obtain or limit access to information" (p. 34) rather than static mental templates. Main asserted that these structured processes influence the capacity to think, feel, remember, and behave throughout childhood, adolescence, and adulthood (Wallin, 2007). Peter Fonagy (2002, as cited in Wallin, 2007) expanded on the concept of mental representations to integrate theory of mind into attachment theory. Theory of mind refers to how we make sense of our own and others' behaviour based on underlying mental states comprised of beliefs, emotions, and desires, via a process called *reflective functioning* (Wallin, 2007). Reflective functioning facilitates mentalising activity, which Fonagy et al. defined as the process through which we become aware that our mind mediates our experiences of the world. From Bowlby and Ainsworth to Main and Fonagy, attachment theory has evolved to an appreciation of three theoretical pillars in the conceptualisation of human development, psychopathology, and psychotherapy: a focus on intimate bonds from infancy onward, the nonverbal realm of emotion, and the relationship between one's self and experiences (Wallin, 2007).

Attachment Theory and Development

Our biological programming (Bowlby, 1988), our capacity for survival through social relationships (Siegel & Hartzell, 2018), and the pace of neurobiological development that occurs in our first years of life (Costello, 2013) make humans particularly vulnerable to the influence of attachment experiences in the earliest stages of development. Bowlby (1988) emphasised three central theoretical tenets in the attachment theory of development:

1. The primary status and biological function of intimate emotional bonds are responsible for the making and maintaining of a cybernetic system situated within the central nervous system. This cybernetic system is controlled by working models of self (a.k.a. the representational self) and attachment figure in relationship with each other.

2. The powerful influence of primary attachment relationships on a child's development.

3. That a dynamic theory of development, focusing on developmental pathways, should replace theories that invoke specific phases or stages of development, in which it is held a person may become fixated and/or to which [one] may regress. (pp. 135–136)

The explosion of neuroscientific research in the 1990s and early 2000s substantiated Bowlby's (1988) theoretical assumptions about human development. Neuroscience contributed to our understanding of how we develop and maintain attachment experiences in a *cybernetic system* within the central nervous system (Wallin, 2007). Siegel (1999) forged conceptual links between attachment theory and neuroscience by demonstrating how neural circuitry in the brain develops with repeated relational experiences. Siegel showed that attachment patterns are in effect patterns of neural organisation, which supports Bowlby's position that the brain encodes attachment experiences. Neuroplasticity (Merzenich & Jenkins, 1995) reaffirms the emphasis of

attachment theory that pathways rather than stages or phases are more appropriate in conceptualising development. The discovery of mirror neurons confirms that, through imitation and the perception of correspondence, humans (beginning in infancy) discover aspects of themselves in others (Wallin, 2007). Neuroscientific research has revealed that "younger brains are built to learn from older brains, and that attachment relationships are the setting in which most of this learning originally occurs" (Wallin, 2007, pp. 69–70).

The interrelated and mutually influential processes of development combined with our hard-wired attachment systems prioritise the impact of early attachment relationships in development (Bowlby, 1988; Perry, 2005; Wallin, 2007). Ultimately, "there is today impressive and mounting evidence that the pattern of attachment that an individual develops during years of immaturity-infancy, childhood, and adolescence-is profoundly influenced by the way his parents (or other parent figures) treat him" (Bowlby, 1988, p. 139).

Childhood and Adolescent Development

"Development is an extraordinary process full of both rapid and gradual transitions designed to establish efficient structural and functional neural connections supporting our behaviours, cognitions, and emotions" (Guyer et al., 2018, p. 687). Underlying this process are two guiding principles of developmental neuroscience: (a) During infancy and early childhood, multiple and rapid changes occur that foster development in core domains of functioning; and (b) adolescence into early adulthood is the second period of heightened growth and change; this developmental phase supports new areas of functioning related to the specific experiences that first emerge in adolescence (Guyer et al., 2018). According to neuroscience, windows of rapid growth and change are more sensitive to different life experiences during childhood and adolescence (Guyer et al., 2018).

Childhood

  Childhood is a psychology term that refers to the second phase of human development, which typically begins at the end of infancy (2 years of age) and concludes at the onset of puberty (approximately 10-12 years of age; American Psychological Association [APA], 2020b).

  During childhood, neurally based change processes that underlie developmental functions are contingent on input from early caregivers to facilitate opportunities for learning experiences and emotional regulation (Guyer et al., 2018). The presence or absence of felt safety and security with regard to children's physical and emotional needs is the most influential from infancy to the onset of puberty (Guyer et al., 2018; Siegel & Bryson, 2012). Fulfillment of these developmental needs enables children to achieve a sense of trust, autonomy, initiative, and industry (Erikson, as cited in, Fine, 2019).

Adolescence

  Adolescence is defined as "the period of human development that starts with puberty and ends with physiological maturity (approximately 19 years of age), although the exact age span varies across individuals" (APA, 2020a, para. 1). Konrad et al. (2013) described adolescence as a period marked with heightened neurological growth and transformation: "The high plasticity of the adolescent brain permits environmental influences to exert particularly strong effects on cortical circuitry" (p. 425). Therefore, adolescence is a period configured by the emergence of abstract thinking, shifts in social functioning, and the psychosocial challenges of identity, autonomy, intimacy, and sexuality. Adolescence is the start of a conscious effort to define a sense of self (Fine, 2019). Adolescents organize themselves in regard to a consistent and defined self-image during this developmental period as they define and aspire to drives, beliefs, and ambitions. In addition, neurodevelopmental research has shown that changes in hormones and

neurological activity in the limbic system create a heightened sensitivity to socioemotional experiences during adolescence (Nelson et al., 2005). This neural affinity translates to a strong need for reward that is fulfilled through the relational interactions that direct self-discovery through affiliation and belonging (Fine, 2019; Nelson et al., 2005).

The "understanding of developmental change, capacities, and vulnerabilities at various ages, family characteristics, and functioning, and the interplay of young people and the settings in which their development unfolds may be relevant to providing evidence-based practices to children and families" (American Psychological Association Task Force on Evidence-Based Practice for Children and Adolescents, 2008, p. 28). Psychotherapists who treat children and adolescents should understand that they are not small adults and do not experience life events and therapy in the same way that adults (Eichel, n.d.; Leve & Gullickson, 1995; Levine & Kline, 2019; Sandberg & Spritz, 2009). Unfortunately, researchers have suggested that no other population is more marginalised and underserviced in health care systems than children and adolescents (American Psychological Association Task Force on Evidence-Based Practice for Children and Adolescents, 2008). It is important that this lack of care result in action in research and practice, because prevention, early intervention, treatment, and continuity of care are necessary to offset the lifelong trajectories and associated costs related to the adverse mental health of childhood and adolescence.

Resilience

Kalisch et al. (2015) described *resilience* as a dynamic process that promotes a trajectory of undisturbed, stable mental health during or after a potentially traumatising event or a prolonged period of adversity, which can lead to a temporary state of disturbance followed by a relatively rapid, successful recovery. The topic of resilience has captivated researchers who have

studied maltreatment during childhood and adolescence (Sroufe & Siegel, 2011; Yoon et al., 2019). Developmental perspectives conceptualise resilience as a developmental process in which person-environment interactions help to build competence, which leads to the capacity to deal with stress, distress, and trauma (Sroufe & Siegel, 2011). Researchers have repeatedly demonstrated that children with histories of secure attachment are less vulnerable to stress and better able to take advantage of opportunities for growth. Moreover, when these children face a troubled period, their prior experience of feeling nurtured is not erased and still influences their responses to new situations (Sroufe & Siegel, 2011, para. 19). Likewise, Perry (2009) highlighted that "one recurring observation about resilience and coping with trauma is the power of healthy relationships to protect from and heal following stress, distress, and trauma" (p. 246). Perry attributed this to the neurobiological interrelation of the stress-response and attachment, social communication, and affiliation systems in the modulation of distress.

Researchers who have studied the resilience of children and adolescents who have experienced maltreatment have assessed resilience primarily as either the absence of psychopathology/negative outcomes or competence across multiple domains of functioning (Kalisch et al., 2015). Individual qualities associated with positive outcomes or resilience are "self-regulation skills, higher levels of social competence, personal control, problem-solving skills, motivation, self-esteem, and heightened adaptive functioning abilities" (Yoon et al., 2019, p. 542). Therefore, creating developmental opportunities for these qualities through psychotherapeutic interventions with children and adolescents impacted by IT is crucial in psychotherapy.

Interpersonal Trauma

In this research *interpersonal trauma* (IT) refers to

the range of maltreatment, interpersonal violence, abuse, assault, and neglect experiences encountered by children and adolescents, including familial, physical, sexual, emotional abuse and incest; community-, peer-, and school-based assault, molestation, and severe bullying; severe physical, medical, and emotional neglect; witnessing domestic violence; as well as the impact of chronic and pervasive disruptions in caregiving as a consequence of severe caregiver mental illness, substance abuse, criminal involvement, or abrupt separation or traumatic loss. (D'Andrea et al., 2012, p. 188)

My research focused on IT in children and adolescents and the adverse developmental trajectories of IT that they can potentially encounter. It is important to consider two critical factors related to trauma and development to understand the neurobiological damage of IT in childhood and adolescence. The first is that trauma results from any experience beyond one's ability to cope (Levine & Kline, 2019). As a result, the developmentally immature are at an increased risk of being traumatised because of their underdeveloped capacity to cope (Briere & Scott, 2015; Levine & Kline, 2019; Van der Kolk, 2005). Furthermore, those with insufficient internal coping mechanisms rely on the safety and containment of a secure other when they face overwhelming events (Levine & Kline, 2019; Siegel, 1999; Van der Kolk, 2005). These two key considerations lead to an appreciation for the neurobiological wound that can occur when others from whom the developmentally vulnerable require protection injure them.

Interpersonal Trauma and Developmental Adversity

The neurobiological imprint of IT foundationally alters young persons' "capacity to integrate sensory, emotional, and cognitive information into a cohesive whole" (Van der Kolk, 2005, p. 402). Neuronal pathways associated with the regulation of consciousness, affect, impulse, sense of self, and physiological awareness are all implicated in the structural and functional neurobiological alterations that IT during childhood and adolescence cause (D'Andrea

et al., 2012). The impact of IT is forceful, and the physical, emotional, psychological, and social aftermath for children and adolescents who have survived such an impact is often cataclysmal (Briere & Scott, 2015; Cook et al., 2005; D'Andrea et al., 2012; Dugal et al., 2016; Grasso et al., 2016; Kaufman, 2009; Kisiel et al., 2014; Perry et al., 1995; Toth & Cicchetti, 2013; Van der Kolk, 2005).

Kisiel et al. (2014) examined the distinct effects of different constellations of traumatic experiences on children and adolescents and found that those who experienced a combination of nonviolent and violent IT were nine times more likely to show clinically significant symptoms across the affective/physiological (e.g., affect dysregulation, anger control, numbing, and impaired motor control), attention/behavioural (e.g., attention and impulse control, self-mutilation, impaired judgement), and self/relational (oppositional behaviour, maladaptive attachment behaviour, danger to others, sexually reactive behaviour) domains of functioning than from other combinations of traumatic experiences. Further, the clinical symptomatology of the group affected by nonviolent and violent IT was greater in severity and diversity (Kisiel et al., 2014). These results are consistent with those from other research that show that IT during childhood and adolescence often leads to a co-occurring symptom presentation that current diagnostic criteria sometimes overlook (D'Andrea et al., 2012; Spinazzola et al., 2018).

In addition, children and adolescents in foster care who have had various interpersonally traumatic experiences have more difficulty with school attendance, more behavioural problems, lower academic achievement, more psychiatric hospitalisations, and more placement disruptions (Kisiel et al., 2014). Furthermore, Kisiel et al. (2014) also found that "while children with both violent and non-violent IT had a greater number of traumas experienced overall and more severe symptom patterns than other groups, these differences remained across areas of impairment even

when controlling for the number of traumas" (p. 11). In other words, these findings indicate that IT can be more destructive than the number of traumatic events during development.

Grasso et al. (2016) found similar results when they examined adolescents' psychopathology and juveniles' justice involvement across subgroups of identified ACEs. Grasso et al. validated Kisiel et al.'s (2014) research by demonstrating that adolescents who had experienced diverse forms of IT consistently reported the highest levels of psychopathology in adolescence. Grasso et al. also affirmed that adolescents with more varied IT experiences were more likely to be involved in the criminal justice system and were at higher risk for community and school violence. These findings corroborate those of previous research that the risks associated with retraumatisation increase when IT alters children's or adolescents' neurobiological development (D'Andrea et al., 2012; Van der Kolk, 2005).

This research has shown that diverse types of IT are related to multiple and varied traumatic experiences throughout middle childhood and adolescence underscores "the pervasive nature of polyvictimization" (Grasso et al., 2016, p. 883). Though diverse experiences of IT during childhood and adolescence are the most implicated in the development of adolescent psychopathology, Grasso et al. (2016) also suggested that early-childhood intrafamilial violence, middle-childhood sexual trauma, adolescent exposure to community violence, and traumatic loss in early and middle childhood are also strongly associated with the development of psychopathology during adolescence and that IT in childhood warrants "particular attention by programs designed to prevent or remediate emotional and behavioural problems" (p. 886) that often are exacerbated throughout development and result in psychopathology during adolescence and into adulthood.

Only now are we beginning to appreciate the aetiology of psychopathology amongst children and adolescents impacted by IT. Despite the advancements made in the research of IT in children and adolescents impacted by IT, there is still limited understanding of how different IT experiences inflicted during various stages of development affect the developmental trajectories of children and adolescents. IT during childhood and adolescence can be experienced through acts of commission or omission (Briere 2002, as cited in Dugal et al., 2016). Children and adolescents who experience consistent neglect (acts of omission) of their physical, emotional, and psychological needs are equally likely to be traumatized by caregivers, as children and adolescents impacted by interpersonal violence (acts of commission) (Main & Hesse, 2006, as cited in Lyons-Ruth & Jacobvitz, 2008). Nevertheless, there is minimal knowledge and appreciation of "neglect-related problems in maltreated children" (Perry, 2009, p. 245). Furthermore, longitudinal research is needed to refine our knowledge of how biopsychosocial impairments effected by IT, may evolve in relation to development (Grasso et al., 2016; Kisiel et al., 2014). Finally, there is a dearth of literature on effective psychotherapies in the comprehensive treatment of IT for children and adolescents (Lawson & Quinn, 2013), therefore more research should focus on identifying "developmentally appropriate interventions and enrichments that can help the child re-approximate a more normal developmental trajectory" (Perry, 2009, p. 251).

Equine Assisted Psychotherapy

In this research the term *equine assisted psychotherapy* (EAP) describes an experiential method of psychotherapy that licensed and credentialed mental health professionals use that involves horses (Latella & Abrams, 2015). EAP emphasizes the psychosocial and behavioural aspects of interacting with equines and follows an experiential therapy-based treatment plan that

usually adheres to each clinician's theoretical orientation (Latella & Abrams, 2015). "It is not so much a theoretical orientation as it is an approach that can be used in conjunction with a variety of therapeutic modalities and with diverse client populations" (Masini, 2010, p. 30).

Typically, EAP occurs at equine facilities in horses' natural environments (Bachi, 2013; Ewing et al., 2007). Certified equine specialists are often involved in the therapeutic process; their role is to interpret the horses' behaviours and increase their clients' and the horses' physical safety (Equine Assisted Growth and Learning Association, 2018). However, equine specialists are not standard requirements across all governing bodies, as long as the EAP practitioners are dually certified as equine specialists and mental-health professionals (Esbjorn, 2006; Frewin & Gardiner, 2005; Latella & Abrams, 2015; Lee et al., 2016; Masini, 2010). In the interventions the horses can be either mounted (on the horse's back) or unmounted (grooming, observing, leading); this also varies depending on each therapist's preference and the requirements of each licensing organisation (Latella & Abrams, 2015; Masini, 2010). Therapists use EAP with individuals, families, or groups (Masini, 2010). In summary, EAP professionals practice in different ways, but what they have in common is the recognition of the unique qualities of horse-human relationships, which they maximise in their therapeutic interventions (Karol, 2007).

