

Attachment security as an outcome and predictor of response to trauma-focused cognitive-behavioral therapy among maltreated children with posttraumatic stress: A pilot study

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Abstract

Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) is a frontline intervention for post-traumatic stress disorder (PTSD) symptoms among maltreated children. Research suggests that active caregiver participation predicts positive treatment outcomes, but these studies are often based on the perception of the caregiver. Youth perceptions of the caregiver as a source of support who might help confront distressing memories (i.e., attachment security) and how they relate to TF-CBT treatment are unexplored. This paper uses data from a small randomized controlled feasibility trial of TF-CBT to conduct a pilot examination of whether (a) attachment security may improve through the course of TF-CBT, and (b) pre-treatment attachment security predicts response to TF-CBT for the amelioration of posttraumatic stress. Results favored the conclusion that those beginning treatment with attachment insecurity may demonstrate improvement for this outcome by the end of treatment ($n = 8$; $t = 3.3$, $p = .013$, Cohen's $d = 1.17$). However, although significant improvements were found over the course of treatment for PTSD, there was no evidence that pre-treatment attachment security predicted PTSD outcome ($n = 29$; $\Delta R^2 < .01$, $\Delta F(1,26) = .001$, $p = .969$). The limitations of the current pilot study are discussed, as well as directions for future research.

Keywords

Attachment, cognitive-behavioral therapy, trauma-focused, randomized controlled trial, child abuse

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In 2018, there were 678,000 newly confirmed cases of child maltreatment in the United States (U.S. Department of Health & Human Services, 2020). With regard to lifetime prevalence, global estimates indicate that nearly 12.7% of youth experience sexual abuse and 22.6% of youth experience physical abuse before the age of 18 (Stoltenborgh et al., 2015). These rates clearly demonstrate the pervasiveness of child maltreatment across the United States and internationally. Unfortunately for children who have had these experiences, child maltreatment has been described as one of the biggest threats to normative child development and adaptation (Cicchetti, 2013) due to its far-reaching negative impact on various domains of childhood functioning, including attachment security and psychopathology (Cicchetti & Toth, 2016).

One of the most common psychopathological concerns following child maltreatment is Post-traumatic Stress Disorder (PTSD; Finkelhor, 2008; Whitbeck et al., 2007). PTSD is a psychiatric condition that includes four primary symptom clusters – intrusive thoughts or memories of the traumatic event(s); avoidance of stimuli associated with the traumatic event(s); negative alterations in cognitions and mood associated with the traumatic event(s); and alterations in physiological arousal and reactivity (American Psychiatric Association, 2013). For youth who have experienced child abuse, PTSD is not only prevalent, but also fairly stable with one study reporting that 32.7% of abused youth continued to meet full diagnostic criteria for PTSD 2 years later (Famularo et al., 1996).

Given the prevalence and stability of PTSD in children who have experienced abuse, identifying and implementing effective mental health treatments that can reduce PTSD symptoms is critical. Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT; Cohen et al., 2017) is one of the most widely disseminated and implemented interventions designed to reduce posttraumatic stress symptoms in children and adolescents aged 3–17 years (Allen et al., 2012). Following 25 years of research, including rigorous randomized controlled trials, TF-CBT is regarded as the most well-established evidence-based treatment for reducing posttraumatic stress symptoms among youth who have experienced various types of trauma, including child abuse. Furthermore, it is more effective in reducing these symptoms than rapport-focused treatments (Dorsey et al., 2017). TF-CBT is a structured, components-based protocol broken into three different phases incorporating common CBT techniques such as coping skills training and psychoeducation, as well as in vivo and imaginal exposure. The purpose of these exposure exercises is to desensitize children to reminders, memories, and physical stimuli associated with their abusive experiences. The gradual exposure process culminates in the construction of a trauma narrative detailing the past traumatic experience(s) and restructuring of maladaptive cognitions.

Caregivers are active participants in standard TF-CBT delivery. Clinicians teach behavior management skills to encourage the re-establishment of appropriate limits, provide psychoeducation to improve the caregiver's understanding of the youth's experiences and presenting concerns, and teach the caregiver to implement the same coping skills being learned by the youth. Later in treatment the clinician shares the youth's narrative with the caregiver in parallel sessions to allow the caregiver to process their own thoughts and feelings regarding the child's experiences. Once these tasks are completed, the clinician facilitates a conjoint session where the youth directly shares the narrative with the caregiver, who is encouraged by the clinician to remain supportive and empathic.

