Improving Access to Trauma-Informed Adoption Services: Applying a Developmental Trauma Framework

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Abstract Foster and adopted children often experience multiple traumatic and adverse experiences. A growing body of literature indicates the negative impact of trauma on developmental milestones and brain development, which supports the need to address complex trauma among this vulnerable population of foster and adopted youth. This paper presents an overview of the unique needs of children adopted from the foster care system from the perspective of adverse childhood experiences (ACEs), complex trauma, and developmental trauma disorder (DTD). There is an increasing number of evidence-based trauma-focused services and interventions for children and youth. However, many adoptive parents have limited trauma-informed training and limited access to trauma-informed and adoption-competent professionals, particularly long-term supports across developmental stages, making them ill-prepared to meet the needs of children in their care. This paper contributes to the understanding of how access to these trauma-focused services can be increased through new technologies, to better prepare and empower adoptive parents to deal effectively with difficult adoption issues when they arise and to improve outcomes for children and youth adopted from the public child welfare system. Several innovative approaches toward this end include harnessing technology to: (1) improve access to suitable adoption resources, (2) improve mechanisms to track critical

events, behaviors, emotions, functional abilities, strengths, etc., in order to determine timely, on-demand contextual services, and (3) extend professional, supportive environments beyond the adoptive family context by proposing the use of technology to build interdisciplinary, virtual community partners.

Keywords Trauma · Foster and adoptive families · Adverse childhood experiences · Adoption resources

Child welfare agencies face ongoing pressure to limit the time that foster children remain in care, while being held accountable for the safety and well-being of these children. Agencies are expected to attain permanency for foster children within a short period of time, whether through return to family of origin, transfer of legal guardianship, or adoption. To that end, the federal government has passed numerous bills to support reunification and adoption as alternatives to children lingering in foster care. In recent years, bills have been passed to promote adoption of older children (Adoption Promotion Act of 2003) to expedite interstate adoptions and home studies (Safe and Timely Interstate Placement of Foster Children Act of 2006) and to reauthorize efforts to ensure caseworker recruitment, retention, and training (Child and Family Services Improvement Act of 2006). To promote adoption from foster care, the Fostering Connections to Success and Increasing Adoptions Act of 2008 was intended to address various financial supports foster families lost when they adopted foster children. This Act subsidized part of the cost of providing guardianship for children transitioning from foster care to adoption and provided for ongoing medical coverage through state and federal programs.

In many ways, these efforts have been successful in increasing permanency and reducing the number of children lingering in foster care. Nationally, the number of children

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entering the foster care system dropped from 293,276 in 2007 to 254,904 in 2013, and the number of children awaiting adoption dropped from 133,682 down to 101,840 in the same period (U.S. Department of Health and Human Services 2014). Between 1996 and 2013, the number of children adopted from the U.S. child welfare system almost doubled from 24,000 to 50,608 (U.S. Department of Health and Human Services 2014). The Federal policies have also ensured that adoptive families have more tangible supports in place, and many financial dis-incentives for foster parents to adopt children have been removed. The national data indicate that 93.2 % of children adopted from the foster care system receive subsidies, and almost 60 % were adopted by their current foster parents, who may or may not be relatives (U.S. Department of Health and Human Services 2014).

Unfortunately, many children still do not experience timely permanence. In 2013, although there were 50,605 children adopted from the child welfare system, another 101,840 children were awaiting adoption (U.S. Department of Health and Human Services 2013). Additionally, as adoptions from public child welfare systems have increased, the field of post-adoption services has not transformed to meet the increased needs of adoptive families or to address the complexity of adoption related issues that emerge. Many child welfare agencies recognize that children returning to foster care after adoption is a persistent problem, and one that is largely understudied (Smith et al. 2006). It is difficult to assess the exact number of adopted children returned to foster care because there is no national or systematic approach for capturing this information. Some studies indicate that adoption disruptions (prior to finalization) range from 6 to 11 % for all youth, with rates ranging as high as 24 % for disruptions of adolescents (Coakley and Berrick 2008; Berry and Barth 1990).

In 2010, The Donaldson Adoption Institute issued a comprehensive report on post-adoption services, outlining the primary challenges facing the adoption field, including the need to improve adoption knowledge and services for adoptive children and families (Smith 2010). The quantity and quality of post-adoption services made available to children and adoptive families remain limited. Past research indicates several possible reasons for the lack of services to adoptive families, including: adoptive parents not knowing about services or knowing how to access services, and lack of service professionals who understand adoption and trauma (Howard and Smith 2003; Schweiger and O'Brien 2005). Once an adoption is finalized and agency oversight recedes, parents are often left on their own to find resources for their children who may experience emotional, behavioral, or mental health challenges throughout their development. This paper presents an overview of the unique needs of children adopted from the foster care system from the perspective of adverse childhood experiences (ACEs), complex trauma, and developmental trauma disorder (DTD). Considerations are outlined for what trauma

focused services and supports are needed. This paper contributes to the understanding of how access to these trauma-focused services can be increased, particularly through new technologies, to improve outcomes for children and youth adopted from the public child welfare system.

Trauma-Informed Focus of Child Welfare

The very events that bring children into the foster care system are traumatic. Children and youth who come from the foster care system have often experienced multiple traumas. In a study by the National Child Traumatic Stress Network (NCTSN) of 2251 foster youth, they found that 70 % of the youth had experienced complex trauma (with at least two types of trauma; Greeson et al. 2011). For children referred to child protective services, traumatic events might include either direct or indirect victimization, including physical, sexual or emotional abuse, parental neglect, or witnessing violence within the home or community. These traumatic experiences may involve a single incident, but many children experience chronic or complex maltreatment that involves multiple types of incidents occurring over time. Families that come to the attention of child protection may face multiple challenges, such as extreme poverty, homelessness, incarceration, drug use, domestic violence, unsafe housing and impoverished communities (Coulton et al. 1999; Sedlak et al. 2010; Zhou et al. 2006).

Unfortunately, the child welfare system itself may add to the traumatic experiences of youth, beginning with the referral to child protective services and the subsequent investigations. If an investigator has determined that the abuse or neglect charges are founded, children may be removed from their home. Although it is necessary at times to keep a child safe by removing them from their biological family to an out-of-home placement, children are likely to be traumatized by their displacement from families of origin into shelters or foster homes. Removal from their home not only disrupts relationships with caregivers, but children and youth also experience disruption across multiple domains of their lives, such as disconnection from siblings, other family members, neighbors and pets, as well as changing schools, teachers and losing contact with school friends and acquaintances. In several studies, former foster youth indicated that they often lost contact with their most important connections once placed in foster care, also noting that their workers did not do enough to help them maintain these relationships (Samuels 2009; Lenz-Rashid 2009).

Additionally, many states continue to have high rates of placement instability, with children who remain in care longer at particularly high risk of experiencing multiple moves (U.S. Department of Health and Human Services 2014). Even after reunification with biological families, many children

experience a re-entry into foster care, and with each replacement after reunification, the child's vulnerability to the consequences of adverse childhood events increases (Pynoos et al. 2011). Foster youth may be challenged by complex relationships with people who move in and out of their lives as they transition into temporary placements with temporary parents and temporary siblings. So, even for children who may maintain some contacts in their initial placements, many former foster youth have reported losing contact with parents, siblings, other relatives and foster siblings after multiple moves, which can fuel issues of abandonment, grief and loss (Samuels 2009; Henry 2005).