EAP With Children and Adolescents Impacted by IT

Research has demonstrated that EAP effectively improves biopsychosocial symptoms associated with various diagnoses caused by IT in childhood and adolescence (Burgon, 2011; Craig, 2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2016, 2017; McCullough et al., 2015; Mueller & McCullough, 2017; Schultz et al., 2007; Tuuvas et al., 2017). EAP improved biopsychosocial symptoms for children and adolescents impacted by IT diagnosed with anorexia (Lac, 2017); disruptive mood dysregulation disorder [DMDD] (Koerick Sauer & Gill, 2020);

PTSD (McCullough et al., 2015; Mueller & McCullough, 2017; Schultz et al., 2007); adjustment

disorders, mood disorders, and disruptive disorders (Schultz et al., 2007); attention deficit

hyperactivity disorder (Burgon, 2011; Schultz et al., 2007; Tuuvas et al., 2017); and autism

spectrum disorder syndrome (Burgon, 2011; Tuuvas et al., 2017). Furthermore, research has

suggested that children and adolescents with diagnoses associated with IT who had experienced

intrafamily violence benefited more from EAP than those with the same diagnoses who had not

experienced such violence (Schultz et al., 2007).

Schultz et al. (2007) discovered the most marked improvements in biopsychosocial

functioning were observed in children whom intrafamily violence had traumatically affected. In

Lac's (2016) study, a 5-year old girl (Mary) who had been impacted by IT was referred to EAP

after she had failed to benefit from office-based psychotherapy. Lac (2016) reported the

following changes in Mary's biopsychosocial symptoms with EAP: her somatic and emotional

regulation capacities increased, appetite improved, panic attacks ceased, observable body tension

decreased, self-confidence increased, and separation anxiety decreased. In another qualitative

study, Chardonnens (2009) examined an 8-year-old boy with an extensive psychiatric history

that resulted from "an extremely precarious family environment" (p. 325) and found similar

positive results from treatment at a residential treatment farm. In this research, one year of

treatment in a psychiatric hospital resulted in insubstantial improvements in biopsychosocial

functioning for this boy. However, remarkable improvements occurred through care at the

residential treatment farm. Chardonnens (2009) emphasized that participating in EAP at the farm

was foundational in this boy's therapeutic progress.

Researchers who quantitatively compared therapeutic outcomes from within-clinic group

EAP for children (aged 8-11 year) who had been sexually abused also discovered that, although

the children failed to show improvements with various measurements of biopsychosocial functioning in office-based treatments, they made significant improvements in group EAP (Kemp et al., 2014; Signal et al., 2013). Tsantefski et al. (2017) studied group EAP for children whose parents engaged in substance misuse and found mixed results when they administered the Strengths and Difficulties Questionnaire to children, caregivers, and teachers. Four of the children improved, 36 remained stable, and one deteriorated; the caregivers reported that six children improved, 34 were stable, and one deteriorated; the teachers' assessments indicated that 40 children remained stable, and one improved. These findings contradict the findings of research on group EAP for children who experience childhood sexual abuse (Kemp et al., 2014; Signal et al., 2013), as well as the findings from the studies using individual EAP in which the researchers found significant improvements in the biopsychosocial functioning of children affected by diverse experiences of IT who participated in EAP (Lac, 2016; Schultz et al., 2007; Chardonnens, 2009). These inconsistencies in the findings from the literature highlight that more research is necessary to better understand the responses of children impacted by diverse IT experiences to across different EAP approaches.

More research has examined the effects of EAP for adolescents impacted by IT as compared to children. The research that explored to adolescents impacted by IT has shown that EAP can be an effective trauma-focused therapy for adolescents who have been impacted by IT because it ameliorates the diverse manifestations of biopsychosocial impairments (Burgon, 2011; Craig, 2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; McCullough et al., 2015; Mueller & McCullough, 2017; Schultz et al., 2007; Tuuvas et al., 2017). Furthermore, EAP has a significant positive effect on the global functioning (Schultz et al., 2007) and PTSD symptoms (McCullough et al., 2015; Mueller & McCullough, 2017) with adolescents impacted by IT.

EAP is also an effective treatment for adolescents impacted by IT who do not respond to traditional evidence-based treatments (Koerick Sauer & Gill, 2020; Lac, 2017). Lac (2017) demonstrated that EAP facilitated the therapeutic recovery of a 16-year-old girl (Amy) who had anorexia nervosa and had experienced IT. Before EAP, Amy had been in therapy for four years and had engaged in cognitive behavioural therapy, dialectical behavioural therapy, psychodrama, art, and nutritional therapies in individual, group, and family settings. After four years of treatment with little success, EAP offered the "holding space for the potential for Amy's re-occupation of herself . . . as she explored ways in which to increase her own presence in the world" (p. 10)

In another case study of EAP, a 16-year-old boy, Dan, also benefited from the unique therapeutic advantages of EAP. At the age of nine, Dan presented with DMDD after sudden changes in family dynamics impacted him; during this time his caregivers were absent and inconsistent (Koerick Sauer & Gill, 2020). His maladaptive responses did not change with in-office therapy, and he demonstrated low levels of engagement. Evidence-based treatments for DMDD are scarce, and therapists who work with clients with DMDD sometimes find it challenging to establish therapeutic alliances (Koerick Sauer & Gill, 2020). Nevertheless, EAP made Dan's relationship with his experience "less threatening" and enabled him to address his "maladaptive pattern of pushing against others, but striving for relationships" (Koerick Sauer & Gill, 2020, p. 382). Dan also found more adaptive ways to "achieve his desired outcome of close relationships" (p. 382).

Researchers who compared group EAP to TF-CBT interventions for adolescents with CSA found that group EAP more effectively reduced the biopsychosocial symptoms across the outcome measurements of anxiety and internalising and externalising posttraumatic symptoms

(Kemp et al., 2014) and depression (Kemp et al., 2014; Signal et al., 2013). Furthermore, Kemp et al. (2014) reported that group EAP alleviates sexualised concerns associated with CSA more effectively than TF-CBT does. These results are noteworthy in light of other findings that indicate that talk-based therapy might not adequately address the depressogenic effects of CSA and that TF-CBT might not effectively alleviate the depression of adolescents with IT (Racco & Vis, 2015; Signal et al., 2013). Furthermore, sexualised behaviour is a maladaptive response commonly associated with CSA that is particularly resistant to treatment (Kemp et al., 2014). Adolescents impacted by CSA could be one of the most complex and challenging clinical populations to treat because they often have the highest treatment-attrition rates (DeLorenzi et al., 2016, as cited in Kemp et al., 2014). Because group EAP successfully improves multiple treatment-resistant symptoms of IT, research suggests that EAP could be more suitable than TF-CBT and other office-based psychotherapies in treating adolescents impacted by IT. Nevertheless, research that compared individual EAP with TF-CBT for adolescents with maltreatment histories found that EAP was equally (but no more) effective in reducing PTSD symptoms as TF-CBT (Mueller & McCullough, 2017).

Though research has developed substantially over the past 15 years to support EAP's efficacy with children and adolescents impacted by IT (Frewin & Gardner, 2005; Lentini & Knox, 2009; Lentini & Knox, 2015; Latella & Abrams, 2015) more research is necessary to develop a definitive evidence base for EAP for this population. A lack of consistent terminology, in EAP practice has contributed to the mixed evidence presented in the research to validate EAP as an advantageous treatment with children and adolescents impacted by IT. Future research should differentiate between group-EAP and individual EAP in their intervention. Furthermore, "understanding of developmental change, capacities, and vulnerabilities at various ages . . . may be relevant to providing evidence based practices" (American Psychological Association Task Force on Evidence-Based Practice

for Children and Adolescents, 2008, p. 28), should encourage researchers to examine the effects of EAP between different developmental stages. More research is also needed to support EAP for young children (under 9 years old) who have been adversely effected by adverse relational experiences.

Critiquing of Methodology

Selection of Articles

I began my exploration of the literature with a search of the four core concepts in my research of IT, EAP, childhood and adolescent development, and resilience. I used the following key terms to search the City University of Seattle's library, EBSCO, Sage Premier, and ProQuest databases: "equine therapy or equine assisted therapy or equine facilitated therapy" and "youth or child* or adolescent*," and "interpersonal trauma," and "resilience." I limited my search to the subject fields of psychology/counseling/human services, social welfare and social work, and public health. For my systematic review I selected only scholarly and peer-reviewed articles in English for my critical analysis. I reviewed the abstracts of 75 articles on EAP that my initial search produced but excluded 59 that did not satisfactorily address the three core concepts.

I considered 16 peer-reviewed articles for full-text review. Using the references in these 16 articles, I searched for specific literature through Google Scholar and contacted some of the researchers directly. This resulted in 35 peer-reviewed articles for full-text review. Petticrew and Roberts (2006) affirmed that, in a systematic review of the literature,

> the stopping point may be approaching when the search has covered all the most relevant databases and bibliographies, and when further searches of databases and scanning of bibliographies of review papers do not add to the tally of included studies. (p. 118)

Using these criteria, I determined that I had reached the saturation point in my literature search.

Upon reviewing the full text of the 35 articles, I formalised more intensive exclusion criteria to refine my analysis further. I excluded research that was not limited to children and

adolescents who had experienced IT, as well as research that did not involve certified mental health professionals in the intervention. My core selection omitted studies in which the researchers had used group EAP in the intervention. To determine what differentiates group EAP from EAP delivered to a group of participants, I assessed the interactional focus of the intervention in each article. Yalom and Leszcz (2005) explained that the underlying assumption in their book *The Theory and Practice of Group Psychotherapy* is that a "truly potent therapy group first provides an arena in which clients can interact freely with others; . . . the interactional focus is the engine of group therapy" (pp. xv-xvi) to differentiate whether or not the researchers used a group EAP approach. Because of these exclusion criteria, I considered 21 articles as grey literature and included 10 core articles, three quantitative and seven qualitative, on EAP for children and adolescents impacted by IT. Table 1 displays the 10 core articles that I analysed with regard to how EAP promotes resilience in children and adolescents impacted by IT.

Table 1

Core Articles Reviewed

Authors	Date	Title	Journal	Location	Type
Schultz, P. N., Remick-Barlow, G. A., & Robbins, L.	2007	Equine assisted psychotherapy: A mental health promotion/intervention modality for children who have experienced intra-family violence	*Health and Social Care in the Community*	USA	Quantitative exploratory
Mueller, M. K., & McCullough, L.	2017	Effects of equine-facilitated psychotherapy on post-traumatic stress symptoms in youth.	*Journal of Child and Family Studies*	USA	Quantitative quasiexperimental
McCullough, L., Risley-Curtiss, C., & Rorke, J.	2015	Equine facilitated psychotherapy: A pilot study of effect on posttraumatic stress symptoms in maltreated youth.	*Journal of Infant, Child, and Adolescent Psychotherapy*	USA	Quantitative pilot study preexperimental
Tuuvas, M., Carlsson, J., & Norberg, J.	2017	A healing relationship: Clients' experiences of the long-term relational significance of the horse in horse assisted psychotherapy	*European Journal of Psychotherapy & Counselling*	SWE	Qualitative phenomenological

(table continues)

Authors	Date	Title	Journal	Location	Type
Lac, V.	2017	Amy's story: An existential-integrative equine-facilitated psychotherapy approach to anorexia nervosa	*The Journal of Humanistic Psychology*	USA	Qualitative intrinsic case study
Lac, V.	2016	Horsing around: Gestalt equine psychotherapy as humanistic play therapy	*Journal of Humanistic Psychology*	USA	Qualitative intrinsic case study
Burgon, H. L.	2011	'Queen of the world': Experiences of 'at-risk' young people participating in equine-assisted learning/therapy	*Journal of Social Work Practice*	UK	Qualitative ethnographic
Craig, E. A.	2020	Equine-assisted psychotherapy among adolescents with ACE's: Cultivating altercentrism, expressiveness, communication composure, and interaction management	*Child and Adolescent Social Work Journal*	USA	Qualitative case study
Craig, E. A., Nieforth, L., & Rosenfeld, C.	2020	Communicating resilience among adolescents with adverse childhood experiences (ACEs) through equine assisted psychotherapy (EAP)	*Western Journal of Communicatio n*	USA	Qualitative grounded theory
Koerick Sauer, A. N., & Gill, C. S.	2020	Treating disruptive mood dysregulation disorder: An integrated Adlerian and equine therapy approach	*The Journal of Individual Psychology*	USA	Qualitative intrinsic case study

Data-Analysis Procedures

The first phase of data analysis begins early through the process of data collection (Merriam & Tisdell, 2016). Throughout, the intensive process of selecting studies for analysis, I was consistently analyzing and interpreting the available research and reframing the parameters of my research in response to the available literature. This analytic process that began in the collection phase both influenced and was influenced by the literature selected.

The second analytic phase occurs "once all of the data have been collected to enable intensive analysis" (Merriam & Tisdell, 2016, p. 196). During this phase I used open coding, to identify categories and themes that emerged through the literature describing the benefits of EAP in children and adolescents impacted by IT within each findings/results sections of the literature. Using different colors to highlight different themes evident in the research including "improved

symptoms," "relationship," "integration," "regulation," "insight/awareness," "empathy," "attunement," "safety/security," "acceptance," "attunement," "growth," "mastery," "social functioning/behavior" and "resilience." Once this process was complete, I then transferred the codes, categories and data from the literature into one document. This began the process of analytic coding, where I looked to narrow the categories and codes into more specific groups according to themes (Chun Tie, 2019).

Through the process of analytic coding, I attempted to forge conceptual links between the data and the abstract concepts that underlie development and resilience. This theoretical phase of analysis is described as the process of "discovering or manipulating abstract categories and the relationships among those categories" (LeCompte & Preissle, 1993, as cited in Merriam & Tisdell, 2016, p. 216). Because thematic analysis "seeks to explain a large number of phenomena and tell how they are related" (Merriam & Tisdell, 2016, p. 220), this process of data analysis fulfilled the objective of this inquiry to identify how EAP promotes resilience in children and adolescents impacted by IT

Critical Analysis of Quantitative Studies

I included three quantitative studies in the core articles informing my research (McCullough et al., 2015; Mueller & McCullough, 2017; Schultz et al., 2007).

Research Paradigms

All of the quantitative studies aligned with a postpositivist philosophy. Postpositivism is a philosophical approach to knowledge in which researchers assume the inability to assert with certainty claims about knowledge when they examine the behaviours and actions of humans (Creswell & Creswell, 2018). This worldview is based on reductionist, deterministic, and empiricist philosophical assumptions (Creswell & Creswell, 2018).

Reductionists assume that they can reduce ideas into fragments that they can test (Creswell & Creswell, 2018). The reductionist philosophical underpinnings was represented in McCullough et al. (2015), Mueller and McCullough (2015), and Schultz et al. (2007) as they reduced concepts of growth and recovery into variables that could be tested. For example, Schultz et al. described impaired biopsychosocial functioning by using the Children's Global Assessment of Functioning (CGAF) scale. Mueller and McCullough as well as McCullough et al. used the Children's Revised Impact of Event Scale (CRIES-13) to measure biopsychosocial impairment. Mueller and McCullough (2017) and McCullough et al.(2015) also used the Human Animal Bonds Scale (HABS) to reflect the construct of attachment to horses.