Early research suggested the involvement of a non-offending caregiver in TF-CBT enhanced treatment outcomes for youth (Deblinger et al., 1996), presumably because of the caregiver's ability to reinforce the use of learned skills in the home and to provide a support network as the youth participated in potentially stress-inducing exposure exercises (see Brown et al., 2020, for a discussion). Indeed, there is evidence that greater levels of caregiver support at pre-treatment may

result in enhanced outcomes measured at post-treatment (Cohen & Mannarino, 2000). Studies seeking to determine caregiver factors that might predict greater levels of engagement and support have generally focused on cognitions and coping skills. For instance, multiple studies have linked a caregiver's maladaptive cognitions (e.g., blaming the youth) and more severe emotional reactions to less improvement through the course of TF-CBT (e.g., Cohen & Mannarino, 1993; Yasinski et al., 2016). Data shows that these mediating factors may improve throughout the course of TF-CBT, and could yield better odds of improvement for the youth (Cohen & Mannarino, 1996; Tutus et al., 2019).

Even though the mental health outcomes for the child are the variable of interest in these studies, assessment of caregiver-related factors relies almost exclusively on caregiver-report. However, the youth's willingness to engage with the caregiver and share the events of a traumatic experience may rest largely on the youth's perception of the caregiver as a source of support. Salloum et al. (2015) conducted qualitative interviews with caregivers and youth following completion of TF-CBT and found that, while caregivers overwhelmingly found the conjoint parent-youth sessions to be the most helpful aspects of treatment (82.4%), only 43.8% of the youth agreed. Although the youth may simply find a discussion of their traumatic experiences with a caregiver uncomfortable, it is also plausible that many youth have difficulty trusting their caregiver and/or are not used to discussing such serious topics with the caregiver. Investigating this possibility may help determine the youth for whom caregiver participation is most helpful.

Much of the work examining youths' perceptions of caregivers comes from the field of attachment research. Ainsworth used the term "secure" to refer to the stress-induced approach and proximity-seeking behavior of infants who seemingly view the caregiver as a source of support and comfort (Ainsworth et al., 1978/2015). As the field of attachment research began to examine older children, the focus shifted to the cognitive perceptions, or internal working models, the youth holds of the caregiver, but the conceptualization of attachment security remained. As with observable behavior, secure working models of the caregiver are believed to develop through a history of supportive caregiving (Waters & Waters, 2006) and studies have demonstrated that youth receiving more supportive forms of caregiving are more likely to develop secure perceptions of caregivers (Brumariu et al., 2018; Matias et al., 2014). However, insecurity suggests that youth are unsure of a caregiver's response to support-seeking behavior and/or do not view caregivers as significant sources of support; attachment insecurity is linked to a host of emotional and behavioral concerns (Brumariu & Kerns, 2010; Madigan et al., 2016).

It is important to note that internal working models are considered both stable and subject to revision based on feedback. As such, attachment security may improve with a repeated or significant experience of the caregiver providing appropriate support. For instance, Waters and colleagues (2019) followed 157 children, aged approximately 11 years, and assessed attachment security four times over the course of a 3-year span. They connected improvements in attachment security over time to the more frequent experience of mildly stressful events. Although they did not report on the behaviors of parents in response to these situations, one potential hypothesis is that such events provided more experience with the implementation of specific aspects of working models (i.e., methods for obtaining caregiver support), which were refined and strengthened by a reliable and effective response from a caregiver. Indeed, studies demonstrate that sensitive and supportive caregiving during the middle childhood years improves attachment security toward the caregiver (Brumariu et al., 2018; Koehn & Kerns, 2018).

Treatment efforts to improve attachment security have largely focused on the first 3 years of life, and typically target the improvement of a caregiver's sensitivity to a child's cues. Many of these efforts have proven fruitful and helped establish attachment-based interventions as frontline

treatments in the infant mental health field (e.g., Bernard et al., 2012; Cicchetti et al., 2006). Attachment-based interventions with school-age children are nearly absent in the empirical literature and those focused on adolescents typically aim to treat clinical concerns, such as depression (Diamond et al., 2010) or self-harm (Rossouw & Fonagy, 2012). This leaves a relative absence in the clinical trial literature on how to improve attachment security among youth beyond the infancy to preschool years, although there is evidence that social learning/cognitive-behavioral models of treatment may foster more sensitive and responsive caregivers among school-age children, which may later yield improved security (O'Connor et al., 2013; Timmer et al., 2006; see also Allen et al., 2014 for a discussion).