In addition to the loss of key relationships while in care, children and youth within the system are subject to a host of professionals that most children are unaware exist: investigators, caseworkers, evaluators, attorneys, advocates, and judges. They are part of a system that has a unique language, a language that can be very confusing, frightening and alienating to children as they move through the child welfare system, with terms such as: CPS (child protective services), founded or unfounded, court orders, adjudicated, permanency, placement disruption, guardianship, supervised and unsupervised visitation, preplacement, and TPR (termination of parental rights).

It is evident that many children adopted from this system bring unique challenges of complex trauma histories to adoptive families. Recent research on adverse and traumatic childhood experiences indicates increased risk of negative outcomes if left unaddressed into adulthood (Chartier et al. 2010), while early intervention can improve the likelihood for successful long-term outcomes. However, many adoptive parents have limited trauma-informed training and limited access to trauma-informed and adoption-competent professionals, making them ill-prepared to deal with its effects as these children adjust to the child welfare system and to life as an adopted child. A framework for understanding complex trauma is outlined below.

Adverse Childhood Experiences

It is well documented that adverse traumatic experiences are underreported by foster children (Briggs et al. 2013; Greeson et al. 2011). Any one of the possible reasons to adjudicate children dependent (i.e., physical, emotional, sexual abuse, or parental neglect) would fall under the rubric of adverse and traumatic experiences and, as such, make these children especially vulnerable for associated behavioral, emotional, and cognitive negative consequences (Felitti et al. 1998). Emerging research suggests that these problems are not temporal, but can result in structural changes in the brains of abused children that may account for both functional and emotional dysregulation, as well as alterations in the biological stress system responses when compared to normal controls

(Briere et al. 2008; De Bellis et al. 1999; De Bellis and Kuchibhatla 2006). Findings also point to the effect of traumatic exposure and hippocampal volume that may explain increased patterns of externalizing behaviors in the population (Tupler and De Bellis 2006).

These findings have emerged out of the growing evidence of emotional, neurobiological and behavioral consequences of chronic exposure to adverse childhood experiences (ACEs) that include maltreatment, extreme poverty, interpersonal violence, substance abuse, homelessness, incarceration of parents, and neglect (D'Andrea et al. 2012). A particularly intriguing study examined emotional and behavioral outcomes among children birth to 6 years, who were screened for ACEs using a national data set and then evaluated at 59 to 97 months to assess the cumulative impact of ACEs. Almost three-quarters of children with three or more ACEs demonstrated long-term behavioral problems, strongly supporting a dose-response effect for internalizing problems and externalizing behaviors (Freeman 2014).

There also have been recent studies that confirm that the impact of multiple ACEs in racially diverse minority foster care alumni populations as contributory to placement instability and poor mental health outcomes including high rates of early sexual activity, substance use, suicide attempts, and mortality (Garcia et al. 2015; Marshall et al. 2013). Additionally, a comprehensive study using data from a large national sample found that foster children with exposure to all three common forms of maltreatment (sexual abuse, physical abuse, and psychological maltreatment) correlated with high levels PTSD and associated sequelae of PTSD (Spinazzola et al. 2014). Even more recently, a large nationally representative sample documented the significant impact of childhood trauma on suicidal ideation and attempts (LeBouthillier et al. 2015). In this study, those who were physically neglected, attacked or beaten, or injured before age 18 were especially vulnerable to suicidal ideation and attempts. Therefore, understanding and addressing trauma of adoptive children is critically important.

Developmental Trauma Disorder: a Framework for Understanding Complex Trauma

Developmental Trauma Disorder (DTD) has been emerging as a more age appropriate way of understanding the impact of complex trauma on children (Pfefferbaum et al. 2006; Pynoos et al. 2006; Pynoos et al. 1999; Van der Kolk 2007). However, although proposed, DTD is not currently a DSM diagnosis. Developmental trauma refers to events that cause stress and occurs repeatedly and cumulatively within interpersonal relationships (i.e. family members) and contexts (Sar 2011). The complex trauma histories seen in children moving through the foster care system to adoption are known to have a deleterious

impact on cognitive, adaptive, social, and emotional growth, as well as on altering memory structures. Ford and others (Pyne et al. 1999, 2006; Van der Kolk 2007) offer DTD as a means of understanding how memory is stored and distorted in abused and neglected children and the impact trauma histories have on attention, learning, and verbal processing especially in infants and toddlers (Ford and Cloitre 2009). Further, DTD fuels problems these children have in regulating reactive responses to perceived threats regardless of the merits of the perceptions. This is particularly significant in child welfare, as aggressive behaviors are the single most common reason foster parents give for requesting removal of children from placement (Newton et al. 2000). Like their adult counterparts with PTSD, children with complex trauma histories and DTD often react to seemingly insignificant triggers that tap into implicit rather than explicit memories and those triggers, in turn, drive survival behaviors marked by emotional dysregulation, and self-harming behaviors (Rovee-Collier et al. 2000; Van der Kolk 2007).

From a DTD perspective, even events that should be seen as positive and reaffirming, like a change in status from a foster child to an adopted child, may prove to be trauma triggers and result in behavioral dysregulation. DTD presents ways to understand why children whose parental rights were terminated may perceive adoption as having the potential for additional abandonment rather than as a guarantee of permanency. The very act of adoption may trigger DTD responses leading to depression and withdrawal, significant social deficits, higher levels internalizing and externalizing behaviors, and patterns of destructive and aggressive behaviors (Mongillo et al. 2009; Scheeringa et al. 2003; Saltzman et al. 2001). DTD, then, offers a broader framework to understand how adverse events fuel reactivity and dysregulated behaviors in adopted children with trauma histories (see Kaplow et al. 2006). The current standard of care in the foster care and adoption systems fails to fully address the role of trauma, which may lower the success rate of current approaches (Greenwald 2002).

Navigating the Adoption Process Through the Child Welfare System

Some leaders have begun to promote trauma-informed child-serving systems that include improved coordination between systems serving the same families and the use of comprehensive assessment tools to guide case planning and services to children and caregivers (Samuels 2011; NCTSN 2007). Although the role of trauma in child welfare is receiving increased attention, most systems have not yet effectively integrated a trauma-informed framework that recognizes the impact of developmental trauma on children and youth. Likewise, trauma is not assessed throughout the entire

process, from initial investigation, to on-going case management and permanency planning. Few child welfare systems routinely screen for trauma exposure beyond the initial report and investigation (Greeson et al. 2011). However, one promising initiative is the Breakthrough Series Collaborative of the National Child Traumatic Stress Network that promotes using trauma-informed child welfare practice, which includes conducting trauma screenings for all children and youth that comes into contact with the child welfare system and addressing trauma by multiple stakeholders in the system (i.e., children, biological parents, foster and adoptive parents, and caseworkers; Conradi et al. 2011).

Beyond foster care, a trauma-informed, adoption service model should acknowledge the vulnerabilities of trauma survivors and deliver services that address developmental trauma and in a way that will avoid re-traumatizing children (Harris and Fallot 2001). Services provided by adoption-competent professionals, who understand the unique dynamics of adoption, may be particularly helpful (Rycus et al. 2006). Trauma-specific adoption services should directly address complex trauma and facilitate recovery by creating a safe environment, develop emotion regulation and interpersonal functioning, make meanings about traumatic events, and enhance resilience and integration into a social network (NCTSN 2007).