Determinists assume that causes determine outcomes (Creswell & Creswell, 2018). Therefore, researchers who have a deterministic worldview examine relationships between and among variables to answer their research questions. Schultz et al. (2007) looked for associations between EAP and improved biopsychosocial functioning in children and adolescents impacted by IT which indicates a deterministic worldview. McCullough et al. (2015) and Mueller and McCullough (2017) assumed that EAP is the cause of changes in the biopsychosocial functioning of children and adolescents impacted by IT. In determining whether the variables in their studies revealed cause and effect, Mueller and McCullough and McCullough et al. demonstrated their alignment with determinism.

According to empiricism, we discover knowledge through experience (Psillos & Curd, 2010), which means that there is no absolute truth because "knowledge is tentative and probabilistic, subject to continued revision and falsification" (Shelley, 2006, as cited in Wikipedia, 2021, para. 4). Therefore, "the process of making claims and then refining or abandoning some of them for other claims more strongly warranted" (Creswell & Creswell,

2018, p. 7). guides empirical research. To inform their studies, Schultz et al. (2007), Mueller and McCullough (2017), and McCullough et al. (2015) used previous research and knowledge of EAP and made claims that generated knowledge relevant to their research topics and presented gaps in their research that required further investigation to generate more clarity in their fields. In these ways the empiricist assumption that knowledge is subject to revisions and falsifications was reflected in the quantitative research (Shelley, 2006, as cited in Wikipedia, 2021).

Research Designs

In reviewing the research of EAP for children and adolescents impacted by IT I found that there is a lack of pure experimental research to substantiate EAP's efficacy with this population. Schultz et al. (2007) used an exploratory quantitative design, which researchers commonly use when they know little about a phenomenon (Creswell & Creswell, 2018) to discover potential associations between EAP and improvements in biopsychosocial functioning for children and adolescents. Adopting a longitudinal survey design Schultz et al. analysed their data to identify the many statistical effects of EAP on children and adolescents with various *DSM-IV* diagnoses (American Psychiatric Association, 2006). As a result, Schultz et al. (2007) were some of the first researchers who quantitatively discovered a correlation between EAP and successful therapeutic outcomes for children and adolescents impacted by IT.

Preexperimental designs enable investigators to study a single group and implement an intervention during the experiment, but they do "not have a control group to compare with the experimental group" (Creswell & Creswell, 2018, p. 166). In their pilot study, McCullough et al. (2015) used a repeated measures single group design to find evidence for EAP as an effective psychotherapy that improves PTSD symptoms for adolescents with maltreatment histories.

McCullough et al. also looked for a possible correlation between improvements in PTSD symptoms and changes in the perceived bond with the horse in EAP.

Mueller and McCullough (2017) conducted a follow-up study to McCullough et al.'s (2015) pilot study and included a matched control group in their research. However, they used a quasiexperimental design because they only partially randomly assigned the participants to groups (Creswell & Creswell, 2018). Mueller and McCullough manipulated the treatment as the independent variable. The treatment group attended 10 weekly EAP sessions, and the control group continued to attend weekly trauma-focused cognitive behavioural therapy (TF-CBT) sessions. The participants in both groups completed the instrument to assess their PTSD symptoms before the EAP intervention, midstudy (5 weeks), and posttest (week 10). Mueller and McCullough also surveyed the treatment group for a potential association between improvements in PTSD symptoms and a perceived bond with the horse.

More rigorous methodological designs are necessary to calculate EAP's effectiveness with children and adolescents impacted by IT. Mueller & McCullough's (2017) research was the only research that secured a matched control group who received trauma-focused cognitive behavioral therapy (TF-CBT). However, a quasi-experimental design was implemented because the experimental group transferred from TF-CBT to the EAP intervention and the researchers were unable to randomly assign participants to control and experiment groups. They explain that scheduling and transportation logistics "prevented complete random assignment" (Mueller & McCullough, 2017, p. 1167). This approach fails to appreciate that "anything new is potentially threatening" (van der Kolk, 2005, p. 405) for youth impacted by IT, and may have affected the outcomes for children and adolescents in the EAP treatment group of this study; particularly

since the EAP treatment was relatively brief, the adolescents may not have been provided with the time necessary to adjust to EAP.

There is room to improve the designs used to assess EAP outcomes for children and adolescents impacted by IT. The lack of pure experimental research to substantiate the efficacy of EAP is a current gap in the EAP evidence base (Anestis et al., 2014). However, this phenomenon is "commonly seen in a field of research in its infancy" (Lee et al., 2016, p. 228), and the limitations apparent in these designs are valuable for informing future research in this field. Future quantitative research could adopt designs that use longer term EAP interventions as 8-10 week designs may not allow children and adolescents impacted by IT the necessary time to maximally benefit from the novel therapeutic experience of EAP.

Roles of the Researchers

The primary investigators of the five quantitative studies were from various backgrounds. At the time of their research, Schultz (Schultz et al., 2007) was a registered nurse. Mueller (Mueller & McCullough, 2017) was a developmental scientist who focused on human-animal dynamics. McCullough (McCullough et al., 2015) was an experienced clinical social worker and EAP practitioner who worked with juvenile offenders and at-risk and abused youth. Despite their different backgrounds, these three researchers were knowledgeable about child and adolescent development. Because of their experience and knowledge, they established potential beneficial therapeutic outcomes of EAP for children and adolescents impacted by IT.

Quantitative researchers have minimal involvement in their studies but must design and interpret their data with deep insights (Citadel, 2017). Their backgrounds inevitably inform their insights into the data. As a registered nurse, Schultz determined that Schultz et al.'s (2007) findings significantly promote mental health and the development of early intervention policies.

This interpretation follows health-science research in which researchers prioritise prevention science and promote health equity (Columbia School of Nursing, 2017). McCullough, a clinical social worker and ab EAP practitioner, translated McCullough et al.'s (2015) data into theoretical and practical implications. As a result of her previous expertise in human-animal dynamics, Mueller (Mueller & McCullough, 2017) prioritised the human-animal bond in her interpretation of the data.

Participants

In total, the three quantitative studies on the use of EAP with children and adolescents impacted by IT included 114 children and adolescents impacted by IT (Schultz et al., 2007; McCullough et al., 2015; Mueller & McCullough, 2017).

Age. The studies on EAP included 31 child and 83 adolescent participants whom interpersonally traumatic experiences impacted diversely. Schultz et al.'s (2007) child and adolescent participants ranged from 4 to 16 years old; they had various *DSM-IV* diagnoses and had experienced intrafamily violence. They were similar to those in other studies in which the researchers found that children and adolescents affected by intrafamilial trauma demonstrate various *DSM* diagnoses of a multitude of biopsychosocial symptoms (Praver et al., 2000, as cited in D'Andrea et al., 2012). McCullough et al. (2015) and Mueller and McCullough (2017) examined the outcomes of EAP in adolescent participants who were 10 to 18 years old and had PTSD symptoms associated with IT.

In their exploratory investigation, Schultz et al. (2007) included participants with various biopsychosocial impairments to explore the differential outcomes across various developmental stages. Though the participants in the other two studies (McCullough et al., 2015; Mueller & McCullough, 2017) met the criteria for adolescents according to the APA (2020a) definition,

they might have been in different developmental stages because they fell into both the lower and the upper ranges of the APA's definition. Analyses of differential outcomes for children and adolescents are relevant in research that includes them because the evidence base varies for children and adolescents at different developmental stages (Allen, 2011; Leve & Gullickson, 1995). The developmental stage profoundly impacts the therapeutic experience (Nelson et al., 2005; Perry, 2009). Explorations of the efficacy of EAP with children and adolescents in various developmental stages contribute evidence of its efficacy in treating different populations.

Gender. The gender representation across these studies was, 77% male, and 23% female. This disparity in gender representation is typical of most child-psychotherapy research (Bratton et al., 2005, as cited in Trotter et al., 2008) and can be attributed to the increased likelihood that females will internalise their distress (Oldehinkel et al., 2004). Because children are often referred to therapy only when their behaviours are significant and distressing to the adults in their lives (Kazdin, 2003) and males are more likely than females to exhibit externalising symptoms (Oldehinkel et al., 2004), this might indicate that females do not receive treatment when necessary. Furthermore, the paucity of research in the area of gender and child and adolescent psychotherapy for trauma is largely problematic because empirical evidence has suggested that gender moderates the effectiveness of trauma treatment (Craig & Sprang, 2014; Kazdin & Nock, 2003); therefore, there is a need to develop "novel interventions, or the adaptation of current treatment protocols to account for variations in gender-specific differences" (Craig & Sprang, 2014, p. 930).

Ethnicity. Schultz et al. (2007) and McCullough et al. (2015) included different ethnicities in their studies: Caucasian and Hispanic (McCullough et al., 2015; Schultz et al., 2007), Black (Schultz et al., 2007), and African American and Native American (McCullough

et al., 2015). However, Mueller and McCullough (2017) did not identify the ethnicity of their participants.

Research has shown the neurobiological effects of childhood and adolescent. IT is universal (Cohen et al., 2016). Yet children and families from ethnic and racial minority groups encounter barriers, including limited access to therapeutic services and the insensitivity of the majority culture with regard to the effects of racism and poverty on their experience of traumatic events (APA Presidential Task Force on Posttraumatic Stress Disorder and Trauma in Children & Adolescents, 2009). Ethnicity and culture are also implicated in the therapeutic milieu and can influence the response to therapeutic interventions (Lalor & McElvaney, 2010, as cited in Signal et al., 2013). Clinicians often find it difficult to engage appropriately with ethnic minorities because of their lack of cultural knowledge, norms, customs, and language (Signal et al., 2013). Therapeutic approaches that are monoculturally biased might also be unsuitable for children and adolescents from specific ethnic backgrounds (Kemp et al., 2014). The lack of attention to appropriate and effective therapeutic interventions for different ethnicities is a factor in the limitations that result from the ethnic/racial disparities in the rate of engagement in treatment that the literature on childhood traumatic stress identified (Fraynt et al., 2014). Despite the foundational implications of ethnicity in the therapeutic process, Cohen et al. (2001) noted that few researchers of outcome studies have considered the acceptability of treatment approaches for different ethnicities or the differential effects of treatment across different ethnicities. These studies represented diverse ethnicities, which contributed to the knowledge on the impact of IT and appropriate psychotherapeutic approaches to treat ethnically diverse children and adolescents.

Socioeconomic Status. None of the quantitative researchers described the socioeconomic status of their participants. However, socioeconomic considerations were factors in the research designs of the studies on EAP treatment (McCullough et al., 2015; Mueller & McCullough, 2017). Access to EAP for many children and adolescents impacted by IT who depend on their caregivers for transportation (Kazdin, 2003) is often a barrier to treatment and research in this field (McCullough et al., 2015; Mueller & McCullough, 2017; Naste et al., 2018; Schultz et al., 2007). Schultz et al. (2007) also advocated for the promotion of EAP for children and adolescents impacted by IT as a mental-health initiative funded by government services.

IT afflicts children and adolescents of all ages, classes, races, and ethnicities (United Nations, 2021). However, children and adolescents from low socioeconomic backgrounds risk becoming victims of IT (Drake & Jonson-Reid, 2014; Eckenrode et al., 2014) and have an increased risk of revictimisation and secondary trauma (Dugal et al., 2016). Moreover, therapeutic interventions for these children and adolescents are underdeveloped and substandard with regard to addressing their clinical needs (Cook et al., 2005; Dugal et al., 2016; Kemp et al., 2014). The research that I reviewed addressed this gap and supported the need for equitable access to mental-health interventions for children and adolescents whom IT has impacted and who live in poverty.

Sampling

Convenience sampling is a nonprobability or nonrandom sampling method in which researchers select participants who meet specific practical criteria (Farrokhi & Mahmoudi-Hamidabad, 2012). McCullough et al. (2015), Schultz et al. (2007), and Mueller and McCullough (2017) used convenience sampling to select participants from EAP providers and treatment centres. Recruiting children and adolescents impacted by IT can be challenging

because these vulnerable individuals often depend on their caregivers to participate in treatment.

Therefore, convenience sampling in research with children and adolescents impacted by IT

might be the most effective to recruit this hard-to-reach population. Convenience sampling has

the primary disadvantage that it automatically violates the assumption inherent in the use of

inferential statistics that researchers have randomly selected their sample from a specific

population (Paik & Shahani-Denning, 2017). Convenience sampling can result in the over- or

underrepresentation of cohorts of people and therefore might not accurately represent the entire

population (Paik & Shahani-Denning, 2017). As a result, "the findings based on the sample may

be fundamentally different from theoretical results from the population" (Paik & Shahani-

Denning, 2017, para. 6).

Recruitment

The researchers recruited participants from EAP programs in the United States. Schultz et

al. (2007) recruited participants from EAP program in Las Cruces, New Mexico. Mueller and

McCullough (2017) recruited participants from a residential mental-health centre in New

Hampshire and an outpatient behavioural healthcare facility in Kansas. McCullough et al.'s

(2015) participants were recruited from an EAP program located northwest of San Antonio,

Texas. These researchers recruited from both rural and urban EAP treatment centres across the

United States. The participants in the quantitative research were from the United States.

Schultz et al. (2007) included all children and adolescents with various diagnoses who

had been referred to a specific EAP practitioner for 18 months. McCullough et al.'s (2015)

participants had been referred to EAP with a minimal score of 12 on the CRIES-13 baseline

measurement, which indicated impaired functioning because of PTSD symptoms. Similarly,

Mueller and McCullough's (2017) participants, who were between the ages of 10 and 18 years,

identified a need for mental-health treatment to recover from trauma and a had baseline score of 12 or higher on the CRIES-13 scale. Schultz et al., McCullough et al., and Mueller and McCullough guardians' consent and participants' assent to participate.

Schultz et al. (2007) screened their participants for suitability for the EAP treatment and excluded none of them, but they excluded data from 14 participants who did not attend six or more EAP sessions. McCullough et al. (2015) excluded the data of one participant who dropped out after two EAP sessions. Mueller and McCullough (2017) excluded one participant after the study began because of an unknown allergy to horses. They also excluded the data from 12 other participants because the data that they collected were incomplete or they did not complete the data over three treatment sessions.

Data Collection

The researchers collected numeric data to add to their knowledge of EAP for children and adolescents impacted by IT. *Reliability* and *validity* of the data are important constructs toward accomplishing methodological rigor in quantitative research (Creswell & Creswell, 2018). *Reliability* is a measure of whether the scores on items of an instrument are consistent and stable across the items: "High quality tests are important to evaluate the reliability of data supplied in an examination or a research study" (Tavakol & Dennick, 2011, p. 55). Researchers commonly employ Cronbach's alpha, an index of the test reliability.

Schultz et al. (2007) administered the CGAF to evaluate the effect of EAP on the overall functioning of their participants. The reliability score of the CGAF ranges from fair to substantial (Cronbach's alpha = .062-0.82); the variability depends on the raters' training and the diagnostic groups whom they are evaluating (Schorre & Vankvik, 2004, as cited in Schultz et al., 2007). Mueller and McCullough (2017) and McCullough et al. (2015) used the CRIES-13 to determine

the effect of EAP on chronically maltreated children and adolescents who had experienced

clinically significant posttraumatic-stress symptomatology. The CRIES-13 scale has a

Cronbach's alpha of 0.80 (Perrin et al., 2005). Mueller and McCullough (2017) and McCullough

et al. (2015) also used the HABS to determine whether a perceived bond with the horse was

related to the therapeutic outcomes; the HABS scale has a Cronbach's alpha of 0.92 (Mueller &

McCullough, 2017), which indicates excellent reliability. The Cronbach's alpha scores for all of

the numerical-data measurements that these researchers used ranged from adequate to excellent,

which indicates that the underlying constructs that they measured intercorrelate (Creswell &

Creswell, 2018).