Theoretically, improving attachment security in middle childhood and adolescence may be aided by a treatment that provides the youth with the experience of a supportive caregiver under moments of distress (Bosmans et al., 2016). The treatment of clinical conditions commonly addressed through exposure-based methods, such as TF-CBT for PTSD, may provide an excellent opportunity to test this proposition. The only identified study examining this potentiality provided either TF-CBT and parenting classes or parenting classes alone to a sample of pregnant adolescents either diagnosed with PTSD or classified as having an unresolved state of mind on the adolescent version of the Adult Attachment Interview (AAI; Madigan et al., 2015). No differences were found on AAI classification between the two groups over time, but caregivers were not involved in the treatment programs and state of mind on the AAI is generally viewed as a construct distinct from attachment security.

Alternatively, it has been proposed that greater attachment security may serve to improve the effectiveness of a given treatment program. In essence, youth who believe they can rely on a caregiver for support may be more likely to engage in stressful or difficult aspects of psychotherapeutic work (Bosmans, 2016). Only one published clinical trial was identified that tested this possibility. Wolczak et al. (2017) examined 69 children between the ages of 7 and 13 diagnosed with an anxiety disorder who received a form of cognitive-behavioral therapy (CBT). Pre-treatment attachment security, using both self-report and interview methods, was not found to differ between those who did and did not respond well to treatment. The study was limited by the fact that the type of anxiety disorders of the children was quite heterogeneous and the interventions used were similarly of significant diversity, with the caregiver not being actively involved in several cases.

The current study serves as a pilot examination of attachment security as an outcome of and a predictor of response to TF-CBT as a treatment for PTSD. In addition, the current study addresses some of the shortcomings of these previous analyses by ensuring that (a) caregivers were actively involved throughout treatment in each case, (b) the standard TF-CBT protocol was provided to each participant, and (c) that all participants presented with the same clinical condition (i.e., PTSD). Two hypotheses were made. First, it was hypothesized that children displaying insecurity at the beginning of treatment would exhibit improved attachment security at the end of treatment. This is based on the idea that having a caregiver participate alongside the youth in an intervention that necessitates confronting and processing stress-inducing stimuli (i.e., memories of trauma, physical reminders of trauma in the environment) will enhance the youth's perception of that caregiver as supportive. Second, it was hypothesized that pre-treatment attachment security would predict a greater improvement in posttraumatic stress symptoms at the end of treatment. This hypothesis was developed on the theoretical basis that greater attachment security may aid the youth's engagement with stress-inducing treatment activities.

Method

Sample

Participants were recruited from a hospital-based outpatient clinic serving youth who experienced various forms of maltreatment. A total of 54 potential participants met inclusion criteria, including (a) youth between the ages of 6 and 17, (b) a caregiver willing to be a part of treatment, (c) youth experienced sexual abuse, physical abuse, and/or witnessed domestic violence, and (d) the caregiver provided a qualifying score on the UCLA PTSD Reaction Index (≥ 32 ; see below). Potential participants were approached about participating in a randomized controlled feasibility trial examining whether animal-assisted therapy (AAT) as an adjunctive intervention might enhance the effects of TF-CBT. A total of 33 youth and their caregivers agreed to participate and, using a blocked randomization procedure balancing for age and gender, were assigned to receive either standard TF-CBT or TF-CBT + AAT. Across conditions, youth averaged 11.8 years of age ($SD = 3.1$), the sample was diverse (Caucasian = 63.6%; Female = 66%), and the majority had an index trauma of sexual abuse ($n = 63.6\%$) although physical abuse (24%) and witnessing inter-partner violence (12%) were also represented. For the purposes of the current analyses, all data are considered together as there were no significant differences between the two treatment groups related to posttraumatic stress outcomes. Results of all between groups analyses and more detailed demographic and methodological information are provided in [Allen et al. \(2022\)](#).