More importantly perhaps, adoptive parents need adequate preparation; training and education of adoptive parents around practical strategies to deal with trauma are crucial. Adoptive parents need to be prepared with information early in the process, prior to the placement of a child in their home (Cook et al. 2003). Too often, information gaps in child welfare records place the child at a disadvantage, when prospective adoptive parents do not have complete (or accurate) information to make informed decisions about the child's current functioning and overall well-being (Hartinger-Saunders et al. 2014). In a previous study by Reilly and Platz (2004), 58 % of adoptive families reported not receiving enough information about the adopted child. When adoptive parents do not have critical information about the child, including the documentation of traumatic experiences, emotional, behavioral, and trauma-related symptoms, and functional difficulties, appropriate service recommendations are hard to determine (Briggs et al. 2013).

In addition to providing adequate background information, training and on-going resources for adoptive parents are necessary to prepare them to care for children who may have experienced trauma and unresolved grief. The provision of supportive services to families before and after adoption may help reduce disruptions (Festinger 2002; Houston and Kramer 2008). Preparation for adoption (for adoptive families and the adopted child) is a critically important and may include: pre-placement visits with the child; materials to help adoptive parents prepare for what they can expect; communicating with birth relatives of the child, and participating in pre-

adoption training and counseling (Berry et al. 1996). Services most often requested by adoptive parents include concrete support and increased social support (Evan B. Donaldson Adoption Institute 2004). One study also found addressing marital stress of adoptive parents through participation in marriage enrichment events that successfully strengthened support networks, also reduced stress and increased feelings of competence in their parenting (O'Neill et al. 2014).

Improve Adoption Resources to Improve Outcomes

Research suggests that the number of successful adoptions will grow with improved access to post-adoption services that are both theoretically sound (Barth et al. 2005) and informed by adoption issues and trends (Dhami et al. 2007). However, many agencies continue to have a limited repertoire of post-adoption services with arbitrary timeframes for the provision of those services (i.e. 3, 6, 9 months post-adoption), despite research that suggests that developmental milestones and significant life events may trigger the need to access services long after this period has ended (Child Welfare Information 2004).

The Mental Health Needs of Children Adopted from the Child Welfare System

Previous studies that indicate 52 % of male and 36 % of female children adopted from foster care in the U.S. receive mental health services (Vandivere et al. 2009) compared to 10 % of children in the general population (Bloom et al. 2010). The 2012 National Adoptive Families Study (NAFS), which administered an online survey to 437 adoptive parents on needs and utilization of 14 post-adoptive services also found a high rate of mental health service utilization. Thirty-four percent of adoptive parents in the sample expressed a need for mental health services for their adopted child and 67 % of those adoptive parents actually access services. Unfortunately, adoptive parents do not always perceive mental health services as beneficial. Tan and Marn (2013) reported that adoptive parents only found mental health services to be “very helpful” for about half of the children. The Center for Adoption Support and Education (2012) found that in a sample of adoptive parents who had previously worked with mental health professionals, 75 % believed that the professionals they worked with were not adoption competent and many believed that their families had been damaged by therapist involvement.

Research suggests that the professionals whom adoptive parents seek out for support (child welfare personnel, teachers, pediatricians, and most mental health professionals) often lack the knowledge and skills to deal with the complex issues of trauma, attachment, grief and loss, self-regulation and identity

development encountered by children adopted from foster care (Smith 2010). Thus, to improve the quality of adoption services, advanced training for mental health and other professionals to develop adoption competence and skills in trauma-informed services and trauma-specific interventions is necessary (Smith 2010). While the National Resource Center for Adoption (NRCA) has developed an adoption curriculum for professionals, it is used in only a handful of states, and further, it fails to address many adoption-specific issues. Currently, there are fewer than 10 adoption related training programs across the country, which is not sufficient to meet the needs of the growing number of adoptive families (Smith 2010).

Lack of training and support for adoptive parents, particularly those with distinctive needs, before and after the adoption, has been associated with adoption failures—both disruption and dissolution of the adoption (Barth and Berry 1988; Coakley and Berrick 2008). Yet, in a sample of adoptive parents who received post-adoption services, the rate of adoption failure was low (Smith and Howard 1991), suggesting the positive effect of post-adoption support. Further evidence suggests that adoptive Parents experienced negative emotional states (i.e. exhaustion, stress, confusion and isolation) are also positively associated with adoption dissolution (Hartinger-Saunders et al. 2015). Therefore, post-adoption supports should aim to reduce negative emotional states among adoptive parents. In part, adoption disruption and dissolution continue to be problems in adoptive families with little or no post-adoption support.

Research on adoption dissolution is limited as there are no mechanisms in place to track adoption failures once an adoption is finalized, unless the child returns to foster care (Festinger 2002). The inability to track and monitor adoptive families' and adoptees' experiences has drastically limited our ability to understand life beyond finalization. Further, it has impeded our ability to evaluate the short and long-term effectiveness of post-adoption services and adoptive parent support.

Enhancing adoptive parents' comprehensive understanding about complex trauma and DTD, can provide them with the psychoeducational tools to build from, and creates a foundation to help adoptive parents manage problem behaviors (Salloum et al. 2014). Adoptive parents often recognize that the trauma histories provided by the agencies are incomplete. Effective parents understand that as trauma material emerges, they can use this information to place behaviors in context (Cohen et al. 2012). Because the process of helping children adjust to a permanent family will not be a smooth or linear path, it is helpful if parents can be given guidance on how to manage the sequelae of complex trauma histories.

Even though the provision of services before and after adoption is critically important, few specific interventions have been rigorously tested. However, there is an emerging

focus on adapting and testing trauma-informed parent training models with foster and adoptive parents. As understanding improves in this area, it is important that one focus of adoptive parent training includes strategies that help parents address core deficits and build resilience among traumatized children in their care. Several promising practices are outlined below that strengthen trauma-informed services for adoptive families.

Pre-adoption Parent Training

Although research indicates the importance of training, there is wide variation in the provision of training for parents interested in fostering or adopting children. Many states mandate the number of pre-service training hours for foster and adoptive parents, ranging from 4 to 30 h (Dorsey et al. 2008). One of the most common training curricula for resource parents, Model Approach to Partnerships in Parenting (MAPP), may successfully make resource parents aware of what to expect from fostering and adoption, but may not effectively build the skills and competencies required to meet the complex trauma challenges of children in the child welfare system (Puddy and Jackson 2003; Dorsey et al. 2008). Parents' Resources for Information Development Education (PRIDE), another widely-used training curricula for foster and adoptive parents, indicated some increased competencies in meeting the needs of the children (Christenson and McMurtry 2007).

Another growing model, Keeping Foster Parents Trained and Supported (KEEP), which is based on the Multi-dimensional Treatment Foster Care (MTFC) model, includes an intensive 16 weeks of training for resource parents focused on addressing emotional and behavioral needs of youth, along with applied homework and follow up calls from caseworkers. Findings from research on this model indicated improvements in parenting skills, children's behavior problems, placement stability, and permanency (Price et al. 2009).

Although emerging training models have shown some positive outcomes, many still do not fully address the traumatic experiences and histories of these youth who are being adopted from foster care settings. The National Child Traumatic Stress Network has developed a trauma-informed parenting workshop called *Caring for Children who Have Experienced Trauma*. In an initial evaluation of the training, findings indicated that caregivers had increased knowledge and perceived self-efficacy of their ability to parent a child who experienced trauma (Sullivan et al. 2015).