In quantitative research *validity* refers to the extent to which researchers can make

meaningful and useful inferences from their data. In Mueller and McCullough's (2017) and

McCullough et al.'s (2015) studies, a trained research assistant administered the questionnaires

and increased the validity of their findings by ensuring that the researchers remained blind to the

data. The validity of Schultz et al.'s (2007) data did not account for this threat to the validity of

their testing procedures because the therapist and a co-researcher delivered the CGAF instrument

to the participants every three months. The conflict of interest might have affected the

participants' outcome scores and therefore the credibility of the data, even if only indirectly

(Creswell & Poth, 2018).

Generalisability in quantitative research refers to the external validity of the results of a

study (Merriam & Tisdell, 2016). The small sample sizes in the quantitative research to date,

minimizes the generalisability of EAP research for children and adolescents impacted by IT.

Additional limitations to the generalizability of the quantitative research are related to the

participants included in the research. Because these studies recruited participants only from the

United States, the generalisability of the findings from the quantitative inquiries of EAP for children and adolescents impacted by IT beyond the United States is limited. There was also an over-representation of males to females in the quantitative research for EAP with children and adolescents impacted by IT, therefore the generalisability to the results from these quantitative studies is compromised as it relates to female children and adolescents impacted by IT. Across the three studies, only four children under 8 years old were included in the research (Schultz et al., 2007), as a result of the small sample of young children impacted by IT generalisability of the findings as they pertain to children and adolescents impacted by IT is limited.

Construct validity is another component of valid data in quantitative research and is fulfilled "when researchers use adequate definitions and measures of variables" (Creswell & Creswell, 2018, p. 247). Unfortunately, empirically valid psychometric measures that capture the entire posttraumatic symptomatology of children and adolescents impacted by IT have only recently developed (D'Andrea et al., 2012; Naste et al., 2018). Mueller and McCullough (2017) and McCullough et al.(2015) used the CRIES-13 to evaluate therapeutic outcomes. Because it assesses PTSD symptoms that correspond with those in the *DSM-IV* (Mueller & McCullough, 2017), the construct validity of these studies might have been compromised, because "fewer than a quarter of children in treatment for trauma-related psychopathology with the NCTSN meet criteria for PTSD" (Pynoos et al., as cited in D'Andrea et al., 2012, p. 188). Likewise, Schultz et al. (2007) used only one outcome measure to evaluate the efficacy of EAP, though this instrument measures multiple domains of functioning. More recently, researchers at the NCTSN formulated the Client Assessment Tracking System, "a comprehensive battery of reliable, well validated, trauma informed psychometric instruments" (Naste et al., 2018, p. 294) for use with children and adolescents impacted by IT. The Client Assessment Tracking System assesses the

broad array of biopsychosocial impairment associated with experiences of IT. Though this measurement might not have been available to these researchers at the time of their studies, other researchers who examined the EAP outcomes for children and adolescents impacted by IT incorporated more than one outcome measurement to evaluate the outcomes more comprehensively and accurately (Kemp et al., 2014). Future research for EAP with children and adolescents impacted by IT would improve the methodological rigor of their studies by including various measurements that more comprehensively assesses the diverse biopsychosocial impairments attributed to IT (Grasso et al., 2016; Kisiel et al., 2014; Naste et al., 2018). This could potentially facilitate a more meaningful and useful understanding of the impact of IT during childhood and adolescence from their data.

Data Analysis

In their quantitative studies, Mueller and McCullough (2017) and Schultz et al. (2007) used parametric tests to analyse their data. Mueller and McCullough's were the only researchers who included a control group to compare treatment outcomes and applied repeated-measures ANOVA to make within-group and between-group comparisons of the effect of treatment on changes in the CRIES-13 scores. Mueller and McCullough used Pearson's correlation tests to associate the changes in the CRIES-13 and HABS scores. Schultz et al. used univariate ANOVA tests to detect differential EAP outcomes based on the CGAF scores across the age groups, t-tests to detect the differential effects of EAP across the different types of intrafamily violence, multivariate ANOVA tests to determine whether EAP had a different effect across gender and ethnicity, and Pearson's correlation tests to evaluate the potential relationship between the number of EAP sessions attended and improvements in the CGAF scores.

McCullough et al. (2015) did not use parametric tests to analyse their data because of the small size of their sample. Instead, they used nonparametric sign tests to analyse the differences in the CRIES-13 and HABS scores in the data that they collected before the intervention, at the midpoint of the study, and after treatment. Their use of Spearman's Rho correlation coefficient analysis determined a relationship between the CRIES-13 and HABS scores.

The lack of adequate statistical power in experimental data threatens the statistical conclusion validity (Creswell & Creswell, 2018). The small sample sizes in some of the research (Mueller & McCullough, 2017) could have affected the validity of the research (Creswell & Creswell, 2018). Another limitation of Schultz et al.'s (2007) research is that they grouped the data from their participants according to their age. However, the number of participants in each group was not equal, and the groups were relatively small for effective data analysis (<8, n = 4; 8-12, n = 27; >12, n = 18); therefore, it is important to consider the researchers' conclusions from their comparisons of the between-age group with caution. Furthermore, Schultz et al. admitted that they biased their data by selectively including the data from participants who attended more than five EAP sessions. This resulted in their omission of 22% of their total data for the EAP analysis. Of the data from all of the EAP studies, the data that McCullough et al. (2015) analysed is possibly the most empirically sound because of the parametric procedures that they used and the adequate sample size included in the research.

Critical Analysis of Qualitative Studies

Qualitative researchers collect data from the natural environments in which the problems that they are studying are located, and they use both inductive and deductive analyses to discover patterns and themes to make meaning of the phenomena (Creswell & Poth, 2018). Qualitative research is situated in a matrix of philosophical beliefs (methodology, epistemology, ontology,

and axiology) and interpretive frameworks (Creswell & Poth, 2018). Therefore, qualitative

researchers "have a baffling number of choices of approaches" (p. 8) to inform their designs. My

review includes seven qualitative studies.

Research Paradigms

"Paradigms are a basic set of beliefs that guide action" (Guba, 1990, as cited in Creswell

& Poth, 2018, p. 18). In qualitative research, ontology, epistemology, methodology, and axiology

are the four principle philosophical worldviews that direct researchers' inquiries (Creswell &

Poth, 2018). The qualitative studies were ontologically or epistemologically oriented.

Ontology. Ontology is an examination of "the nature of being, of becoming, of existence,

of becoming a reality" (A. Yesufu, personal communication, [August, 17], 2021). In qualitative

research, ontological paradigms enable different perspectives and multiple forms of evidence to

gain insight into the nature of reality. Craig (2020) ontologically oriented their instrumental case

study by beginning the inquiry with "broadly asking 'what's going on here?'" (para. 23). Craig

described the changed communication processes that result from EAP for adolescent females

with ACEs. Instrumental case-study research focuses "on a specific issue rather than on the case

itself" (Creswell & Poth, 2018, p. 322). The case therefore becomes the instrument that enables

researchers to understand the issue better. The depth of insight that instrumental case-study

research facilitates contributes valuable information to theory development and refinement

(Bhatta, 2018).

Craig et al. (2020) also assumed on ontological worldview in their grounded-theory

research that expanded on Craig's (2020) instrumental case study to develop a substantive-level

theory. The intent with grounded-theory research is to move beyond in-depth description and

discover a "unified theoretical explanation" (Corbin & Strauss, 2007, as cited in Creswell &

Poth, 2018, p. 82) for a process. Its key characteristic is that the theory is grounded in data from participants who have experienced the process. Craig et al. developed a theory to explain the process of resilience as "communicatively constructed among young women with adverse childhood experiences" (p. 4) through EAP.

Similarly, ontology guided Tuuvas et al.'s (2017) phenomenological research because they sought an understanding of the core relational experiences of clients in EAP with a horse and the therapeutic essence of that relationship. Tuuvas et al. relied on three researchers' interpretations and interviews with five participants to understand multiple perspectives and views of reality in their process of discovery. Phenomenological researchers describe the common meaning of a lived experience (Creswell & Poth, 2018) and dissect individual experiences of the phenomenon to discover its universal essence. Tuuvas et al. adopted a phenomenological approach to discover "how former clients experienced the horse" (p. 5) as adolescents in a residential EAP treatment centre. The relationship with the horse was the phenomenon under examination.

Epistemology. Using epistemological paradigms, researchers assume that people's subjective experiences and multiple perspectives reveal knowledge (Creswell & Poth, 2018). Epistemologically oriented researchers get as close to their participants' experiences as possible to understand what they say while they reflectively consider their own relationship with the topic of their research (Creswell & Poth, 2018). Burgon's (2011) ethnographic research was grounded in epistemology, as the ethnographic researcher "describes and interprets the shared and learned patterns of values, behaviours, beliefs, and language of a culture-sharing group" (Harris, 1968, as cited in Creswell & Poth, 2018, p. 90). Burgon (2011) took an ethnographic approach to "give voice to the participants" (p. 170) and enable them to describe their collective experiences at a

specific EAP treatment centre. Additionally, epistemological philosophy was evident in Burgon's research as she assumed the role of practitioner-researcher and effectively minimised the "objective-separateness" (Guba & Lincoln, 1988, as cited in Creswell & Poth, 2018, p. 21) between herself and those she was researching.

The three intrinsic case studies in this research (Koerick Sauer & Gill, 2020; Lac, 2016, 2017) were also epistemological because the researchers were motivated to discover meaning and understanding (Harrison et al., 2017). "The role of the researcher in producing this knowledge is critical; . . . the researcher's interpretive role [is] essential" (Harrison et al., 2017, para. 25). Researchers gain multiple views of reality through the perspective that knowledge is relative to the time and context of the study (Harrison et al., 2017). Lac (2016, 2017) and Koerick Sauer and Gill (2020) interpreted the reality of their cases while they took into account the integrated systems in which the cases were situated (Harrison et al., 2017). In intrinsic case studies researchers focus on "the case itself . . . because the case presented an unusual or unique situation" (Creswell & Poth, 2018, p. 99). Lac and Koerick Sauer and Gill conducted intrinsic case study research to demonstrate the theoretical frameworks in EAP in three unique cases with historically poor therapeutic outcomes.

Roles of the Researchers

Except for Craig (Craig, 2020; Craig et al., 2020), a professor in the Department of Communication at North Carolina State University who had had some experience with horses, the primary EAP investigators were experienced and actively practicing EAP at the time of their research. To become more knowledgeable about the research, the participants, and the EAP processes, Craig engaged in observation and informal conversations at the research setting for over 60 hours before developing individual interview questions. Craig et al. (2020) conducted

their grounded-theory research in collaboration with Nieforth, a PhD candidate in the Center for Human Animal Bond at Purdue University, and Rosenfeld, a PhD student in Communication Rhetoric at North Carolina State University.

Tuuvas (Tuuvas et al., 2017) was a certified psychotherapist with many years of experience with EAP. She had worked at the EAP treatment centre that her participants attended and met them there 15 years before her research. However, she was not involved in their treatment. Unlike Tuuvas, Burgon (2011), Koerick Sauer and Gill (2020); and Lac, 2016, 2017) were researcher-practitioners who were more intimately positioned in their research. A potential disadvantage of taking on the dual responsibility of researcher-practitioner is that research can impose upon practice and vice versa (Burgon, 2011). However, a potential advantage of this dual role is that researchers are able to establish rapport with their participants (Burgon, 2011). Rapport is an important consideration in research with children and adolescents impacted by IT. The neurobiological aftermath of IT can leave some of them with a decreased capacity to trust and an increased fear response in the context of social relationships (Parish-Plass, 2008). Therefore, rapport in research with children and adolescents impacted by IT can be advantageous, and researchers can be more sensitive to their socioemotional vulnerabilities.

Contemporary qualitative researchers recognise that subjectivities and biases exist in all research (Creswell & Poth, 2018; Merriam & Tisdell, 2016); rather than trying to eliminate their biases, they identify them and clarify "how they might be shaping the collection and interpretation of the data" (Merriam & Tisdell, 2016, p. 16). Researchers must reflect on their own positions and interests and how they affect and permeate every aspect of their research (Creswell & Poth, 2018). Through their reflexivity and deep understanding of EAP, Lac (2016, 2017), Burgon (2011), Koerick Sauer (Koerick Sauer & Gill, 2020), Craig (Craig, 2020; Craig

et al., 2020), and Tuuvas (Tuuvas et al., 2017), gained a profound understanding of the influence of EAP on the lives of children and adolescents impacted by IT.

Participants

Because qualitative research occurs in the natural environment, the number of participants can be numerous. Furthermore, with an EAP ethos, therapists consider horses equal partners in the therapeutic process. Therefore, nearly all of the qualitative researchers recognised horses as participants in the research process (Burgon, 2011; Craig, 2020; Craig et al., 2020; Lac, 2016, 2017). Though I appreciate this ecological considerations in EAP research, the focus of this research was the experiences of children and adolescents impacted by IT in EAP. Therefore, I narrowed my definition of *participants* to human participants involved in these studies. The qualitative research on EAP for children and adolescents impacted by IT included 38 participants: clients in EAP, staff at the EAP centres, and the researchers-practitioners.

Age. The participants in the qualitative research ranged from 5 years old to adults, though the researchers did not specify the ages of most of the adult participants (Burgon, 2011; Craig, 2020; Craig et al., 2020; Lac, 2016, 2017). Tuuvas et al.'s (2017) participants were adults (ages 31-37 years) who had participated in a residential EAP treatment facility as adolescents; at least 15 years had passed since they had left the treatment centre. Lac (2016) conducted an intrinsic case study of a 5-year-old girl. Otherwise, the researchers addressed EAP for adolescents impacted by IT. Unfortunately, the researchers who investigated EAP for children impacted by IT did not acknowledge the global recognition of the right of children to participate in matters that concern them (United Nations Human Rights Office of the High Commissioner, 1989), because the 79 participants in these qualitative inquiries included only one child; more children should be included in research on EAP for children.

Gender. Two studies in EAP included only three males (Burgon, 2011; Koerick Sauer & Gill, 2020) but 34 females. The literature that I reviewed is strongly biased toward EAP for females impacted by IT. However, it is not surprising that males' voices were not represented in the research because adolescent males are generally less likely than females to seek professional help for mental-health related concerns (Marotti et al., 2020). Nevertheless, the gender representation in the research does not indicate the prevalence of IT in children and adolescents across the genders (Price, 2012).

Researchers have indicated that males might respond differently from females to psychotherapy (Weisz et al., 1995). The results of research on the experiences of adolescent males in psychotherapy indicate that they might be more interested in therapy that emphasises practical strategies than those in which they explore their thoughts, emotions, and relationships (Marotti et al., 2020). Because of the potential implications for gender differences in psychotherapy, the underrepresentation of males in this research limits the transferability of the findings because only three males participated.

Socioeconomic Status. The socioeconomic status of the children and adolescents in the qualitative research varied. Some researchers conducted their studies through private practice, which could indicate that the families were in the mid to high socioeconomic brackets (Lac, 2016, 2017). Koerick Sauer and Gill (2020) stated that the client who participated in their study was from a middle-class urban family. Burgon's (2011) participants were from low socioeconomic environments, which she considered a barrier to their access to EAP treatment on a consistent and long-term basis. Craig (2020) and Craig et al. (2020) recruited their participants from a nonprofit EAP treatment facility. However, the participants transported themselves or arranged transport to the rural EAP treatment centre consistently over one year, which suggests

that they might have been of mid or low-mid socioeconomic status. Tuuvas et al. (2017) recruited their participants from a residential EAP treatment centre. However, they did not explain the funding for this centre; therefore, it is not possible to know the socioeconomic status of their participants.

Socioeconomic diversity was important in this research because it demonstrated that IT occurs across all socioeconomic classes (United Nations, 2021). Second, it is significant because the high costs associated with EAP are a current barrier to access to this mental-health service for children and adolescents of low socioeconomic backgrounds who can benefit from this form of nontraditional therapy (Bennett et al., 2020). This research can be valuable because it promotes equitable access to effective mental-health services for children and adolescents impacted by IT.