Procedures

Following assignment to condition, one of two participating clinicians certified in the delivery of TF-CBT was assigned to the case at random. The TF-CBT protocol was the standard 12-session, 90-minutes per session version implemented in most clinical trials of the intervention. Caregivers were actively involved in each session. Clinicians completed fidelity checklists after the completion of each session and met with the project's principal investigator (first author) on a bi-weekly basis for consultation. Data on clinical symptoms (see below) were collected at baseline (time 1), during the fifth session (time 2), during the ninth session (time 3), and at post-treatment (time 4) by research assistants who were blinded to participant condition. Four cases dropped out of treatment before reaching Time 2 and are not included here. Analyses failed to identify any clinical or demographic factor predictive of dropout. For participants who failed to complete treatment after reaching Time 2 (i.e., four cases), their last observation was carried forward (LOCF) and considered their post-treatment score ($n = 29$). Assessment of attachment security occurred only at Time 1 and Time 4 ($n = 24$). This study was approved by an applicable Institutional Review Board and adhered to CONSORT guidelines for clinical trials (see [Allen et al., \(2022\)](#), for more information, including the CONSORT diagram of participant recruitment and assignment).

Measures

UCLA PTSD Reaction Index for DSM-5. The UCLA ([Pynoos & Steinberg, 2014](#)) is an assessment comprised of two parts. The first is a trauma screen that queries youth and caregivers as to whether the youth has experienced various potentially traumatic events in a yes/no format. If respondent(s) endorse more than one trauma, the interviewer asks them to identify the most concerning one in order to complete the second part of the assessment. This trauma serves as the anchor for answering

the second part of the assessment throughout the youth's participation in this study and was the focus of exposure exercises during the study. Once the index trauma is identified, the interviewer asks 27 questions that assess the youth's experience of posttraumatic stress symptoms over the past month using a frequency scale ranging from 0 (Never) to 4 (Most Days). Responses were summed to compute a total PTSD symptom scale score. For the current study, a clinical cutoff score of 32 was used to identify eligible study participants. This differs from the recommended clinical cutoff of 35 (Pynoos & Steinberg, 2014) so as to include sub-threshold cases of significant concern. This measure has parallel youth and caregiver-report forms. The caregiver version was the primary outcome and the youth self-report version was a secondary outcome given that children as young as 6 years old were included and the validity of the self-report version is not established for 6-year-olds. Both versions were administered at each of the four assessment time points. Psychometric analyses of the UCLA typically demonstrate excellent validity and reliability for both forms (Kaplow, et al., 2020; Steinberg et al., 2013). Internal consistency across all administrations of this study was excellent for both caregiver report ($\alpha = .92$) and youth self-report ($\alpha = .90$).

Security Scale (SS). The SS (Kerns et al., 1996) is a 15-item measure developed to assess youth self-reported attachment security. The respondent is presented with a series of questions where two different anchors are presented to the child with the goal of normalizing both options. For instance, "Some kids go to their mom when they are upset, but other kids do not go to their mom when upset." After selecting which option best represents themselves, youth are asked whether that option is "Sort of True" or "Really True" for them. This yields a total of four response options corresponding to a 4-point scale. The scores are averaged across all items to yield a total score (potential range 1–4), with higher scores indicative of attachment security. The reliability and validity of the SS has been demonstrated across a number of studies (Brumariu et al., 2018; Venta et al., 2014). Internal reliability estimates from the current study were $\alpha = .83$ at pre-treatment ($n = 33$) and $\alpha = .74$ at post-treatment ($n = 24$).

Data Analysis

Changes in attachment security from the beginning to the end of treatment were examined through the use of paired samples *t*-tests. Analyses examining the potential ability of attachment security to predict clinical outcomes employed hierarchical linear regression. Pre-treatment score of the given outcome (i.e., caregiver-reported PTS, self-reported PTS) was entered as a co-variate in the first step before attachment security was entered in the second step to predict the post-treatment score. Appropriate effect sizes are reported in each instance.

Results

Attachment Security as an Outcome

Initial analyses using the full sample for whom data were available using the Security Scale (i.e., Time 1 and Time 4 assessments completed, $n = 25$) showed a non-significant change in mean score for attachment security from 2.91 ($SD = .60$) at the beginning of treatment to 2.84 ($SD = .50$) at the end of treatment ($t = .547, p = .59$). Noting that these results suggest a large proportion of the sample reported a relatively high score on the scale of attachment security at pre-treatment, it was decided to restrict scores to only those cases where the potential for appreciable improvement was present. Given that the SS is a developmental measure and not a clinical one, no clinical cutoffs are available.