Trauma-Informed Therapeutic Interventions: Adoptive Families

In addition to trainings, a growing number of evidence-based therapeutic trauma interventions are being implemented and

evaluated with children and caregivers in child welfare, including adoptive families. One model, the Attachment and Biobehavioral Catch-up (ABC) intervention, engages the child and caregiver in specific competences and has been found to help young children, including children in foster care to develop regulatory capabilities (Dozier et al. 2009). Another model, Attachment, Regulation and Competency (ARC), also focuses on early child development and their surrounding caregiving system to address trauma symptoms of children and youth. One study of ARC conducted with adopted children (who have experienced complex trauma) and their caregivers, found significant decreases in child symptoms and caregiver stress (Hodgdon et al. 2015).

Trust-Based Relational Intervention (TBRI) is another trauma-informed intervention that works with both children and their caregivers. This model has also been implemented and evaluated with adopted children, and results from a comparison-group study found decreases in trauma symptoms on the Trauma Symptoms Checklist for Young Children (Briere 1996) for the intervention group, but no change in the comparison group (Purvis et al. 2015). An online, web-based adaptation of TBRI, also found significant decreases in both behavioral problems (measured on Strengths and Difficulties Questionnaire (Goodman 1997)) and trauma symptoms for children in the intervention group, while scores for children in a matched-sample control group did not change (Razuri et al. 2015).

Parent–Child Interaction Therapy (PCIT) is a trauma-informed model that includes parenting skills training through didactic sessions with the child and caregiver. Findings from a study of PCIT with a sample of adopted children and their adoptive caregivers demonstrates improvements in positive parenting techniques, reductions in parenting stress, and reductions in externalizing and internalizing behaviors of the children (Allen et al. 2014). Another parenting therapeutic interventions, the Incredible Years, was adapted for adoptive parents in England, and study results of one evaluation indicated that parents reported feeling significantly less stressed and more competent after the training, and the adoptive parents reported reduction in the children's behavioral difficulties (Henderson and Sargent 2005).

Other trauma treatments that have also been successful with children and youth who have experienced trauma in the child welfare system by strengthening skills of adoptive parents to help children deal with past trauma, loss and grief, including: Briere's Integrated Treatment of Complex Trauma for Children and Adolescence (Lanktree et al. 2012); Trauma Systems Therapy (TST; Brown et al. 2013); and Trauma Focused Cognitive Behavioral Therapy (TF-CBT; Cohen et al. 2004).

The strategies utilized in models like TF-CBT and others noted here, especially those that are stage-based, provide adoptive parents with skills they can use to help stabilize

children as they adjust to their homes and, over time, help them become more fully functional (Ford et al. 2005). Most foster and adoptive parent trainings incorporate the basics of managing acting out behaviors, and given that adoption may retrigger these children, it is useful to adapt the core principal of trauma-informed practice to help stabilize children adopted from foster care (Cohen et al. 2012). These practices encourage adoptive parents to also use acting out events to understand what triggers the child, how the child responds to stress and how much stress he or she can tolerate. Equally important is to develop an understanding of what undermines the child's capacity to self-regulate, and document what the child does in given circumstances to self-regulate behaviors.

Children with complex trauma histories often demonstrate a potentially challenging combination of impulsivity and reactivity that makes them especially vulnerable to suicidal or dangerous risk taking behaviors (Ford and Cloitre 2009). Keeping logs to track this information can be used to engage the child in developing a “safety” plan and in the process of understanding how he or she is triggered and understanding how that then escalates into reactions, the more likely both will be able to consider new strategies and “buy-in” to trying out new coping skills.

Cohen et al. (2012) note that parents, like clinicians, first need to recognize that even what appears to be maladaptive – testing behaviors (i.e. boundaries), and dysfunctional behaviors – may be part of the child's survival strategies and that attempts to extinguish them without cognitive shifts are likely to be met with resistance. It is helpful for adoptive parents to remember that most foster children come into care from very chaotic homes and may have been in a number of equally chaotic foster homes. Most children coming through the system admit that chaos and volatility are more familiar than structure and predictability (Affronti et al. 2015). Since secure attachments between children and caregivers are dependent upon the development of trusting relationships, it is necessary for adoptive parents to learn and implement strategies toward that end. Establishing a trust relationship requires that adoptive parents create calm, supportive, and structured environments that rely on an “it depends on the child” flexibility (Affronti et al. 2015). Like a therapist, the parent needs to model the expected behavior of being consistent, predictable, and able to self-regulate emotions as well as set and maintain boundaries. The more parents understand that testing behavior is part of the equation and rehearse how to respond calmly to testing, the more likely they will be able to model the self-regulated and appropriate behaviors they seek.

Even though evidence-based and trauma-informed and adoption-competent practices are growing, access to these services remains a challenge for many adoptive parents. Even when post-adoptive services are available, parents do not always know which services their child needs, where to find services sensitive to the needs of children with trauma

backgrounds or how to access them. While child welfare agencies are required to provide post-adoption services to parents, the NYS Citizens' Coalition for Children (2010) found that 31 % of adoptive parents had no access to services. In addition, adoptive parents report being unaware of the services they need and where to locate them. Dhami et al. (2007) found that almost half of their sample did not know which services they were eligible for. Furthermore, when parents did not know where to find services, or had accessed services previously that proved unhelpful, they were less likely to access services again to meet their needs (Hartinger-Saunders et al. 2015).

Recommendations

Given the fact that additional financial resources and staff to expand post-adoption services are unlikely to become available, the adoption field must consider innovative approaches to better prepare and empower adoptive parents to deal effectively with difficult adoption issues when they arise. Several approaches toward this end include harnessing technology to: (1) improve access to suitable adoption services and resources, (2) improve mechanisms to track critical events, behaviors, emotions, functional abilities, strengths, etc., in order to determine timely, on-demand contextual services, and (3) extend professional, supportive environments beyond the adoptive family context by proposing the use of technology to build interdisciplinary, virtual community partnerships within the adoption field.

Harnessing mobile technology would not only improve access to supportive services and resources, it would also advance research in the field. The Pew Research Center (2013) indicated that 93 % of parents with children and youth reportedly use the Internet. Further, 91 % of the adult population has a smartphone (Pew Research Center 2013) giving them direct access to the Internet. Current trends suggest that soon more people will access the Internet with a mobile device than with a desktop computer (Ingram 2010) making access to technology an unlikely barrier as portability increases.

Improving Access to Supportive Services Through Technology

While online methods and mobile technology have been widely used to provide an alternative approach to care for other populations, they have not been used with adoptive families beyond on-line educational trainings. Technology has the potential to enhance collaborative relationships between professionals and families in the child's natural environment (Buzhardt et al. 2012) and support adoptive parents in real-time problem solving and decision-making around difficult adoption related issues. To illustrate, Buzhardt et al. (2012)

explored the potential for technology to assist in data-based decision making in early childhood education programs. They concluded that mobile devices would be useful for data collection, timely progress monitoring, and intervention decision-making. Further, Jabaley et al. (2011) used iPhone video technology to implement a component of an evidenced-based, in-home, child maltreatment prevention program (SafeCare). They found that the iPhone enhancement dramatically reduced the number of safety hazards in the home. In addition, the use of the iPhone enhanced communication between visits via texting, email and phone/voicemail messages (Jabaley et al. 2011). Similarly, Bigelow et al. (2008) found that the use of mobile technology in a parent training intervention for high-risk families facilitated regular communication, increased the dosage of the intervention, and improved outcomes for both parents and children.