Sampling

"Sampling is the process of selecting or searching for situations, context, and participants who provide rich data of the phenomenon of interest" (Moser & Korstjens, 2018, p. 10). In qualitative research, researchers sample deliberately rather than randomly; this is also known as *nonprobability sampling* (Merriam & Tisdell, 2016; Moser & Korstjens, 2018). The different nonprobability sampling strategies that the researchers used include purposive, criterion, theoretical, and extreme-case sampling.

Purposive Sampling. Although purposive sample is the most commonly used strategy in qualitative research today, researchers rarely use the term consistently (Gentles et al., 2015). In my research I followed Moser and Korstjens' (2018) definition of purposive sampling: the "selection of participants based on the researchers' judgment about what potential participants will be most informative" (p. 10). This sampling method is common in ethnographic research and in the initial stage of grounded-theory research (Moser & Korstjens, 2018). Two studies used

purposive sampling here: Burgon (2011) used purposive sample in her ethnographic case study, and Craig (2020) used it in her instrumental case study. Burgon included seven participants to capture adolescents' experiences in an EAP program. Craig purposively selected participants from a single nonprofit EAP treatment program that services specifically "high-risk adolescent females" (Craig et al., 2020, p. 4) to examine the communication competencies in EAP for adolescent females with ACEs.

Theoretical Sampling. The theoretical-sampling strategy originated in grounded-theory research; Gentles et al. (2015) defined it as the

> process in which data gathering is guided by the evolving theory, and the aim is to develop categories in terms of their properties and dimensions and integrate those categories (i.e., relate them to each other within the theory being developed). (pp. 1779–1780)

Several researchers who used grounded theory asserted that theoretical sampling should demonstrate flexibly from multiple sources, including sampling data that researchers collected previously in other research projects (Creswell & Poth, 2018; Gentles et al., 2015). This theoretical sampling strategy was evident in Craig et al.'s (2020) grounded-research study, in which they sampled the data from Craig's (2020) research. This method enabled them to fulfill their objective of establishing a grounded theory to describe "how relationship building with humans and equines fosters resilience among adolescents with ACEs" (Craig et al., 2020, p. 1).

Criterion Sampling. Phenomenological researchers often use criterion sampling to select participants who meet predetermined criteria of importance (Moser & Korstjens, 2018). It is possible for phenomenological researchers' to meet their objectives when they include participants with similar experiences but different characteristics and experiences (Moser & Korstjens, 2018). In their phenomenological inquiry, Tuuvas et al. (2017) used this sampling

method to select participants who were former EAP clients and study their relationships with horses (the phenomena) several years after treatment.

Extreme-Case Sampling. The extreme-case sampling strategy involves a "purposeful selection of the most unusual cases" (Moser & Korstjens, 2018, p. 10). The three intrinsic case studies in this research (Koerick Sauer & Gill, 2020; Lac, 2016, 2017) maximised extreme-case sampling, which researchers use to appropriately select a participant's case because "it is interesting in itself [and] is instrumental in providing insight on an issue" (Stake, 2006, as cited in Harrison et al., 2017, p. 11). The researchers of these case studies therefore selected their participants to gain an in-depth understanding of the effectiveness of EAP uniquely for children and adolescents impacted by IT for whom other treatment approaches have been unsuccessful.

Recruitment

Koerick Sauer and Gill (2020) and Lac (2016, 2017) recruited 44 participants from their clinical work with them in the United States. They selected participants from EAP practices based on their exceptional clinical status and the unique effect of EAP on their lives.

Burgon (2011), Craig (2020), Craig et al. (2020), and Tuuvas et al. (2017) recruited participants from EAP treatment centres in the United Kingdom, the United States, and Sweden who had participated in EAP programming as clients, staff, or practitioners. The different countries were a strength of these qualitative studies because they facilitated a more comprehensive and global understanding of EAP for children and adolescents impacted by IT.

The qualitative studies varied in their inclusion criteria. Lac (2016, 2017) and Koerick Sauer and Gill (2020) selected participants who were extreme clinical cases. Craig (2020) and Craig et al. (2020) included only adolescent females (aged 13-17 years) who were diagnosed with mental-health conditions as a result of ACEs. They also limited the data from their

interviews with adults in the treatment setting to those with professional experience in EAP

treatment. Tuuvas et al. (2017) included participants who had experienced EAP at a specific

residential treatment centre. An additional requirement was at least 15 years since the completion

of their treatment. Burgon (2011) included participants who attended the EAP treatment program

during the two-year period in which conducted her study. Burgon, Tuuvas et al., Craig, and Craig

et al. all specified that participant assent and guardian consent were inclusion requirements for

participation in their study. Lac (2016, 2017) and Koerick Sauer and Gill did not specify whether

they obtained consent and assent before participation; however, they stated that they adhered to

strict professional codes of ethics and therefore likely obtained consent and assent research.

Data Collection

Qualitative "data collection is about asking, watching, and reviewing" (Merriam &

Tisdell, 2016, p. 105). Qualitative researchers determine the different techniques that they will

use and the information that they need to collect based on their theoretical orientation, the

research problem and purpose, and the participants whom they select (Merriam & Tisdell, 2016).

The most common method of collecting data in qualitative research is interviews

(Merriam & Tisdell, 2016). Except for Tuuvas et al. (2017), the researchers used observation as a

technique to collect data and wrote field notes as a source of their data. Lac (2016, 2017),

Koerick Sauer and Gill (2020), and Burgon (2011) wrote clinical case notes to collect data from

documents. In their intrinsic case study research, Koerick Sauer and Gill and Lac relied heavily

on clinical case notes as sources of data, which they evidenced in their detailed case descriptions.

The researchers collected information from multiple sources, including clients, EAP staff, and

certified mental-health practitioners, through interviews, observations, and documents.

Credibility. *Credibility* is the extent to which the research findings match reality (Merriam & Tisdell, 2016). Though researchers can never capture reality, qualitative researchers use specific strategies to increase the credibility of their findings. Triangulation incorporates several different sources, methods, investigators, and theories to validate the accuracy of the findings from qualitative research (Merriam & Tisdell, 2016). The majority of the researchers collected data from multiple sources (Burgon, 2011; Craig, 2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2016, 2017). The multiple contexts that intrinsic case study researchers consider also help to triangulate their data (Yazan, 2015). Therefore, rich descriptions of a case that detail diverse biopsychosocial considerations are necessary to ensure credible qualitative research (Yazan, 2015). Lac's (2016, 2017) and Koerick Sauer and Gill's (2020) detailed descriptions of the multiple contexts of their research were instrumental in ensuring the credibility of their data.

Another strength of qualitative data collection is evidence of adequate engagement, which means that the researchers spend sufficient time collecting data (Merriam & Tisdell, 2016). Except for Tuuvas et al. (2017), who collected data from each participant on only one occasion, the researchers were engaged in their data collection for extensive periods. One method of ensuring adequate engagement is member checking, which occurs when researchers tentatively interpret the data and present their interpretations to their participants to ensure that they are accurate and complete (Merriam & Tisdell, 2016). Other than the intrinsic case study researchers, Burgon (2011), Craig (2020), Craig et al. (2020), and Tuuvas et al. (2017) conducted member checks to ensure the accuracy of their data.

Data Analysis

In qualitative research data analysis and collection should be a simultaneous process. However, after the data collection, the analysis process becomes more intensive (Merriam & Tisdell, 2016). Flick (2014, as cited in Merriam & Tisdell, 2016) described this method of qualitative data analysis as "the classification and interpretation of linguistic or visual material to make statements about implicit and explicit dimensions and structures of meaning-making in the material and what is represented in it" (p. 195).To accomplish this, qualitative researchers use multiple strategies to extract and understand the information embedded in their data.

Open coding is often the first step in qualitative analysis, in which researchers look for relevant information in their data to answer their research questions (Merriam & Tisdell, 2016). Burgon (2011), Craig (2020), Craig et al. (2020), and Tuuvas et al. (2017) began their analytic processes by exploring the data for any information that they considered relevant to their research objective. Following the open-coding process, they used axial/analytic coding in their analyses to group categories into emerging themes by interpreting and reflecting on the meanings of the initial categories (Merriam & Tisdell, 2016). They conducted the open and axial coding processes in the data that they collected from each participant and across the data to ensure saturation. The researchers then conducted theoretical analyses to interpret the data inductively according to their individual theoretical biases and research positions.

The different qualitative designs also involved various analytic techniques, depending on the particular approach. In their phenomenological research, Tuuvas et al. (2017) explicitly identified their biases to distance themselves from their participants' information (Creswell & Poth, 2018). Craig et al. (2020) used a constant comparative analytic approach to triangulate the codes with possible theoretical frameworks and then returned to coding the data until a

substantive-level theory emerged (Chun Tie et al., 2019). Burgon (2011) utilised reflexivity, an approach that ethnographic researchers use to analyse "who has done the research and how . . . and what impact these might have on the value of the ethnography produced" (O'Reilly, 2021, para. 2).

Though the intrinsic case study researchers (Koerick Sauer & Gill, 2020; Lac, 2016, 2017) identified many analytic themes when they used other qualitative approaches, this type of research involves its own analytic concepts. As in other qualitative analyses, Stake (1995) emphasised the importance of the meaning-making process of data analysis. However, his interpretation was that "there is much art and much intuitive processing to the search for meaning" (p. 72). The analytic techniques that Stake used included categorical aggregation, direct interpretation, and naturalistic generalisations.

Categorical aggregation involves organising the data into consistent themes or categories based on their characteristics (Stake, 1995). The emergence of consistent patterns across multiple contexts is called *correspondence* (Stake, 1995). Categorical aggregation is similar to thematic analysis; however, according to Stake (1995), "Only rarely will important assertions result from surfing through the data" (p. 84), and coding is not a necessary process in data analysis. Lac (2016, 2017) and Koerick Sauer and Gill (2020) used categorical aggregation in their analytic process to identify themes that applied across multiple contexts in each case.

Researchers use direct interpretation when they become aware of and interpret a significant element of the case (Stake, 1995). "Sensitivity and skepticism" (Stake, 1995, p. 50) are necessary qualities of investigators. Lac (2016, 2017) and Koerick Sauer and Gill (2020) used direct interpretation as an analytical strategy to interpret and describe critical incidents.

Intrinsic case study researchers use naturalistic generalisations to synthesise their data and integrate the entire research process into a cohesive narrative (Stake, 1995). Naturalistic generalisations involve assertions and narrative descriptions (Stake, 1995). Researchers must decide the extent to which they will present their views in their research, which will enable the reader to make naturalistic generalisations about the research. "The amount of emphasis on either the assertions or the naturalistic generalisations is the researcher's choice" (West Burns, 2021, para. 4). The unique ways in which intrinsic case study researchers make naturalistic generalisations demonstrate the art of case-study research. Lac (2016, 2017) emphasised narrative descriptions over assertion; in contrast, Koerick Sauer and Gill's (2020) analysis was less narrative and much more interpretive.

Credibility. According to Merriam and Tisdell (2016), *credibility* in qualitative analysis is the consistency with which the findings reflect reality. In qualitative research, researchers also use triangulation to maximise the credibility of their data analyses, which occur when different investigators interpret the data and make different theoretical assumptions when they analyse the data (Merriam & Tisdell, 2016; Yazan, 2015). Craig et al. (2020), Tuuvas et al. (2017), and Koerick Sauer and Gill (2020) used investigator triangulation, which is evident because more than one researcher conducted the analytic process in each study. Lac's (2016) use of theoretical triangulation was evident in her analysis of the data from multiple theoretical perspectives.

Adequately engaging in the data analysis until saturation—when researchers cannot identify new information—increases the credibility of their research (Merriam & Tisdell, 2016). Craig (2020), Craig et al. (2020), Koerick Sauer and Gill (2020), and Tuuvas et al. (2017) demonstrated adequate engagement with their data when they reached saturation in their analyses. In the intrinsic case studies, Koerick Sauer and Gill and Lac (2016, 2017) detailed their

personal engagement and deep theoretical insights, which evidenced adequate engagement and increased the credibility of their research (Stake, 1995).

Another essential element of credible qualitative research that is evident in the researcher of Craig (2020), Craig et al. (2020), Koerick Sauer and Gill (2020), and Tuuvas et al. (2017) is reflexivity, which involves critical self-reflection and statements about personal biases, assumptions, theoretical orientations, and relationships to the research (Merriam & Tisdell, 2016). Reflexivity is implicit in intrinsic case study research, which is the most constructivist and interpretivist approach (Harrison et al., 2017). Lac (2016, 2017) and Koerick Sauer and Gill did not explicitly state or bracket their positions; however, their personal biases, assumptions, theoretical orientations, and relationship to the research were obvious in their analysis of the data.

Transferability. *Transferability* is the extent to which researchers can extrapolate their insights to other situations (Merriam & Tisdell, 2016). Rich and thick descriptions ensure transferability in qualitative research (Merriam & Tisdell, 2016). The audience can therefore determine whether the research findings apply to alternative contexts. The qualitative researchers used in-depth and contextual descriptions to potentiate the transferability of their research.

Maximum-variation sampling is the purposeful seeking of diversity, and varying the sample selection is another strategy to ensure the transferability of qualitative research (Merriam & Tisdell, 2016). Because Craig (2020), Craig et al. (2020), Lac (2016), Lac (2017), and Tuuvas et al. (2017) included only females in their research maximum-variation was not fulfilled.

Consistency. *Consistency* is a unique concept in qualitative research because researchers understand that other researchers can never replicate their fieldwork (Merriam & Tisdell, 2016). Instead, qualitative researchers ensure the consistency of their research by making interpretations

that make sense considering the methods that they have used (Creswell & Poth, 2018; Merriam & Tisdell, 2016). Audit trails, which are descriptions of the methods, procedures, and decision points in qualitative research, best demonstrate its consistency (Merriam & Tisdell, 2016). Burgon (2011), Craig (2020), Craig et al. (2020), and Tuuvas et al. (2017) used audit trails as a strategy to ensure the reliability of their research. Consistency in intrinsic case study research depends on researchers' ability to "spend the best analytic time on the best data" (Stake, 1995, p. 84) and present the case and the key issues, which Lac's (2016, 2017) and Koerick Sauer and Gill's (2020) research demonstrated.

Methodological Limitations

Over the past 15 years, research in the field of EAP with children and adolescents impacted by IT has grown and has generated support toward the biopsychosocial benefits children and adolescents impacted by IT experience through EAP. Nevertheless, analysing the methodologies used to research this subject has revealed methodological limitations that restricts our understanding of EAP with children and adolescents impacted by IT and the evidence-base for EAP as an effective treatment for children and adolescents impacted by IT. One such limitation is that there continues to be no pure experimental research that substantiates EAP with children and adolescents impacted by IT. Furthermore, this analysis found that the generalizability and transferability of the quantitative and qualitative research was limited through the disproportionate gender representation of the participants included across the studies; while the quantitative studies included primarily male participants, the qualitative research mostly included females.

Methodological Recommendations

To generate more support for EAP with children and adolescents impacted by IT, future research should address the current methodological limitations evident in the research.

The first limitation observed in the research methodologies was the lack of experimental designs involving a control group and random assignment. Designing experimental EAP research with children and adolescents impacted by IT involves ethical considerations that might impede researchers' abilities to execute experimental research with this vulnerable population. The ethical dilemma of excluding children and adolescents impacted by IT from EAP rests within the damage that researchers might cause by withholding an innovative therapeutic service to an already disenfranchised population. One possible solution to this dilemma could be to conduct an experimental design that involves an eco-based treatment in its control group rather than providing traditional office-based interventions. This might reduce the risk of harm to all participants involved by providing them all an innovative and eco-based psychotherapeutic approach. Furthermore, because the therapeutic setting of EAP is distinctly different from office-based therapy, using an eco-based intervention in the control group might also improve the validity of the research.