However, in their initial validation study, Kerns et al. (1996) used a procedure similar to that of Park & Waters (1989) and Teti & Ablard (1989) where they identified the bottom one-third of the distribution as “insecure.” Using their normative data they identified a cut point of 2.94 for boys and 2.68 for girls. Although the data involved here were clinical, these proposed cut points demarcated slightly less than one-third of the current sample ($n = 8$) and were used to examine change in security. The pre-treatment mean of 2.22 ($SD = .36$) improved to a post-treatment mean of 2.72 ($SD = .6$), a statistically significant difference that was of a large effect ($t = 3.3, p = .013$, Cohen’s $d = 1.17$).

Attachment Security as a Predictor of Treatment Response

All cases ($n = 29$) were utilized to examine caregiver-reported change of youth posttraumatic stress. Caregiver-reported posttraumatic stress improved significantly over the course of treatment ($R^2 = .43, F(1,27) = 20.4, p < .001$), but the addition of pre-treatment attachment security did not contribute to the prediction of post-treatment score ($\Delta R^2 < .01, \Delta F(1,26) = .001, p = .969$).

Youth reporting significant pre-treatment posttraumatic stress ($n = 23$) were then examined to determine the potential impact of attachment security on youth-reported outcome. As before, while treatment appeared highly successful ($R^2 = .23, F(1,21) = 6.29, p = .02$), the addition of pre-treatment attachment security to the model was not significant ($\Delta R^2 = .02, \Delta F(1,20) = .451, p = .509$).

Discussion

Attachment security is described as a critical feature of child development (Ainsworth et al., 1978/2015) with direct relevance to the onset and maintenance of various forms of psychopathology (Madigan et al., 2016), making it a potentially valuable target to engage during the course of psychological treatment. Given the prevalence of child maltreatment and its relation to both attachment insecurity (Cyr et al., 2010) and PTSD (Alisic et al., 2014), this study pilot tested whether a well-established treatment for PTSD improved attachment security and whether attachment security predicted improvements in PTSD symptom severity at the end of treatment.

The obtained evidence supported the first hypothesis that attachment security would improve over the course of treatment. For those participants reporting a relatively low score for attachment security at the beginning of treatment, significant and large improvements were observed. These data provide some support for the theoretical postulation that improvement of attachment security may occur when a supportive caregiver is involved in a treatment protocol that provides some level of discomfort for a child (e.g., exposure therapy; Bosmans et al., 2016). However, it must be stressed that these data were obtained from a small sample as only 8 participants in the current trial were included in this particular analysis. Nonetheless, the very large size of the effect observed is encouraging and suggests that this may be a fruitful avenue to explore for the identification of interventions to improve attachment security among youth.

The second hypothesis of this pilot study was not supported; there was no evidence that pre-treatment attachment security improved outcomes for youth posttraumatic stress symptoms. On the one hand this is an encouraging finding, as it suggests that youth with PTSD may benefit from an exposure therapy, such as TF-CBT, regardless of whether the caregiver is viewed as supportive. Indeed, the hypothesized mechanism of change for such an intervention, drawing largely on the behavioral principle of extinguishing a conditioned response through repeated exposure to the conditioned stimulus, is expected to function regardless of any form of social support. On the other

hand, this finding suggests that attachment security at the initiation of treatment is not particularly important for the clinical outcome, such as PTSD, and confirms the findings of [Walczak et al. \(2017\)](#) that pre-treatment attachment security did not predict the effectiveness of CBT for the treatment of anxiety disorders. It may rightly be argued that the study examining this hypothesis was underpowered, as it included 29 participants for the caregiver-reported outcome and 23 participants when examining youth self-reported PTSD. However, the effect sizes observed in these two analyses were extremely small and, assuming the size of effect remains fairly stable with a larger sample, the clinical utility of a statistically significant finding would be questionable.

As mentioned previously, a rather significant limitation of this study was the small sample size. However, it is generally considered suitable for pilot work of this nature to include a relatively small number of participants to determine whether larger, more expensive trials are indicated. Another limitation was that childhood sexual abuse constituted the primary form of child maltreatment represented in this trial (64% of cases). While sexual abuse status did not moderate treatment outcomes (see [Allen et al. \(2022\)](#)), results may not generalize across all forms of child maltreatment. Similarly, the vast majority of caregivers involved in the study were female (91%) and it is unclear how the results may be applied to cases of male caregivers.

These limitations notwithstanding, the current pilot study did have several strengths. First, the study employed both caregiver and youth self-report of the clinical outcomes. Second, caregivers were involved in every treatment session for every case, a necessary feature for determining whether attachment security impacts treatment outcome. Third, all participants presented with the same clinical condition (i.e., PTSD) and received the same intervention (i.e., TF-CBT) implemented with fidelity. Lastly, the measures employed were widely utilized and well-validated for the constructs being assessed.