Ecological Momentary Interventions (EMI's)

The term EMI's refers to the delivery of interventions to people in real-time and in their natural environment (Heron 2010). The use of EMI's has the potential to improve treatment responses by increasing ownership of treatment as clients move from passive consumption to active engagement in treatment (Wichers et al. 2011). EMI's have been used to monitor anxiety and depression (Newman et al. 2011), PTSD in veterans (Erbes et al. 2014), and psychosis and bipolar disorder (Depp et al. 2010; Myin-Germeys et al. 2011). EMI strategies allow for a systematic, detailed, and prospective monitoring of emotions and responses (Heron 2010; Wichers et al. 2011). Individuals can track, quantify, and electronically visualize affective patterns and behavioral responses in real-time and across various contexts (Wichers et al. 2011), which also allows for the provision of real-time support (Heron 2010). Studies have used Android devices (i.e. smartphones) that prompted the participants to report post-traumatic stress symptoms throughout the day (Dewey et al. 2015). Dewey et al., found that the electronic monitoring induced basic emotional processing and reduced symptoms of PTSD and psychological distress as a result of repeated assessment.

The application of EMI's to the field of adoption would provide critical insight into "life after adoption." Building mobile applications that support TF-CBT treatment strategies would be a beneficial and viable first step. This portable method of delivering TF-CBT would be highly individualized and designed to assist clients to implement strategies in real-time and increase the flow of assessment data from the real world to the therapeutic setting. EMI's could help adoptive parents (and adoptees) identify triggers by tracking levels of stress across various contexts and situations. This would allow adoptive parents to document how a child responds to stressful events and to determine how much stress the child can endure before internalizing and externalizing behaviors are exhibited.

Adoptive parents could track important information related to the child's physical, social, emotional and psychological experiences to identify trends and to alert adoptive parents when attention is needed to avert a crisis. EMI's also have the potential to guide adoptive parents in real-time problem solving adoption related issues by sending automated responses via text messaging or voice response systems based on the input of data. For example, if an adoptive parent inputs current risk factors or symptoms into a smartphone app, the app would generate a score. Based on the score, they would receive a text indicating further actions or recommendations.

Further, EMI's have the potential to facilitate the necessary "buy in" from children and youth by engaging them in self-monitoring. Self-monitoring will increase self-awareness of triggers and allow children to be proactive in their enactment of coping skills. The application interface would need to be interactive, engaging and easy for children and youth to use, however, the potential is great. We know adoptive parents' ability to set boundaries, self-regulate emotions, and model consistent, predictable behavior directly influences adoptees' testing behavior; therefore, "buy in" from adoptive parents would also be critical. Tracking adoptive parents' positive and negative emotions and experiences along side, but independent of, adoptees' would provide critical information related to how adoptive parents experience and respond to the child's internalizing or externalizing behaviors. This information would significantly add to the professional knowledge in this area.

From a strengths-based perspective, EMI's would also allow researchers and practitioners to gain a clearer understanding of positive adoption experiences. Currently, the adoption field is saturated with literature from a residual perspective. We know about the role complex trauma plays in shaping the lives of children and youth adopted from foster care. However, less is known about adoptees that integrate into their adoptive families and develop strong, meaningful, supportive relationships along the way. EMI's would provide a window into those success stories and provide a framework for future prevention and intervention strategies.

Virtual Community Partnerships

Societal values and beliefs, adoption service systems and social institutions within communities all play a role in the adjustment of children after adoption (Smith 2010). Failure to help adoptive families integrate into the community may leave them feeling isolated. The development of community partnerships has been encouraged as a response to child maltreatment. The Office on Child Abuse and Neglect in the Children's Bureau of the Administration for Children and Families, U.S. Department of Health and Human Services (2010) highlights the need for a coordinated multidisciplinary approach to address the complex needs of today's children and

families and to guide community involvement with adoptive families. As multidisciplinary approaches are implemented to better support adoptive children and families, the use of technology should be considered, to improve access and ultimately improve outcomes for children and youth adopted through the public child welfare system. Literature exists on the benefits and drawbacks of online support groups (see Hammond 2015); though, there are no studies that examine their utility for adoptive parents. An Internet search for *Adoptive Parent Support Groups* yields a variety of national and local online support groups for adoptive parents. However, no websites exist that serve as an online venue for initiating community partnerships that include key players and stakeholders in the field of adoption. The authors propose the creation of an online *National Community Partnership Center for Adoption Excellence* (NCPCAE) as a first step toward facilitating interdisciplinary collaboration to advance research, practice and policy development around adoption related issues. The NCPCAE is envisioned as a space where anyone interested in advancing the field (i.e., researchers, practitioners, policy makers, child welfare workers, adoptive parents, adult adoptees, etc.) can come to: (1) engage in meaningful dialogue, (2) seek support from others in the field, (3) initiate cutting edge research with other professional across the nation (or world), and (4) to create innovative approaches and strategies to address adoption related issues. This type of online environment would be the first of its kind in the field of adoption to encourage and facilitate collaborative relationships between adoptive parents, professionals, and community partners as a new approach to addressing adoption related issues.

Conclusion

Foster and adopted children experience a multitude of adverse experiences. There is an extensive body of literature that supports the need to address complex trauma among this vulnerable population if they are to lead healthy, productive lives. The more we learn about the impact of trauma on developmental milestones and brain development, the more urgent it is to develop innovative, accessible resources to reduce or eliminate its effects. The use of mobile technology to support adoptive parents and adoptees has unlimited potential. Mobile technology can provide on-demand, contextual services and enable real-time data tracking and monitoring, alert adoptive parents to an impending crisis, and provide access to unlimited resources and adoption competent professionals unrestricted by geographic boundaries. Mobile applications in the hands of foster and adoptive youth can help empower them to monitor their feelings, thoughts, behaviors, and experiences so they are more self-aware and prepared to employ healthy coping skills into adulthood. Existing services for this

population are improving, however, the adoption field can benefit from innovative and forward thinking to advance the field.