Finally, to increase the generalizability and transferability of EAP research with children and adolescents impacted by IT, future researchers should be intentional in including a more representative sample of males and females within their participants.

Findings

The expectation in my research was that EAP promotes resilience in children and adolescents impacted by IT. The findings in this research supported my expectation and suggest that not only does EAP effectively treat diverse and complex biopsychosocial symptoms attributed to IT in childhood and adolescence, EAP appears to provide interpersonally

traumatized children and adolescents the relational experiences necessary to nurture these children and adolescents toward their full potential and promotes resilience. Table 2 summarises my findings.

Table 2

Summary of Findings

Author(s)	Findings	Data
Schultz et al. (2007)	Social competence	CGAF scores
McCullough et al. (2015)	Safety and acceptance	HABS scores
Mueller & McCullough (2017)	Safety and acceptance	HABS scores
Lac (2016)	Safety and acceptance	Clinical case notes
	Affect regulation	Clinical case notes
	Social competence	Clinical case notes
	Mastery and empowerment	Clinical case notes
Lac (2017)	Safety and acceptance	Clinical case notes
	Affect regulation	Clinical case notes
	Reflective functioning	Clinical case notes
	Social competence	Clinical case notes
	Mastery and empowerment	Clinical case notes
Burgon (2011)	Safety and acceptance	Observation
	Affect regulation	Interviews
		Observation
	Reflective functioning	Clinical case notes
		Interviews
	Social competence	Clinical case notes
		Observation
	Mastery and empowerment	Interviews
		Clinical case notes
		Observation
	Resilience	Observation
		Clinical case notes
Tuuvas et al. (2020)	Safety and acceptance	Interviews
	Affect regulation	Interviews
	Reflective functioning	Interviews
	Social competence	Interviews
	Mastery and empowerment	Interviews
	Resilience	Interviews
Koerick Sauer & Gill (2020)	Affect regulation	Clinical case notes
	Reflective functioning	Clinical case notes
	Social competence	Clinical case notes

(table continues)

Author(s)	Findings	Data
Craig (2020)	Safety and acceptance	Interviews
	Affect regulation	Observation
		Interviews
	Reflective functioning	Interviews
		Observation
	Social competence	Interviews
		Observation
Craig et al. (2020)	Safety and acceptance	Interviews
	Reflective functioning	Interviews
		Observation
	Social competence	Interviews
		Observation
	Mastery and empowerment	Interviews
	Resilience	Observation
		Interviews

EAP Promotes Positive Development and Resilience in Children and Adolescents Impacted by Interpersonal Trauma

The research for children and adolescents impacted by IT revealed that EAP promotes positive development and resilience. In the following section I highlight findings from the research that show that EAP fosters a sense of safety and acceptance in relationships. Through the relational foundation of felt safety and acceptance, EAP facilitates affect regulation skills, reflective functioning, social competence, mastery and empowerment, and fosters resilience in children and adolescents impacted by IT.

Safety and Acceptance in Relationships

Neuroscience research and attachment theory emphasise that safety and acceptance in attachment relationships influence the development of children and adolescents the most (Bowlby, 1988; Guyer et al., 2018; Siegel & Bryson, 2012; Wallin, 2007). Providing children and adolescents whose development IT has impacted with relational opportunities to develop positively might be the most crucial element in psychotherapy. Research has shown that EAP

offers children and adolescents impacted by IT safety and acceptance in their therapeutic relationships.

Mueller and McCullough (2017) found that the majority of adolescents "developed an immediate, strong connection with the horse they were working with" (Mueller & McCullough, 2017, p. 1168) as indicated by very high scores on the HABS scale. This finding was also observed in the pilot study conducted by McCullough et al. (2015). Lac (2016) studied a 5-year-old child (Mary) with IT who was undergoing EAP and reported that she "very quickly became attached to Spirit" (p. 202) and "often commented on how good Spirit was by looking after her and not letting her fall, with each of these observations solidifying her growing confidence that the world around her was a safe place" (p. 204). Lac demonstrated that EAP offers children impacted by IT the sense of safety in relationships that is necessary to "self-direct their own growth and learning" (p. 206).

For adolescents whose neurodevelopmental drive is to achieve belongingness and identity, establishing a safe relational experience with trust might require that they be "recognised, understood, and cared for. . . . Such experiences are often marked by profound feelings of security, acceptance, and connection, in relation as much to others as to ourselves" (Wallin, 2007, p. 6). Because horses are unconditionally nonjudgemental, fully present in therapy, and unencumbered by agendas, expectations, or prejudices (Frewin & Gardiner, 2005), they offer the sense of unconditional acceptance and stability that is necessary for the healthy development of adolescents.

The adolescents in these studies had unique and beneficial relationships with horses, which contributed to their positive development. One participant described an alternate relationship with a horse: "'I was pushing away my mom, pushing away everybody, but [the

horse] was always there; she was the only one I trusted then'" (Craig, 2020, para. 37). Burgon

(2011) stated that her "participants spoke of the horses as confidantes, of how the horses

understood them and of how they could trust them, with Emma explaining that 'you can tell

them your secrets'" (p. 174). A participant in Tuuvas et al.'s (2017) study explained her unique

connection with a horse: "'All my life I've had a tough time showing that I'm sad, like to show

myself weak, and then, just to sneak into the stables and sit and cry in the horse box'" (p. 10).

Another participant emphasised the powerful human-horse connection she felt:

> "If you feel that connection, it's just unbelievable. I was having a hard time back then, I
> think she [the horse] knew and she was like, "can you love me, and I can love you?" and
> I was like "yeah!" It feels amazing, like no other feeling." (Craig et al., 2020, p. 8)

Lac (2017) also reported that the horses' unconditional acceptance was a powerful cathartic

experience for Amy (the 16-year-old participant):

> The night before our first session, three horses in the herd were randomly attacked. A
> teenage boy had slashed the horses with a machete leaving deep gashes across their
> hindquarters. . . . Amy arrived at the facility on a hot Virginia summer's day wearing a
> thick long sleeved top. As we walked into the paddock where the horses were grazing, I
> noticed her pulling at the ends of her sleeves. Her eyes were downcast and her breathing
> was shallow, but she fixed a smile on her face in answer to every question I asked. The
> horses were . . . about a hundred feet away . . . when she noticed their injuries.
>
> Amy: They don't seem to care about their scars.
>
> Amy begins to roll her sleeves up and slowly extends her arms, palms facing
> upward, toward the horses. As she does this the three injured horses raised their heads,
> stop grazing, and begin to move toward us. The rest of the herd remained at a distance
> and continued to graze. Amy stood still with her arms outreached, with her scars on
> display on her forearms, as one by one the horses come toward her. They take in turn to
> sniff her arms before moving over to make space for the next horse to do the same. When
> all three horses had greeted her, they remained standing around her, waiting attentively.
> Amy began to cry softly. As she cried one of the horses stepped forward and rested her
> head on Amy's shoulder. Throwing her arms around the horse, Amy began to sob … she
> explained that she spends most of her time trying to hide her scars, her pain, and her
> eating disorder, not just to everyone else around her but also to herself. (pp. 6–7)

These findings are evidence that the inclusion of horses in EAP meets the relational need

of children and adolescents to feel a sense of relational safety and acceptance.

Affect Regulation

In addition to safety and unconditional acceptance, affect regulation is another nurturing relational interaction that fosters healthy development (Fonagy et al., 2002, as cited in Wallin, 2007). Affect regulation registers internally as a visceral sense that others can be sources of relief, comfort, and pleasure and an awareness that the full spectrum of bodily and emotional experiences and needs is acceptable (Wallin, 2007). The path to affect regulation and integration usually begins with becoming attuned to the nonverbal knowledge that the body holds (Wallin, 2007).

Lac (2016, 2017) noted that EAP focuses on nonverbal experiences and affect regulation and that the integration of the physiological experiences of children and adolescents impacted by IT facilitates positive neurobiological development. Lac (2016) explained that EAP interventions in which Mary would lie on a horse with her stomach down and hug the horse uniquely created positive developmental opportunities that facilitated "full body awareness as she began to self-regulate her feelings of anxiety" (p. 204). Mary became "aware of her physical sense of self" (p. 203), and, as her sense of self developed, . . . she became more trusting of her own ability to self regulate" (p. 203). Similarly, for Amy (who was 16 years old), the "embodied experience of support and acceptance, over time, allowed her to recognise for herself how she abandons her own existence through self-harming and anorexic behaviors. . . . Amy constricted not just her fear but also all sensations of living (Lac, 2017, p. 7). EAP helped Amy to build relationships and connect with the horses at an embodied level that enabled her to "re-occupy her sense of self" (p. 7). Horses help children and adolescents impacted by IT to form the relationships that they need to be able to experience sensations and emotions in a new way that is safe and

manageable. This process of desomatisation is necessary for them to redevelop physiological self-awareness in the context of safe relationships (Van der Kolk, 2005).

Reflective Functioning

Neurodevelopment research has shown that affect regulation is also a bridge to self-awareness and reflective functioning (Fonagy et al., 2002, as cited in Wallin, 2007), which suggests that, over time, experiences of interactive affect regulation become internalised, and children and adolescents learn to decode their own bodily sensations and emotions and interpret them in relation to the self and others (Ainsworth, 1969, as cited in Wallin, 2007). EAP facilitates the developmental processes of reflective functioning that are evident in the following examples.

Craig et al. (2020) explained that in forming relationships with horses, adolescents develop "awareness of how their behavior affected others, with special attention of flexibility, emotional control, and adaptability in the arena with their horse" (p. 10). "Ellie [a participant] said, 'it made me more aware of what I was doing'" (Craig, 2020, para. 26).

A participant in Burgon's (2011) study explained that working with horses in EAP taught her the benefits of self-regulation and demonstrated her acquired capacity for reflective functioning:

> "Um, when I'm angry, they make me feel a lot calmer because you have to be calm around them; . . . otherwise, they pick up on you. . . . So if you go in with a cross mind and stamp around, then they're not exactly going to be very helpful to you, are they?" (p. 172)

Reflective functioning is also evident in the ability to show empathy toward others (Wallin, 2007). The findings commonly refer to empathy, particularly with regard to adolescents impacted by IT (Burgon, 2011; Craig, 2020; Craig et al., 2020). One participant in Craig's (2020) study described an encounter with a horse that demonstrated empathy:

"You could feel her [the horse], she was shaking, and I felt really bad. I was like, 'It's okay.' I kept on talking to her, I sang to her. In an instant, when I started singing, she was calm as could be." (para. 28)

Burgon (2011) described a similar display of empathy:

When I asked Cinderella [a participant] how she felt Sherry [a new horse that had arrived at the treatment facility] was feeling and the best way to respond to her anxiety, she replied, "Well, she's probably scared and missing her mum" and that it was important to be "calm and kind to her." (p. 174)

Burgon explained that the significance of this finding is that for children and adolescents who have been unable to develop empathy because of interpersonally traumatic relationships, empathically attuned relationships with horses might result in developmental opportunities for empathy.

Social Competence

Researchers whose studies I analysed also noted that empathy for the horses translated to more flexible relational functioning in other interpersonal relationships. One participant in Tuuvas et al.'s (2017) study explained: "It was like talking through the horse in some way. I thought all adults were idiots; . . . the horse could channel somehow; the emotions could go through him" (p. 9).

The research found that reflective functioning facilitated changes in interpersonal functioning. Koerick Sauer and Gill (2020) stated that for one 16 year old boy (Dan) EAP helped "Dan construct perceptional alternatives and alternative behaviors when interacting with equines that can be generalized to peers and adults" (p. 381). For other adolescents whose IT history resulted in revictimisation in other social relationships, improvements in social competence were accomplished through EAP by facilitating assertive communication of interpersonal boundaries. For example, Craig et al. (2020) reported:

Chelsea, age 14, spoke of a girl at school bullying her. She indicated that her horse Stormy was responding to the frustration she felt by running away. With the help of the therapist, Chelsea engaged with her frustration at being bullied. Chelsea indicated that she also applied her newfound confidence to her situation at school, saying:

> She [mental health professional] made me scream "I have a voice!" That made me really confident and I actually took it to the bully and she stopped. She [the bully] was like, "I'm sorry, I didn't mean to" and then she stopped bullying me. (p. 9)

Burgon (2011) reported that one participant who "especially struggled with establishing and maintaining relationships with his peers" (p. 171) showed improvements in interpersonal communication after a "number of months" (p. 171) participating in EAP. Schultz et al. (2007) also demonstrated support for social competence reflected in significant improvements in the CGAF scores, which measures "psychological, social, and school functioning for children aged 6-17 years" (Schultz et al., 2007).

These findings indicate that reflective functioning facilitated increased social competence through EAP for children and adolescents impacted by IT.

Mastery and Empowerment

In my review of the literature I found that a sense of mastery and empowerment is the developmental outcome (Perry, 2005; Wallin, 2007) is most intimately associated with resilience (Ungar & Teram, 2000). The qualitative researchers who studied EAP with children and adolescents unanimously reported evidence that EAP facilitates mastery and empowerment (Burgon, 2011; Craig, 2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2017; Tuuvas et al., 2017). The researchers also affirmed that the challenging but engaging interventions in EAP result in a sense of empowerment and mastery.

Lac (2016) observed that Mary (5 years old) "began to initiate in more daring play, including asking to ride" (p. 203) and challenged herself to turn around "to sit on Spirit [the

horse] backwards" (p. 203). Similarly, the researchers presented many examples of adolescents who developed mastery and empowerment through EAP. Tuuvas et al. (2017) explained that, "through the horse, they learned to endure different fears. For example, one informant described that she learned not to flee from setbacks and conflicts, but decided to stay and handle difficult situations" (p. 11). Burgon (2011) also described EAP-facilitated empowerment:

> Minimax finished the session clearly pleased with his success, exclaiming to his foster carer when she arrived to collect him "I've had two days of feeling really strong now!" By overcoming his fears, then experiencing success and achievement through participating in challenging activities with the horses, Minimax was perhaps able to experience some feelings of self-confidence and, in turn, higher self-esteem, which Rutter (1985) refers to as important for resilience. (p. 171)

> Another participant in Craig et al.'s (2020) study commented:

> Horses, they empower me. . . . I see that if I can take care of something or someone else this well, and this good, and have so much care and affection, then I know that I've done it. I know that I can do that for myself, as well. It's given me the reassurance that it's possible. (p. 11)

"Empowering experiences will positively affect identity and mental health when they strengthen the formation of a self-definition that the youth and a selected group of significant others accept as powerful" (Ungar & Teram, 2000, p. 246). The adolescents in Craig et al.'s (2020) study described the transformation of their identities because of EAP:

> Before they [society] would call it "this program helps young at-risk girls." . . . At-risk, I don't think they should call us at-risk. I think they should just say teenage girls trying to get a hold of their life. They are not at-risk. I don't consider myself at-risk of anything. (p. 11)

Resilience

According to Perry (2005), people are most likely to reach their full potential when they have "consistent, predictable, enriched, and stimulating interactions in a context of attentive and nurturing relationships . . . aided by many relational interactions" (para. 24). Healthy development "reinforces confidence in the self, trust in others, and the sense that the world is a

safe place within which to love and to grow" (Wallin, 2007, p. 193). This creates a strong and reliable stress-response capacity, which is also known as *resilience* (Perry, 2005; Sroufe & Siegel, 2011).