The current study does support the proposition that identifying interventions for improving attachment security among school-aged children and adolescents may benefit from exploring protocols that yield the opportunity for caregivers to support youth through challenging experiences. This may include exposure-based interventions, such as TF-CBT, or through discussions about emotionally-charged topics or memories, as suggested by [Bosmans et al., \(2016\)](#). In addition, this pilot study suggests that the current attention being paid to the identification of factors predictive of response to trauma-focused interventions may find little of value in exploring attachment security as a predictor of response. However, the change seen in attachment security seen in the current pilot suggests the potential of attachment security as a potential mechanism of change. In this view, those beginning treatment with attachment insecurity may see reductions in PTSD symptoms because of improved attachment security that occurs over the course of treatment. Theoretically, the argument can be made that improving attachment security better equips the youth for confronting trauma reminders in the environment and managing stress resulting from intrusive thoughts. Demonstrating such an effect requires mediational analyses and a sample size considerably larger than that of the current pilot study. Nonetheless, implementing a measure such as the Security Scale is quite feasible as it requires little time to complete and is easily scored. Integrating attachment measures into future studies of TF-CBT or other trauma-focused interventions may allow for suitable exploration of this hypothesis.

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References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, DC: Author.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. N. (2015). *Patterns of attachment: A psychological study of the strange situation*. Taylor & Francis. Original work published 1978.
- Alisic, E., Zalta, A. K., van Wesel, F., Larsen, S. E., Hafstad, G. S., Hassanpour, K., & Smid, G. E. (2014). Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: Meta-analysis. *British Journal of Psychiatry*, *204*(5), 335–340. <https://doi.org/10.1192/bjp.bp.113.131227>
- Allen, B., Gharagozloo, L., & Johnson, J. C. (2012). Clinician knowledge and utilization of empirically-supported treatments for maltreated children. *Child Maltreatment*, *17*(1), 11–21. <https://doi.org/10.1177/1077559511426333>
- Allen, B., Shenk, C. E., Dreschel, N. E., Wang, M., Bucher, A. M., Desir, M. P., Chen, M. J., & Grabowski, D. S. R. (2022). Integrating animal-assisted therapy into TF-CBT for abused youth with PTSD: A randomized controlled feasibility trial. *Child Maltreatment*, *27*, 466–477.
- 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. <https://doi.org/10.1016/j.childyouth.2014.10.009>
- Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. *Child Development*, *83*(2), 623–636. <https://doi.org/10.1111/j.1467-8624.2011.01712.x>
- Bosmans, G. (2016). Cognitive behaviour therapy for children and adolescents: Can attachment theory contribute to its efficacy? *Clinical Child and Family Psychology Review*, *19*(4), 310–328. <https://doi.org/10.1007/s10567-016-0212-3>
- Bosmans, G., Van Vlierberghe, L., Bakermans-Kranenburg, M. J., Kobak, R., Hermans, D., & van IJzendoorn, M. H. (2016). Clinical translations of the learning theory of attachment: Attachment-focused intervention strategies for early and middle childhood. *Clinical Child and Family Psychology Review*, *19*(4), 310–328. <https://doi.org/10.1007/s10567-016-0212-3>
- Brown, E. J., Cohen, J. A., & Mannarino, A. P. (2020). Trauma-focused cognitive-behavioral therapy: The role of caregivers. *Journal of Affective Disorders*, *277*, 39–45. <https://doi.org/10.1016/j.jad.2020.07.123>
- Brumariu, L. E., Madigan, S., Giuseppone, K. R., Abtahi, M. M., & Kerns, K. A. (2018). The Security Scale as a measure of attachment: Meta-analytic evidence of validity. *Attachment & Human Development*, *20*(6), 600–625. <https://doi.org/10.1080/14616734.2018.1433217>