References

- Adoption Promotion Act of 2003, Pub. L. No. 108-145, 117 Stat. 1879 (2003) Website: <https://www.gpo.gov/fdsys/pkg/STATUTE-117/pdf/STATUTE-117.pdf>; <https://www.govtrack.us/congress/bills/108/s1686>.
- Affronti, M. A., Rittner, B., & Semanchin Jones, A. (2015). Functional adaption to foster care: foster care alumni speak out. *Journal of Public Child Welfare*, 9(1), 1–21.
- Allen, B., Timmer, S. G., & Urquiza, A. J. (2014). Parent–child interaction therapy as an attachment-based intervention: theoretical rationale and pilot data with adopted children. *Children and Youth Services Review*, 47, 334–341.
- Barth, R. P., & Berry, M. (1988). *Adoption and disruption: Rates, risks, and responses*. Hawthorne, NY: Aldine de Gruyter.
- Barth, R., Crea, T. M., John, K., Thoburn, J., & Quinton, D. (2005). Beyond attachment theory and therapy: towards sensitive and evidence-based interventions with foster and adoptive families in distress. *Child and Family Social Work*, 10(4), 257–268.
- Berry, M., & Barth, R. P. (1990). A study of disrupted adoptive placements of adolescents. *Child Welfare: Journal of Policy, Practice, and Program*.
- Berry, M., Barth, R. P., & Needell, B. (1996). Preparation, support, and satisfaction of adoptive families in agency and independent adoptions. *Child and Adolescent Social Work Journal*, 13(2), 157–183.
- Bigelow, K. M., Carta, J. J., & Lefever, J. B. (2008). Text using cellular phone technology to enhance a parenting intervention for families at risk for neglect. *Child Maltreatment*, 13(4), 362–367.
- Bloom, B., Cohen, R. A., & Freeman, G. (2010). *Summary health statistics for US children: National Health Interview Survey, 2009. Vital and health statistics. Series 10, Data from the National Health Survey*, (247), 1–82.
- Briere, J. (1996). *Trauma Symptom Checklist for Children (TSCC), Professional Manual*. Odessa: Psychological Assessment Resources.
- Briere, J., Kaltman, S., & Green, B. L. (2008). Accumulated childhood trauma and symptom complexity. *Journal of Traumatic Stress*, 21(2), 223–226.
- Briggs, E. C., Fairbank, J. A., Greeson, J. P., Layne, C. M., Steinberg, A. M., Amaya-Jackson, L. M., ... & Pynoos, R. S. (2013). Links between child and adolescent trauma exposure and service use histories in a national clinic-referred sample. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(2), 101–109. doi:10.1037/a0027312.
- Brown, A. D., McCauley, K., Navalta, C. P., & Saxe, G. N. (2013). Trauma systems therapy for children in residential care: improving emotion regulation and the social environment of traumatized children and youth in congregate care. *Journal of Family Violence*, 28, 693–703.
- Buzhardt, J., Walker, P., Greenwood, C. R., & Heitzman-Powell, L. (2012). Using technology to support progress monitoring and data-based intervention decision making in early childhood: is there an app for that? *Focus on Exceptional Children*, 44(8), 1–18.
- Center for Adoption Support and Education. (2012). *What does adoption competence mean? Findings from a survey of adoptive parents and other members of the adoption kinship network*. Burtonsville: Center for Adoption Support and Education.

- Chartier, M. J., Walker, J. R., & Naimark, B. (2010). Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. *Child Abuse & Neglect*, 34(6), 454–464.
- Child and Family Services Improvement Act of 2006, Pub. L. No. 109-288, 120 Stat. 1233 (2006). Websites: <https://www.gpo.gov/fdsys/pkg/STATUTE-120/pdf/STATUTE-120.pdf>; <https://www.govtrack.us/congress/bills/109/s3525>.
- Child Welfare Information Gateway (2004). Adoption disruption and dissolution report [Electronic Version]. *Numbers and Trends*. Retrieved April 10, 2010, from http://www.childwelfare.gov/pubs/s_disrup.pdf.
- Christenson, B., & McMurtry, J. (2007). A comparative evaluation of preservice training of kinship and nonkinship foster/adoptive families. *Child Welfare*, 86(2), 125.
- Coakley, J. F., & Berrick, J. D. (2008). Research review: in a rush to permanency: preventing adoption disruption. *Child and Family Social Work*, 13(1), 101–112.
- Cohen, J. A., Deblinger, E., Mannarino, A. P., & Steer, R. A. (2004). A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(4), 393–402.
- Cohen, J. A., Mannarino, A. P., Kliethermes, M., & Murray, L. A. (2012). Trauma-focused CBT for youth with complex trauma. *Child Abuse & Neglect*, 36(6), 528–541.
- Conradi, L., Agosti, J., Tullberg, E., Richardson, L., Langan, H., Ko, S., & Wilson, C. (2011). Promising practices and strategies for using trauma-informed child welfare practice to improve foster care placement stability: a breakthrough series collaborative. *Child Welfare*, 90(6), 207–225.
- Cook, A., Blaustein, M., Spinazzola, J., & Van der Kolk, B. (2003). *Complex trauma in children and adolescents: White paper from the national child traumatic stress network complex trauma task force*. Los Angeles: National Center for Child Traumatic Stress.
- Coulton, C. J., Corbin, J. E., & Su, M. (1999). Neighborhoods and child maltreatment: a multi-level study. *Child Abuse & Neglect*, 23(11), 1019–1040.
- D'Andrea, W., Ford, J., Stolbach, B., Spinazzola, J., & van der Kolk, B. A. (2012). Understanding interpersonal trauma in children: why we need a developmentally appropriate trauma diagnosis. *American Journal of Orthopsychiatry*, 82(2), 187–200.
- De Bellis, M. D., & Kuchibhatla, M. (2006). Cerebellar volumes in pediatric maltreatment-related posttraumatic stress disorder. *Biological Psychiatry*, 60(7), 697–703.
- De Bellis, M. D., Keshavan, M. S., Clark, D. B., Casey, B. J., Giedd, J. N., Boring, A. M., ... & Ryan, N. D. (1999). *Developmental traumatology part II: brain development*. *Biological psychiatry*, 45(10), 1271–1284.
- Depp, C. A., Mausbach, B., Granholm, E., Cardenas, V., Ben-Zeev, D., Patterson, T. L., et al. (2010). Mobile interventions for severe mental illness: design and preliminary data from three approaches. *Journal of Nervous and Mental Disease*, 198(10), 715–721.
- Dewey, D., McDonald, M., Brown, W., Boyd, S., Bunnell, B., & Schulberg, D. (2015). The impact of ecological momentary assessment on posttraumatic stress symptom trajectory. *Psychiatric Research*, 230(2), 300–303.
- Dhami, M. K., Mandel, D. R., & Sothmann, K. (2007). An evaluation of post-adoption services. *Children and Youth Services Review*, 29(2), 162–179.
- Dorsey, S., Farmer, E. M., Barth, R. P., Greene, K. M., Reid, J., & Landsverk, J. (2008). Current status and evidence base of training for foster and treatment foster parents. *Children and Youth Services Review*, 30(12), 1403–1416.
- Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009). Effects of a foster parent training program on young children's attachment behaviors: preliminary evidence from a randomized clinical trial. *Child and Adolescent Social Work Journal*, 26(4), 321–332.
- Erbes, C. R., Stinson, R., Kuhn, E., Polusny, M., Urban, J., Hoffman, J., ... & Thorp, S. R. (2014). Access, utilization, and interest in mhealth applications among veterans receiving outpatient care for PTSD. *Military Medicine*, 179(11), 1218–1222. doi:10.7205/MILMED-D-14-00014.
- Evan B. Donaldson Adoption Institute. (2004). *What's working for children: A policy study of adoption stability and termination*. New York: David and Lucile Packard Foundation.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine*, 14, 245–258.
- Festinger, T. (2002). After adoption: dissolution or permanence? *Child Welfare*, 81(3), 515–533.
- Ford, J. D., & Cloitre, M. (2009). Best practices in psychotherapy for children and adolescents. In C. A. Cortois & J. D. Ford (Eds.), *Treating complex traumatic stress disorders: An evidence-based guide* (pp. 59–81). New York: Guilford Press.
- Ford, J. D., Cortois, C. A., Steele, K., van der Hart, O., & Nijenhuis, E. R. S. (2005). Treatment of complex posttraumatic self-dysregulation. *Journal of Traumatic Stress*, 18, 437–447.
- Fostering Connections to Success and Increasing Adoptions Act of 2008, Pub. L. No. 110-351, 122 Stat. 3949 (2008). Websites: <https://www.gpo.gov/fdsys/pkg/PLAW-110publ351/pdf/PLAW-110publ351.pdf>; <https://www.gpo.gov/fdsys/pkg/STATUTE-122/pdf/STATUTE-122.pdf>; <https://www.govtrack.us/congress/bills/110/hr6893>.
- Freeman, P. C. (2014). Prevalence and relationship between adverse childhood experiences and child behavior among young children. *Infant Mental Health Journal*, 35(6), 544–554.
- Garcia, A. R., O'Brien, K., Kim, M., Pecora, P. J., Harachi, T., & Aisenberg, E. (2015). Adverse childhood experiences and poor mental health outcomes among racially diverse foster care alumni: impact of perceived agency helpfulness. *Journal of Child and Family Studies*, 24(11), 3293–3305.
- Goodman, R. (1997). The strengths and difficulties questionnaire: a research note. *Journal of Child Psychology and Psychiatry*, 38(5), 581–586.
- Greenwald, R. (2002). The role of trauma in conduct disorder. *Journal of Aggression, Maltreatment & Trauma*, 6(1), 5–23.
- Greeson, J. P., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake III, G. S., Ko, S. J., ... & Fairbank, J. A. (2011). Complex trauma and mental health in children and adolescents placed in foster care: findings from the national child traumatic stress network. *Child Welfare*, 90(6), 91–108.
- Hammond, H. (2015). Social interest, empathy, and online support groups. *Journal of Individual Psychology* [serial online]. Summer2015;71(2):174–184. Available from: Psychology and Behavioral Sciences Collection, Ipswich, MA. Accessed 14 July 2015.
- Harris, M. E., & Fallot, R. D. (2001). *Using trauma theory to design service systems*. Jossey-Bass.
- Hartinger-Saunders, R. M., Trouteaud, A., & Matos-Johnson, J. (2014). Post adoption service need and use as predictors of adoption dissolution: Findings from the 2012 national adoptive families study. *Adoption Quarterly*, (just-accepted).
- Hartinger-Saunders, R. M., Trouteaud, A., & Johnson, J. M. (2015). The effects of postadoption service need and use on child and adoptive parent outcomes. *Journal of Social Service Research*, 41(1).
- Henderson, K., & Sargent, N. (2005). Developing the incredible years Webster-Stratton parenting skills training programme for use with adoptive families. *Adoption and Fostering*, 29(4), 34–44.