Ungar and Teram (2000) found that adolescents who were impacted by IT claimed that acceptance in interpersonal relationships was of primary importance on their pathway toward empowerment and resilience. When adolescents feel unconditionally accepted in relationships, they become more self-aware, have an improved capacity for biopsychosocial regulation, and feel a sense of control in their psychological and sociological experiences (Ungar & Teram, 2000). Other researchers who examined the resilience of children and adolescents impacted by IT corroborated these findings. In a recent review of the literature on resilience and childhood and adolescent maltreatment, Yoon et al. (2019) emphasised that relationships that foster a sense of safety, stability, and unconditional support are a major factor in resilience. They also reported that intrapersonal qualities associated with resilience include "self-regulation skills, higher levels of social competence, personal control, problem-solving skills, motivation, self-esteem, and heightened adaptive functioning abilities" (p. 542).

Craig et al. (2020) found EAP promotes resilience in adolescents who experience IT because interventions that require adaptability and agency cultivate self-efficacy, coping strategies, and achievement. Similarly, Burgon (2011) claimed that EAP their participants developed resilience when they discovered "that it is possible to effectively cope with, and overcome challenges through your own personal effort, . . . mastery, and being able to influence something" (p. 177). Participants in Tuuvas et al.'s (2017) research showed that the resilience they developed through EAP helped them cope with life stresses as adults 15 years after EAP treatment:

They described learning different techniques to manage stressful situations, such as

finding a sense of calm by visualizing the horse or in order to get strength in situations

where they want to give up by thinking of how they struggled with the horses and how

well it turned out. They also described different emotional crises that they've gotten

through due to the fact that they today have a greater inner safety and several functioning

relationships around them. (p. 16).

Findings of Methodological Analysis

This research included three quantitative studies (McCullough et al., 2015; Mueller &

McCullough, 2017; Schultz et al., 2007) and seven qualitative studies (Burgon, 2011; Craig,

2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2016; Lac, 2017; Tuuvas et al., 2017)

to examine how EAP promotes resilience in children and adolescents impacted by IT. The

quantitative research is limited in its direct analysis of resilience in the EAP research; instead it

provides indirect support toward this assumption with evidence indicating that EAP improves

biopsychosocial functioning using CGAF and CRIES-13 measurements (McCullough et al.,

2015; Mueller & McCullough, 2017; Schultz et al., 2007). The qualitative research found more

evidence to suggest that the restorative relational experience provided in EAP promotes positive

development and resilience in children and adolescents impacted by IT (Burgon, 2011; Craig,

2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2016; Lac, 2017; Tuuvas et al., 2017).

More quantitative research is necessary to substantiate the findings presented in the

qualitative research and to generate support for EAP as an advantageous treatment for children

and adolescents impacted by IT. The lack of universal outcome measurements used across the

studies also limited the quantitative research in its capacity to compare and synthesize findings

across quantitative studies (McCullough et al., 2015; Mueller & McCullough, 2017; Schultz et

al., 2007). If quantitative EAP research used consistent outcome measurements that assessed for constructs of resilience, in addition to including "well validated, trauma-informed psychometric instruments" (Naste et al., 2018, p. 294) like those used by the NCSTN, a more definitive evidence base might accrue for EAP with relationally traumatized children and adolescents.

The qualitative studies implemented more long term EAP interventions in their investigations, with the shortest intervention being 20 sessions long (Lac, 2016), as compared to the quantitative research whose shortest intervention was 8 sessions (McCullough et al., 2015). Quantitative research examining EAP for children and adolescents impacted by IT may benefit from implementing long term research to provide the therapeutic approach necessary to maximally develop positive outcomes and resilience through EAP.

Of the 194 children and adolescents included in the studies of EAP with children and adolescents impacted by IT, only five young children under 8 years old were represented (Lac, 2016; Schultz et al., 2017). Therefore, the findings that suggest EAP promotes resilience for young children impacted by IT should be considered preliminary. Furthermore, the qualitative research only included three males (Burgon, 2011; Koerick Sauer & Gill, 2020) across all seven investigations. Because the qualitative research in this review generated the most substantial evidence for EAP's capacity to promote positive development and resilience in children and adolescents impacted by IT, the generalizability of this research to males is limited.

Though there are methodological limitations presented in the EAP research with children and adolescents impacted by IT, there remains many strengths when the research is analyzed collectively. One strength in the research is that evidence from three different countries: USA (Craig, 2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2016; Lac, 2017), Sweden (Tuuvas et al., 2017), and the UK (Burgon, 2011), was generated through these studies.

Therefore, it appears that the benefits of EAP for children and adolescents impacted by IT are experienced across cultures. Furthermore, various psychotherapeutic theories informing EAP interventions were adopted across the research. The theoretical approaches used in EAP included: Adlerian (Koerick Sauer & Gill, 2020), Gestalt (Burgon, 2011; Lac, 2016; Lac, 2017; Schultz et al., 2007), Rogerian (Burgon, 2011; Craig, 2020; Craig et al., 2020), psychodynamic-attachment (Tuuvas et al., 2017), and object-relations and CBT (McCullough et al., 2015). Despite the various geographical locations and the diverse theoretical foundations used across the research, the studies showed similar support for EAP in its capacity to provide safety and acceptance in the horse-human relationship, and promote qualities of positive development and resilience were evident in the research.

Summary of Key Findings

The researchers generated support for EAP as an effective trauma-focused treatment for children and adolescents impacted by IT (Burgon, 2011; Craig, 2020; Craig et al., 2020; Koerick Sauer & Gill, 2020; Lac, 2016, 2017; McCullough et al., 2015; Mueller & McCullough, 2017; Schultz et al., 2007; Tuuvas et al., 2017). The findings from this research show that not only does EAP effectively treat the diverse and complex biopsychosocial symptoms attributed to IT in childhood and adolescence, but that it also offers interpersonally traumatised children and adolescents the relational experiences that they need to nurture them to develop to their full potential and restore their resilience. Nevertheless, more quantitative research is needed to substantiate the findings in this research that suggest EAP promotes resilience in children and adolescents impacted by IT. Though this research found evidence that EAP promotes resilience for children and adolescents between the ages of 4-18 years and for males and females, these findings are limited in their generalizability and transferability to males and young children

(under 8 years) impacted by IT. More rigorous methodologies are needed to substantiate that EAP promotes resilience in children and adolescents impacted by IT, however, when synthesized the diversity in the studies for EAP with children and adolescents impacted by IT suggest that the relationship with the horse in EAP provides children and adolescents impacted by IT with an organic therapeutic approach that allows them to grow toward positive developmental outcomes and restores their intrapersonal resilience.

Ethical Considerations

My positive relational experiences with horses inspired this literature review. Therefore, I admit that my personal bias and affinity for horses could have influenced my objectivity in this systematic analysis. However, to analyse the literature on EAP for children and adolescents impacted by IT objectively, it was essential that I bracket my bias to explore the literature ethically, with an open mind, to understand the effects of EAP on children and adolescents impacted by IT. In this section I present an unbiased discussion of the research and the professional ethics implicated in the core studies of this literature review. Though professional practice and research in the human health sciences share ethical principles, their applications to professional and research practice can differ. Therefore, I examine the professional and research ethics involved in these studies separately.

Professional Ethics

The research involved primary investigators from diverse backgrounds: nursing (Schultz et al., 2007), psychology (Koerick Sauer & Gill, 2020; Lac, 2016, 2017; Tuuvas et al., 2017), counseling or psychotherapy (Koerick Sauer & Gill, 2020; Lac, 2016, 2017; Tuuvas et al., 2017), communications (Craig, 2020; Craig et al., 2020), and development (Mueller & McCullough,

2017). The professional codes of ethics across all of the human sciences are founded on the four moral principles of justice, autonomy, beneficence, and nonmaleficence (Drysdale, 2021).

Justice

The philosophy that all people have equal inherent worth and therefore deserve equitable access to opportunities to fulfill their inherent human rights is represented in the moral principle of justice (Canadian Psychological Association [CPA], 2017; Drysdale, 2021). This ethical principle requires that professionals design their practices to distribute the benefits fairly and not unfairly exclude those who are vulnerable (CPA, 2017, principle I.11). Burgon (2011), Koerick Sauer and Gill (2020), Lac (2016, 2017), Tuuvas et al. (2017), McCullough et al. (2015), Mueller and McCullough (2017), Craig (2020), Craig et al. (2020), and Schultz et al. (2007) developed psychotherapeutic practices to meet the developmental and mental-health needs of the vulnerable children and adolescents impacted by IT.

Furthermore, Mueller and McCullough (2017) transported their participants to ensure that their access to EAP did not depend on their ability to arrange their own transportation. This is significant because transportation to EAP sessions (which are often in rural locations) can be a barrier to treatment for children and adolescents impacted by IT who live in low socioeconomic environments and might not have access to private transportation. Therefore, by taking a proactive approach to increase access to EAP services for adolescents with maltreatment histories, Mueller and McCullough promoted equity and operationalised their professional moral ethic of justice.

Additionally, Tuuvas (Tuuvas et al., 2017) worked at a residential EAP treatment facility that offered EAP to at-risk adolescent females who might not have otherwise been able to afford this service. These adolescent females impacted by IT received EAP regardless of their

socioeconomic status. One participant described the lasting impact of the ethic of justice on her

15 years after she had completed the EAP: "Now, in retrospect, I can feel gratitude towards that

they saw, that they chose to spend all that money on me; they must've seen that there was a

chance" (p. 15). Reducing the barriers to children and adolescents' participation in EAP

demonstrate that the professionals upheld the ethical standard of justice.

Autonomy

"Autonomy is the control that you exercise when making individual decisions, especially

regarding your well-being" (Drysdale, 2021, para. 5). Because each person has different beliefs,

values, and worldviews, to adhere to the principle of autonomy, professionals must respect all of

the decisions that their clients make that concern themselves (CPA, 2017). "The best course of

action for one patient could be detrimental for another, even if they share the same signs and

symptoms" (Drysdale, 2021, para. 9). Lac (2016, 2017), Tuuvas et al. (2017), and Burgon (2011)

demonstrated adherence to the moral principle of autonomy by allowing their participants to

choose throughout their EAP. For example, Lac (2016) explained, "Mary initiated games of

follow the leader or finger painting on the horse and sometimes would ask to sit under a tree to

share an apple and tell Spirit [the horse] stories" (p. 202). Similarly, in the following quotation

Burgon emphasised autonomy in EAP practice:

> Freya is initially hesitant to try anything and refuses to go into the round pen. However,
> she is happy to watch. . . . Finally, after watching intently, Freya agrees to join me in the
> round pen, although refusing to lead Hector [the horse] without me walking beside her
> initially. Eventually, she plucks up the courage to lead him alone, and I hand her the lead
> rope.(p. 173)

Mueller and McCullough (2017), McCullough et al. (2015), and Schultz et al. (2007) also

demonstrated respect for autonomy by respecting their participants' desire or need to stop

receiving EAP. One of Mueller and McCullough's participants dropped out because of an

unknown allergy to horses, one of McCullough et al.'s participants discontinued EAP after two

sessions, and 14 of Schultz et al.'s participants dropped out after they had completed only five EAP sessions. In these situations the professionals did not pressure the participants to continue the EAP, which demonstrated their respect for their participants' autonomy. Nevertheless, they did not mention whether the professionals attempted to follow up with the participants who discontinued the EAP to ensure that they had caused no harm or to facilitate care by arranging alternative services. Taking these steps would not only have demonstrated respect for autonomy, but would also have honoured the ethic of nonmaleficence.

Nonmaleficence

Researchers demonstrate nonmaleficence in their commitment to minimise harm to those in direct and indirect contact with professionals (CPA, 2017; Drysdale, 2021). When participants drop out of treatment, professionals should "give reasonable assistance to secure needed psychological services or activities, if personally unable to meet requests for needed psychological services or activities" (CPA, 2017, principle II.33). It is possible that the researchers did not adequately meet their participants' psychotherapeutic needs during the EAP. Adherence to the ethic of nonmaleficence ensures that professionals will assist the participants with securing the required services.

Nonmaleficence has four rules: "First, an act should not be truly wrong. Second, every action should have a positive benefit. Third, a good effect should never be a result of the wrong action. Lastly, good outcomes should always outweigh the bad" (Drysdale, 2021, para. 18). Drysdale (2021) added that every action should have a positive benefit, which McCullough et al. (2015) might have violated because some of the adolescents in their study showed increased state anxiety (a subjective response to a perceived threat) at midtest and posttest. Fluctuations in state anxiety are common in individuals with PTSD symptoms (Wilson et al., 2015, as cited in

McCullough et al., 2015). McCullough et al. acknowledged that the adolescents' anxiety might have been triggered and exacerbated during the EAP sessions, yet they failed to acknowledge the damaging and retraumatising effects of these experiences on the adolescents and instead reported this finding, given their inconsistent scores on the CRIES-13.

In their practice with children and adolescents impacted by IT, professionals must understand that "anything new is potentially threatening" (Van der Kolk, 2005, p. 403) to them. Therefore, according to the principle of nonmaleficence (CPA, 2017), McCullough et al. (2015) should have investigated the potential harm of the adolescents' elevated state anxiety. According to A. Yesufu (personal communication, [November, 9], 2021), "The degree to which research is or is not ethical depends on the researcher's continual communication and interaction with research participants." The professionals in this research should have investigated how the EAP affected the adolescents after some of their midtest state-anxiety scores increased. If the researchers had collaborated with the participants to better understand their needs, they could have taken the necessary action to offset the harmful effects of the anxiety that might have resulted from the EAP (CPA, 2017, principles II.40, II.44, II.45). The participants might have needed a more gradual approach to EAP that included the establishment of safety and more assistance after the EAP sessions to regulate their experiences of anxiety or terminate the EAP treatment and receive alternative psychotherapy services.

Beneficence

Akin to the ethic of nonmaleficence is the moral principle of beneficence, which requires that professionals protect and promote the well-being and best interests of others (CPA, 2017, principle II.I; Drysdale, 2021). They must

> evaluate how their own experiences, attitudes, cultures, beliefs, values, individual differences, specific training, external pressures, personal needs, and historical,

economic, and political context might influence their interactions with and perceptions of others, and integrate this awareness into their efforts to benefit and not harm others. (CPA, 2017, principle II.10)

It is important that EAP professionals who work with interpersonally traumatised children and adolescents reduce the potential countertransference from their familiarity and comfort with horses in the therapeutic process of EAP and empathise with children's and adolescents' experiences in EAP. EAP practices require client-centred approaches (Burgon, 2011; Lac, 2016, 2017; Tuuvas et al., 2017) to upheld the ethic of beneficence; that is, professionals must minimise the impact of their expectations and experiences in EAP and support their clients as they "self-direct toward their own growth and learning" (Lac, 2016, p. 206).

EAP Ethics

Five primary investigators were also certified EAP practitioners (Lac, Burgon, Tuuvas, McCullough, and Koerick Sauer) and were required to adhere to their registering bodies' codes of ethics. The Professional Association of Equine Facilitated Wellness's ([Pro-EFW], 2020) code of ethics requires that practitioners regard equines as sentient beings, partners, and co-facilitators in their practice and afford them the same respect that they would humans. Furthermore, practitioners must also understand the impact of emotional work on equines and ensure their physical, mental, and emotional well-being (Pro-EFW, 2020, principle 1.3).

EAP professionals can ensure horses' physical, mental, and emotional well-being in EAP sessions by employing certified equine specialists to attend to the horses, interpret the nonverbal communication, and promote a safe environment for all (Equine Assisted Growth and Learning Association, 2018). Burgon (2011), Tuuvas et al. (2017), McCullough et al. (2015), and Koerick Sauer and Gill (2020) employed equine specialists in their treatment to ensure that the horses' biopsychosocial needs were met in session. Furthermore, Tuuvas et al. (2017) also reported that,

in their study, "the horse was viewed not as an object, but as a person who interacts with the therapist" (p. 7) and that "through seeing how the staff handled the horses with love and respect, a trust grew" (p. 12), which indicates that they adhered to the ethic of respect for horses.