- Burmariu, L. E., & Kerns, K. A. (2010). Parent-child attachment and internalizing symptoms in childhood and adolescence: A review of empirical findings and future directions. *Development and Psychopathology*, 22(1), 177–203. <https://doi.org/10.1017/s0954579409990344>
- Cicchetti, D. (2013). Annual research review: Resilient functioning in maltreated children – past, present, and future perspectives. *Journal of Child Psychology and Psychiatry*, 54(4), 402–422. <https://doi.org/10.1111/j.1469-7610.2012.02608.x>
- Cicchetti, D., Rogosch, F. A., & Toth, S. L. (2006). Fostering secure attachment in maltreating families through preventive interventions. *Development and Psychopathology*, 18(3), 623–650. <https://doi.org/10.1017/s0954579406060329>
- Cicchetti, D., & Toth, S. L. (2016). Child maltreatment and developmental psychopathology: A multilevel perspective. In D. Cicchetti (Ed.), *Developmental psychopathology: Vol. Maladaptation and psychopathology* (pp. 1–55). John Wiley & Sons.
- Cohen, J. A., & Mannarino, A. P. (1993). A treatment model for sexually abused preschoolers. *Journal of Interpersonal Violence*, 8(1), 115–131. <https://doi.org/10.1177/088626093008001009>
- Cohen, J. A., & Mannarino, A. P. (1996). Factors that mediate treatment outcome of sexually abused preschool children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35, 1402–1410.
- Cohen, J. A., & Mannarino, A. P. (2000). Predictors of treatment outcome in sexually abused children. *Child Abuse & Neglect*, 24, 983–994.
- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2017). *Treating trauma and traumatic grief in children and adolescents* (2nd ed.). The Guilford Press.
- Cyr, C., Euser, E. M., Bakermans-Kranenburg, M. J., & Van Ijzendoorn, M. H. (2010). Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses. *Development & Psychopathology*, 22(1), 87–108. <https://doi.org/10.1017/s0954579409990289>
- Deblinger, E., Lippmann, J., & Steer, R. (1996). Sexually abused children suffering from posttraumatic stress symptoms: Initial treatment outcome findings. *Child Maltreatment*, 1(4), 310–321. <https://doi.org/10.1177/1077559596001004003>
- Diamond, G. S., Wintersteen, M. B., Brown, G. K., Diamond, G. M., Gallop, R., Shelef, K., & Levy, S. (2010). Attachment-based family therapy for adolescents with suicidal ideation: A randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(2), 122–131. <https://doi.org/10.1097/00004583-201002000-00006>
- Dorsey, S., McLaughlin, K. A., Kerns, S. E. U., Harrison, J. P., Lambert, H. K., Briggs, E. C., & Amaya-Jackson, L. (2017). Evidence base update for psychosocial treatments for children and adolescents exposed to traumatic events. *Journal of Clinical Child and Adolescent Psychology*, 46(3), 303–330. <https://doi.org/10.1080/15374416.2016.1220309>
- Famularo, R., Fenton, T., Augustyn, M., & Zuckerman, B. (1996). Persistence of pediatric posttraumatic stress disorder after 2 years. *Child Abuse & Neglect*, 20(12), 1245–1248. [https://doi.org/10.1016/s0145-2134\(96\)00119-6](https://doi.org/10.1016/s0145-2134(96)00119-6)
- Finkelhor, D. (2008). *Childhood victimization: Violence, crime, and abuse in the lives of young people*. Oxford University Press.
- Kaplow, J. B., Rolon-Arroyo, B., Layne, C. M., Oosterhoff, B., Hill, R., Steinberg, A. M., & Pynoos, R. S. (2020). Validation of the UCLA PTSD reaction index for DSM-5: A developmentally informed assessment tool for trauma-exposed youth. *Journal of the American Academy of Child and Adolescent Psychiatry*, 59, 186–194.
- Kerns, K. A., Klepac, L., & Cole, A. (1996). Peer relationships and preadolescents' perceptions of security in the child-mother relationship. *Developmental Psychology*, 32(3), 457–466. <https://doi.org/10.1037/0012-1649.32.3.457>
- Koehn, A. J., & Kerns, K. A. (2018). Parent-child attachment: Meta-analysis of associations with parenting behaviors in middle childhood and adolescence. *Attachment & Human Development*, 20(4), 378–405. <https://doi.org/10.1080/14616734.2017.1408131>