- Henry, D. L. (2005). The 3–5–7 model: preparing children for permanency. *Children and Youth Services Review*, 27(2), 197–212.
- Heron, K. M. (2010). Ecological momentary interventions: incorporating mobile technology into psychosocial and health behaviour treatments. *British Journal of Health Psychology*, 15(1), 1–39.
- Hodgdon, H. B., Blaustein, M., Kinniburgh, K., Peterson, M. L., & Spinazzola, J. (2015). Application of the ARC model with adopted children: supporting resiliency and family well being. *Journal of Child & Adolescent Trauma*, 1–11.
- Houston, D. M., & Kramer, L. A. (2008). Meeting the long-term needs of families who adopt children out of foster care: a three year follow-up study. *Child Welfare*, 87, 145–170.
- Howard, J. A., & Smith, S. L. (2003). *After adoption: The needs of adopted youth*. Child Welfare League of Amer.
- Ingram, M. (2010). Mary meeker: mobile internet will soon overtake fixed internet. *Vitattu*, 27, 2012.
- Jabaley, J. J., Lutzker, J. R., Whitaker, D. J., & Self-Brown, S. (2011). Using iPhones™ to enhance and reduce face-to-face home safety sessions within SafeCare®: an evidence-based child maltreatment prevention program. *Journal of Family Violence*, 26(5), 377–385.
- Kaplow, J. B., Saxe, G. N., Putnam, F. W., Pynoos, R. S., & Lieberman, A. F. (2006). The long-term consequences of early childhood trauma: a case study and discussion. *Psychiatry*, 69(4), 362–375.
- Lanktree, C. B., Briere, J., Godbout, N., Hodges, M., Chen, K., Trimm, L., Adams, B., Maida, C. A., & Freed, W. (2012). Treating multi-traumatized, socially marginalized children: results of a naturalistic treatment outcome study. *Journal of Aggression, Maltreatment & Trauma*, 21, 813–828.
- LeBouthillier, D. M., McMillan, K. A., Thibodeau, M. A., & Asmundson, G. G. (2015). Types and number of traumas associated with suicidal ideation and suicide attempts in PTSD: Findings from a U.S. nationally representative sample. *Journal Of Traumatic Stress*, 28(3), 183–190. doi:10.1002/jts.22010.
- Lenz-Rashid, S. T. (2009). *Developing permanent, supportive connections while in care: foster youth's perspectives*. Retrieved <https://alamedasocialservices.org/opg/documents/PermanencyRptSept2009.pdf>.
- Marshall, B. L., Galea, S., Wood, E., & Kerr, T. (2013). Longitudinal associations between types of childhood trauma and suicidal behavior among substance users: a cohort study. *American Journal of Public Health*, 103(9), e69–e75.
- Mongillo, E. A., Briggs-Gowan, M., Ford, J. D., & Carter, A. S. (2009). Impact of traumatic life events in a community sample of toddlers. *Journal of Abnormal Child Psychology*, 37(4), 455–468.
- Myin-Germeys, I., Birchwood, M., & Kwapil, T. (2011). From environment to therapy in psychosis: a real-world momentary assessment approach. *Schizophrenia Bulletin*, 37(2), 244–247.
- NCTSN (2007). *Creating trauma-informed child-serving systems. NCTSN Service Systems Briefs, 1(1)*. Retrieved from: http://www.nctsn.org/sites/default/files/assets/pdfs/Service_Systems_Brief_v1_v1.pdf.
- Newman, M. G., Szkodny, L. E., Llera, S. J., & Przeworski, A. (2011). A review of technology-assisted self-help and minimal contact therapies for drug and alcohol abuse and smoking addiction: is human contact necessary for therapeutic efficacy? *Clinical Psychology Review*, 31(1), 178–186.
- Newton, R. R., Litrownik, A. J., & Landsverk, J. A. (2000). Children and youth in foster care: disentangling the relationship between problem behaviors and number of placements. *Child Abuse & Neglect*, 24(10), 1363–1374.
- NYS Citizens' Coalition for Children (2010). *Parents and professionals identify post adoption service needs in New York State*. Retrieved 11/16/2016 <http://affcn.org/wp-content/uploads/PAS-Survey-Full.pdf>.
- O'Neill, D., McAuley, C., & Loughran, H. (2014). Post-adoption reunion sibling relationships: factors facilitating and hindering the development of sensitive relationships following reunion in adulthood. *Child & Family Social Work*.
- Pew Research Center. (2013). Cell Internet Use 2013. Retrieved 12/24/2016 from http://www.pewinternet.org/files/old-media/Files/Reports/2013/PIP_CellInternetUse2013.pdf.
- Pfefferbaum, B., North, C. S., Doughty, D. E., Pfefferbaum, R. L., Dumont, C. E., Pynoos, R. S., ... & Ndeti, D. (2006). Trauma, grief and depression in Nairobi children after the 1998 bombing of the American Embassy. *Death Studies*, 30(6), 561–577.
- Price, J. M., Chamberlain, P., Landsverk, J., & Reid, J. (2009). KEEP foster-parent training intervention: model description and effectiveness. *Child and Family Social Work*, 14(2), 233–242.
- Puddy, R. W., & Jackson, Y. (2003). The development of parenting skills in foster parent training. *Children and Youth Services Review*, 12, 987–1013.
- Purvis, K., Razuri, E., Howard, A., Call, C., DeLuna, J., Hall, J., & Cross, D. (2015). Decrease in behavioral problems and trauma symptoms among at-risk adopted children following trauma-informed parent training intervention. *Journal of Child & Adolescent Trauma*, 8(3), 201–210. doi:10.1007/s40653-015-0055-y.
- Pynoos, R. S., Steinberg, A. M., & Piacentini, J. C. (1999). A developmental psychopathology model of childhood traumatic stress and intersection with anxiety disorders. *Biological Psychiatry*, 46, 1542–1554.
- Pynoos, R. S., Steinberg, A. M., Schreiber, M. D., & Brymer, M. J. (2006). *Children and families: A new framework for preparedness and response to danger, terrorism, and trauma*.
- Pynoos, R. S., Fairbank, J. A., & James-Brown, C. (2011). Special forward effectively addressing the impact of child traumatic stress in child welfare. *Child Welfare*, 90(6), 11.
- Razuri, E. B., Hiles Howard, A. R., Parris, S. R., Call, C. D., DeLuna, J. H., Hall, J. S., ... & Cross, D. R. (2015). Decrease in behavioral problems and trauma symptoms among at-risk adopted children following web-based trauma-informed parent training intervention. *Journal of evidence-informed social work*, 1–14.
- Reilly, T., & Platz, L. (2004). Post-adoption service needs of families with special needs children: use, helpfulness, and unmet needs. *Journal of Social Service Research*, 30(4), 51–67.
- Rovee-Collier, C., Hayne, H., & Colombo, M. (2000). *The development of implicit and explicit memory* (Vol. 24). John Benjamins Publishing.
- Rycus, J. S., Freundlich, M., Hughes, R. C., Keefer, B., & Oakes, E. J. (2006). Confronting barriers to adoption success. *Family Court Review*, 44(2), 210–230.
- Safe and Timely Interstate Placement of Foster Children Act of 2006, Pub. L. No. 109-239, 120 Stat. 508 (2006) Website: <https://www.gpo.gov/fdsys/pkg/STATUTE-120/pdf/STATUTE-120.pdf>; <https://www.govtrack.us/congress/bills/109/hr5403>.
- Salloum, A., Scheeringa, M. S., Cohen, J. A., & Storch, E. A. (2014). Development of stepped care trauma-focused cognitive-behavioral therapy for young children. *Cognitive and Behavioral Practice*, 21(1), 97–108. doi:10.1016/j.cbpra.2013.07.004.
- Saltzman, W. R., Pynoos, R. S., Layne, C. M., Steinberg, A. M., & Aisenberg, E. (2001). Trauma- and grief-focused intervention for adolescents exposed to community violence: results of a school-based screening and group treatment protocol. *Group Dynamics: Theory, Research, and Practice*, 5(4), 291–303.
- Samuels, G. M. (2009). Ambiguous loss of home: the experience of familial (im)permanence among young adults with foster care backgrounds. *Children and Youth Services Review*, 31(12), 1229–1239.
- Samuels, B. H. (2011). Addressing trauma to promote social and emotional wellbeing: a child welfare imperative. *Child Welfare*, 90(6), 19–28.
- Sar, V. (2011). Developmental trauma, complex PTSD, and the current proposal of DSM-5. *European Journal of Psychotraumatology*, 2. doi: 10.3402/ejpt.v2i0.5622.