The ethical code for equine professionals (Pro-EFW, 2020) also requires that

members understand that their equine partners are completely dependent on their stewardship and do their utmost to meet their psychological and physical needs. This includes ensuring that equines have adequate time for play, socializing, turnout, and rest, and that they are allowed to retire from this work when needed regardless of age. (principle 2.5)

Many of the qualitative researchers described EAP treatment settings that indicated appropriate care for the horses:

The Yard [EAP facility] was located in the countryside and consisted of a yard area and open barn, together with a small office, feed, and tack area. . . . The horses were generally free to mingle around. . . . Inherent in all the activities was an emphasis on respecting and building up relationships with the horses. (Burgon, 2011, p. 168)

The location of Craig (2020) and Craig et al.'s (2020) research was also a centre in which the professionals adhered to the EAP ethical standard of respect for equines: "The Farm [EAP facility] included six fields for horses to live and graze, a large arena for horse work, multiple round pens for individualized work with the horses, and a barn for storage of tack, farm equipment, and feed" (Craig et al., 2020, p. 4).

The researchers of all of these studies upheld the ethics of integrity and respect for horses, which is imperative to EAP professionals.

Research Ethics

According to the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* ([*TCPS* 2] Canadian Institutes of Health Research et al. [CIHR et al.], 2018), respect for human dignity is the fundamental principle in all research that involves humans. This principle requires that "research involving humans be conducted in a manner that is sensitive to the

inherent worth of all human beings and the respect and consideration that they are due" (p. 6).

Researchers respect human dignity in ethical research by adhering to the three ethical principles:

respect for persons, concern for welfare, and justice (CIHR et al., 2018). "These core principles

transcend disciplinary boundaries and, therefore, are relevant to the full range of research

covered by this Policy" (p. 6).

Respect for Persons

The ethical principle of respect for persons requires that researchers balance respect for

the autonomy of individuals with their responsibility to protect those with developing, impaired,

or diminished autonomy (CIHR et al., 2018). Researchers demonstrate autonomy by ensuring

voluntary participation and informed consent to participate in the research process and

anticipating the risks and rewards associated with the research (CIHR et al., 2018). The process

of informed consent must be ongoing throughout the research, and the participants must have an

opportunity to revoke their consent at any time without penalty. When researchers study

vulnerable populations (such as children and adolescents impacted by IT) whose capacity for

autonomous decision making might be diminished, they must obtain informed consent from "an

authorized third party who is entrusted to make decisions on behalf of the prospective

participant" (p. 7). In addition, they must gather assent or dissent for children to participate in the

research. When disparities between assent or dissent and third-party consent occur, the child's

assent or dissent should preclude third-party consent when "that person has some ability to

understand the significance of the research" (p. 45).

The researchers who studied EAP for children and adolescents impacted by IT (Burgon,

2011; Craig, 2020; Craig et al., 2020; McCullough et al., 2015; Mueller & McCullough, 2017;

Schultz et al., 2007; Tuuvas et al., 2017) stated that they had obtained informed consent and

assent before they began the research process. They received informed consent from authorised

caregivers, and the children and adolescents assented to participate in the research. Additionally,

Craig (2020) and Craig et al. (2020) demonstrated respect for an adolescent by prioritising her

dissent over her guardian's consent. However, this adolescent continued to receive EAP services

even though she was not required to participate in the research at the specific EAP treatment

centre that she attended.

      The CIHR et al. (2018) stated that researchers must pay "particular attention to elements

of trust and dependency in relationships. Any relationship of dependency, even a nurturing one,

may give rise to undue influence even if it is not applied overtly" (p. 28). Because many of the

researchers in these studies were their participants' EAP practitioners (Burgon, 2011; Koerick

Sauer & Gill, 2020; Lac, 2016, 2017; McCullough et al., 2015; Mueller & McCullough, 2017),

the power imbalance inherent in the client-therapist relationship could have unintendedly

influenced the research. McCullough et al. (2015) and Mueller and McCullough (2017) dealt

with this conflict of interest by employing a research assistant to administer the questionnaires.

This data-collection method shows that these researchers knew that the power imbalance could

create a potential conflict for their participants. Burgon (2011) reported that she was aware that

participating in both research and therapy created a conflict: "How much the research imposed

upon the practice and vice versa was a constant question I asked myself" (p. 169). Though the

dual roles of researcher-practitioner might have created conflicts of interests, the researchers

demonstrated awareness of the effect of this dual role on their research.

      Other conflicts of interest occur in research with the risk that divided loyalties will

distract the researchers and institutions from concern for the welfare of the participants (CIHR

et al., 2018). "While it may not be possible to eliminate all conflicts of interest, researchers are

expected to identify, minimize or otherwise manage their individual conflicts in a manner that is satisfactory to the research ethics board" (p. 93). One way that researchers manage this conflict of interest and demonstrate respect for their participants is "to identify and disclose real, potential or perceived institutional conflicts of interest, to make them transparent and open to scrutiny" (p. 94). Mueller and McCullough (2017) disclosed that Mueller had formerly served on the Board of Directors at one of the EAP treatment sites and that McCullough was a consultant and part-time EAP practitioner at the second research site. They demonstrated respect for others by disclosing this conflict of interest. The researchers of the other studies identified no conflicts of interest in their research.

Concern for Welfare

Abiding by the principle of concern for welfare, researchers must aim to protect their participants' physical, mental, and spiritual health (CIHR et al., 2018). Factors in welfare include "privacy and the control of information about the person . . . according to the free, informed and ongoing consent of the person who was the source of the information" (p. 7). Mueller and McCullough (2017) and McCullough et al. (2015) employed research assistants to collect data, which helped to maintain the participants' anonymity in their responses to the questionnaires. In Schultz et al.'s (2007) study the second researcher, Remick-Barlow, collected data; and the primary investigator was responsible for the data analysis; this method also protected the anonymity of the participants' data because the primary researcher was blind to the participants' responses. In qualitative research, anonymity and confidentiality can be more challenging to maintain given the indirect identifying information in the research. The qualitative researchers assigned pseudonyms to their participants to maintain their anonymity in the published research (Merriam & Tisdell, 2016).

Qualitative researchers also demonstrate concern for their participants' welfare by presenting the data to them and allowing them to omit, correct, or change any information about them (Creswell & Poth, 2018). Many of the qualitative researchers in these studies gave the participants opportunities to make necessary changes and clarifications to the researchers' interpretations of the information that they provided (Burgon, 2011; Craig, 2020; Craig et al., 2020; Tuuvas et al., 2017; Ungar & Teram, 2000). Allowing the participants access to and control over their data and how the researchers represent them demonstrates concern for their welfare.

According to the CIHR et al. (2018), because

research is a step into the unknown, its undertaking can involve harm to participants and to others. Harm is anything that has a negative effect on the welfare of participants, and the nature of the harm may be social, behavioral, psychological, physical or economic. (p. 21)

Therefore, researchers must thoroughly assess the risks before they conduct their research. In their risk analysis they must take into consideration that that their participants' perspectives on harm might vary from those of the researchers. Therefore, researchers must "assess the harm from the perspective of the participants to the extent possible" (p. 21). D'Andrea et al. (2012) and Van der Kolk (2005) used brief-EAP approaches, which suggests that they might not have adequately assessed the fact that IT often causes a hypervigilant threat response in children and adolescents. Consequently, those whom IT has impacted often need more time to feel safe and stable, particularly in new environments, and often consider novelty threatening (Van der Kolk, 2005). It is important that researchers understand that brief-EAP approaches can inadvertently harm their participants when they design their research, because they do not give children and adolescents impacted by IT the necessary time to acclimate to their new therapeutic environment.

Justice

The CIHR et al. (2018) stated that, to demonstrate an ethical commitment to justice, research should include children and adolescents to advance "the knowledge of, and ability to respond to the unique needs of children throughout their development" (p. 51). Historically, children and adolescents have been disproportionately excluded from research (CIHR et al., 2018). The studies in this review reflected the principle of justice because they included children and adolescents impacted by IT. The researchers also promoted justice in research because they sought a better understanding of how children and adolescents impacted by IT could benefit from EAP. Including children and adolescents impacted by IT in this research increased the awareness of therapies that potentially benefit these disenfranchised individuals who have found a lack of effective services to address their biopsychosocial health needs (Kaufman, 2009); in doing so, it has upheld the ethical principle of justice in research.

Conclusions

Topical Analysis

1. EAP improves biopsychosocial functioning in children and adolescents impacted by IT.

2. EAP not only improves various symptoms associated with IT for children and adolescents, but also offers them the nurturing relational experience of safety and acceptance that may provide the foundation to correct their adverse developmental trajectories and fosters intrapersonal resilience.

3. Positive developmental outcomes include:

   a. Increased affect regulation

   b. Improved reflective functioning

      c. Social competence

      d. Mastery and empowerment

      e. Resilience

4. The long term benefits of resilience facilitated through EAP for children and adolescents impacted by IT are maintained 15 years after treatment.

Methodological Analysis

1. Limited quantitative research exists for EAP with children and adolescents impacted by IT.

2. The various outcome measurements used across the quantitative studies limits the capacity to comparatively analyze EAP with children and adolescents impacted by IT.

3. Qualitative research presents more evidence that positive developmental outcomes and resilience are promoted in children and adolescents impacted by IT, as compared to quantitative research.

4. Quantitative EAP research with interpersonally traumatized children and adolescents has offered them with much shorter EAP interventions that may prevent EAP from maximizing its effect.

5. Few young children (under 8 years) are represented in the EAP research with children and adolescents impacted by IT.

6. Males are under-represented in the qualitative EAP research with children and adolescents impacted by IT.

7. EAP research is vast and includes:

      a. Investigations in three different countries.

      b. Various clinical theories informing EAP practice.

Recommendations

This research has shown evidence that EAP is an effective trauma-focused approach that positively influences the development and resilience of children and adolescents impacted by IT. Nonetheless, it also identified inconsistencies and gaps in the literature on EAP for children and adolescents impacted by IT. Considered collectively, the findings and the gaps that currently exist concerning EAP with children and adolescents impacted by IT will inform the clinical, therapeutic, and future research recommendations discussed as follows.

Clinical Level

1. The long term benefits of positive development and resilience promoted through EAP for children and adolescents impacted by IT suggest the EAP is worth the investment in offsetting the biological, psychological, emotional, social, spiritual, economic, and cultural costs of untreated childhood and adolescent IT.

2. EAP with children and adolescents impacted by IT, informed by this research, will focus on delivering an experiential therapeutic approach founded on relational safety that sequences relevant, respectful, and rewarding interventions (Perry, 2009), To provide interventions with these qualities, a neuroscientifically informed approach to clinical work that "structures assessment and identification of primary problems, and strengths" to sequence the application of interventions "in a way that reflects the child's specific developmental needs … and is sensitive to the core principles of neurodevelopment" (Perry, 2009, p. 249) could more effectively target the developmental and therapeutic needs of traumatized children and adolescents.

3. EAP with children and adolescents impacted by IT should primarily ensure relational safety and acceptance in the therapeutic milieu, as this will facilitate opportunities to

accomplish difficult tasks presented in EAP and enable them to develop a sense of mastery over their intrapersonal and interpersonal functioning. Understanding children's and adolescents' initial fear response in EAP (Burgon, 2011; McCullough et al., 2015) also reinforces that best EAP practices with children and adolescents impacted by IT should not include brief-therapy formats. According to this research, the more EAP sessions that children and adolescents attend, the more that they benefit (Schultz et al., 2007). This makes sense considering that children and adolescents who have developed in relationships permeated with fear and unpredictability "have difficulty appreciating novelty. Without a map to compare and contrast, anything new is potentially threatening" (Van der Kolk, 2005, p. 405). Therefore, to avoid inadvertent harm from EAP for children and adolescents impacted by IT, EAP practices must allow adequate time for them to familiarise and orient themselves in this new clinical and relational experience that brief EAP does not allow.

Therapeutic Level

1. One of the inherent advantages of EAP is that "multiple opportunities to experience intimate relationships with the therapist as well as with the horse are provided through an experiential process" (Bachi, 2013, p. 194; Lac, 2016; Lac, 2017; McCullough et al., 2015; Tuuvas et al., 2017). Because of their developed mistrust of people, alternate relational experiences are the salient therapeutic factor in EAP for children and adolescents impacted by IT, as this research has shown. This research suggests that EAP professionals' primary objective is to navigate the interactive matrix in EAP sensitively to offer children and adolescents the relational safety and

security necessary for the attachment system to reapproximate a more adaptive developmental pathway.

2. Practitioners should not assume that children and adolescents automatically develop relationships with horses that are mutually safe and secure (Dunlop & Tsantefski, 2018; McCullough et al., 2015; Naste et al., 2018; Waite & Bourke, 2013). My research revealed that many children and adolescents are initially afraid or anxious of the horses in EAP (Burgon, 2011; McCullough et al., 2015). EAP professionals should reflect on the fact that their familiarity and relational experiences with horses could cause harmful countertransference in the therapeutic interactions among the horses, the clients, and themselves if they do not consider how horses affect children or adolescents. Practitioners must appreciate that horses can distress children and adolescents impacted by IT and that, because of their IT histories, they might not have the capacity to regulate these affective responses internally (Van der Kolk, 2005).

3. EAP professionals must never confuse the role of the horse with the role of the therapist and must actively promote effective affect-management strategies to alleviate children's and adolescents' fear of establishing safe and secure relationships (Naste et al., 2018). Additionally, when they work with children and adolescents who have hypersensitive threat responses, employing equine specialists to become attuned to and care for horses' affective responses will enable therapists to help children and adolescents to become attuned and regulated. Proactively involving equine specialists will minimise the risks involved in EAP for children and adolescents impacted by IT.

4. Some children and adolescents impacted by IT do not ever overcome their fear of horses or experience the therapeutic benefits of EAP (Dunlop & Tsantefski, 2018; McCullough et al., 2015; Tsantefski et al., 2017). Therefore, EAP therapists who work with children and adolescents impacted by IT should conduct ongoing risk assessments and offer them opportunities for feedback to mitigate the potential harm associated with subjecting this vulnerable population to EAP treatment from which they are not benefiting or are deteriorating (McCullough et al., 2015; Tsantefski et al., 2017). Particularly for these children and adolescents who have often experienced so much oppression and abuse throughout their development, the damage that retraumatisation in psychotherapy causes can be exponentially deleterious. When biological, emotional, or psychological harm is at risk, EAP professionals must stop the intervention and take action to offset the damage that might have occurred.

Future Research

1. More EAP research focusing on young children and males impacted by IT is necessary to generalize the findings in this investigation to this demographic.

2. Future research could use another eco-based intervention in the control group. Comparing EAP with another innovative, eco-based intervention could navigate the ethical implications involved in EAP with children and adolescents impacted by IT and increase the validity of the research, by providing a psychotherapy that is more similar to EAP that office-based psychotherapies.

3. Though this investigation differentiated between individual EAP and group EAP, most research of EAP with children and adolescents impacted by IT has not appreciated the different interactional focus between group based psychotherapies

and individual psychotherapies. The core studies in my review addressed only individual EAP, the grey literature indicated that group EAP is particularly effective to treat adolescents impacted by IT (Kemp et al., 2014; Signal et al., 2013); it also revealed mixed outcomes for children impacted by IT (Dunlop & Tsantefski, 2018; Kemp et al., 2014; Signal et al., 2013; Tsantefski et al., 2017). Future researchers must appreciate that, because individual EAP and group EAP do not involve identical therapeutic mechanisms (Yalom & Leszcz, 2005), I therefore recommend that they examine the differential outcomes of individual and group EAP across different populations. Should future research generate the support for group EAP as an intervention that promotes positive development and resilience in children and adolescents impacted by IT, group EAP could provide more affordable yet effective EAP treatment modality for adolescents impacted by IT.

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