- Scheeringa, M. S., Zeanah, C. H., Myers, L., & Putnam, F. W. (2003). New findings on alternative criteria for PTSD in preschool children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(5), 561–570.
- Schweiger, W. K., & O'Brien, M. (2005). Special needs adoption: an ecological systems approach. *Family Relations*, 54(4), 512–522.
- Sedlak, A. J., Mettenburg, J., Basena, M., Peta, I., McPherson, K., & Greene, A. (2010). *Fourth national incidence study of child abuse and neglect (NIS-4)*. Washington: US Department of Health and Human Services.
- Smith, S. L. (2010). *Keeping the promise: The critical need for post-adoption services to enable children and families to succeed*. New York: Evan B. Donaldson Adoption Institute.
- Smith, S. L., & Howard, J. A. (1991). A comparative study of successful and disrupted adoptions. *The Social Service Review*, 65(2), 248–265.
- Smith, S. L., Howard, J. A., Garnier, P. C., & Ryan, S. D. (2006). Where are we now? A post-ASFA examination of adoption disruption. *Adoption Quarterly*, 9(4), 19–44.
- Spinazzola, J., Hodgdon, H., Liang, L., Ford, J. D., Layne, C. M., Pynoos, R., ... & Kisiel, C. (2014). Unseen wounds: The contribution of psychological maltreatment to child and adolescent mental health and risk outcomes. *Psychological Trauma: Theory, Research, Practice, and Policy*, 6(Suppl 1), S18–S28. doi:10.1037/a0037766.
- Sullivan, K. M., Murray, K. J., & Ake, G. S. (2015). Trauma-informed care for children in the child welfare system an initial evaluation of a trauma-informed parenting workshop. *Child Maltreatment*, 1077559515615961.
- Tan, T. X., & Mam, T. (2013). Mental health service utilization in children adopted from US foster care, US private agencies and foreign countries: data from the 2007 National Survey of Adoption Parents (NSAP). *Children and Youth Services Review*, 35(7), 1050–1054.
- Tupler, L. A., & De Bellis, M. D. (2006). Segmented hippocampal volume in children and adolescents with posttraumatic stress disorder. *Biological Psychiatry*, 59(6), 523–529.
- U.S. Department of Health and Human Services (2010). *Administration for Children and Families (ACF) Community Partnerships: Improving the Response to Child Maltreatment*. Retrieved 5/20/2016 from <https://www.childwelfare.gov/pubPDFs/partners.pdf>.
- U.S. Department of Health and Human Services (2013). *The AFCARS Report* (Vol. 20). Administration on Children Youth and Families: Children's Bureau.
- U.S. Department of Health and Human Services (2014). *Preliminary estimates for FY 2013. Administration on children, youth and families, children's bureau*. Retrieved at www.acf.hhs.gov/programs/cb.
- Van der Kolk, B. A. (2007). The developmental impact of childhood trauma. In L. J. Kirmayer, R. Lemelson, & M. Barad (Eds.), *Understanding trauma: Integrating biological, clinical, and cultural perspectives* (pp. 224–241). New York: Cambridge University Press.
- Vandivere, S., Malm, K., & Radel, L. (2009). *Adoption USA: A chartbook based on the 2007 National Survey of Adoptive Parents*. US Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.
- Wichers, M., Simons, C. J. P., Kramer, I. M. A., Hartmann, J. A., Lothmann, C., Myin-Germeys, I., et al. (2011). Momentary assessment technology as a tool to help patients with depression help themselves. *Acta Psychiatrica Scandinavica*, 124(4), 262–272.
- Zhou, Y., Hallisey, E.J., & Freymann, G.R. (2006). Identifying perinatal risk factors for infant maltreatment: an ecological approach. *International Journal of Health Geography*, 53–64.