- Madigan, S., Brumariu, L. E., Villani, V., Atkinson, L., & Lyons-Ruth, K. (2016). Representational and questionnaire measures of attachment: A meta-analysis of relations to child internalizing and externalizing problems. *Psychological Bulletin, 142*(4), 367–399. <https://doi.org/10.1037/bul0000029>
- Madigan, S., Vaillancourt, K., McKibbin, A., & Benoit, D. (2015). Trauma and traumatic loss in pregnant adolescents: The impact of Trauma-Focused Cognitive Behavior Therapy on maternal unresolved states of mind and posttraumatic stress disorder. *Attachment & Human Development, 17*(2), 175–198. <https://doi.org/10.1080/14616734.2015.1006386>
- Matias, C., O'Connor, T. G., Futh, A., & Scott, S. (2014). Observational attachment theory-based parenting measures predict children's attachment narratives independently from social learning theory-based measures. *Attachment & Human Development, 16*(1), 77–92. <https://doi.org/10.1080/14616734.2013.851333>
- O'Connor, T. G., Matias, C., Futh, A., Tantam, G., & Scott, S. (2013). Social learning theory parenting intervention promotes attachment-based caregiving in young children: Randomized clinical trial. *Journal of Clinical Child and Adolescent Psychology, 42*(3), 358–370. <https://doi.org/10.1080/15374416.2012.723262>
- Park, K. A., & Waters, E. (1989). Security of attachment and preschool friendships. *Child Development, 60*, 1076–1081.
- Pynoos, R. S., & Steinberg, A. M. (2014). *The UCLA PTSD reaction index for the DSM-5*. Behavioral Health Innovations.
- Rossouw, T. I., & Fonagy, P. (2012). Mentalization-based treatment for self-harm in adolescents: A randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry, 51*(12), 1304–1313. <https://doi.org/10.1016/j.jaac.2012.09.018>
- Salloum, A., Dorsey, C. S., Swaidan, V. R., & Storch, E. A. (2015). Parents' and children's perception of parent-led Trauma-Focused Cognitive Behavioral Therapy. *Child Abuse & Neglect, 40*, 12–23.
- Steinberg, A. M., Brymer, M. J., Kim, S., Ghosh, C., Ostrowski, S. A., Gulley, K., Briggs, E. C., & Pynoos, R. S. (2013). Psychometric properties of the UCLA PTSD reaction index: Part I. *Journal of Traumatic Stress, 26*, 1–9. <https://doi.org/10.1002/jts.21780>.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R. A., & van IJzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review, 24*(1), 37–50. <https://doi.org/10.1002/car.2353>
- Teti, D. M., & Ablard, K. E. (1989). Security of attachment and infant-sibling relationships: A laboratory study. *Child Development, 60*, 1519–1528.
- Timmer, S. G., Urquiza, A. J., & Zebell, N. M. (2006). Challenging foster caregiver-maltreated child relationships: The effectiveness of Parent-Child Interaction Therapy. *Children and Youth Services Review, 28*, 1–19. <https://doi.org/10.1016/j.childyouth.2005.01.006>.
- Tutus, D., Goldbeck, L., Pfeiffer, E., Sachser, C., & Plener, P. L. (2019). Parental dysfunctional posttraumatic cognitions in trauma-focused cognitive behavioral therapy for children and adolescents. *Psychological Trauma: Theory, Research, Practice, & Policy, 11*, 722–731.
- U.S. Department of Health & Human Services Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2020). *Child Maltreatment 2018*. Available from: <https://www.acf.hhs.gov/cb/research-data-technology/statistics-research/child-maltreatment>
- Venta, A., Schmeuli-Goetz, Y., & Sharp, C. (2014). Assessing attachment in adolescence: A psychometric study of the child attachment interview. *Psychological Assessment, 26*(1), 238–255. <https://doi.org/10.1037/a0034712>
- Walczak, M., Esbjörn, B. H., & Breinholst, S. (2017). Attachment as a predictor of non-response to CBT treatment in children with anxiety disorders. *Attachment & Human Development, 19*(6), 635–653. <https://doi.org/10.1080/14616734.2017.1339099>
- Waters, H. S., & Waters, E. (2006). The attachment working models concept: Among other things, we build script-like representations of secure base experiences. *Attachment & Human Development, 8*(3), 185–197. <https://doi.org/10.1080/14616730600856016>

- Waters, T. E. A., Facompré, C. R., Dujardin, A., Finet, C., Van de Walle, M., De Winter, S., Santens, T., Verhees, M., & Bosmans, G. (2019). Stability and change in secure base script knowledge during middle childhood and early adolescence: A 3-year longitudinal study. *Developmental Psychology, 55*(11), 2379–2388. <https://doi.org/10.1037/dev0000798>
- Whitbeck, L. B., Hoyt, D. R., Johnson, K. D., & Chen, X. (2007). Victimization and Posttraumatic Stress Disorder among runaway and homeless adolescents. *Violence and Victims, 22*(6), 721–734. <https://doi.org/10.1891/088667007782793165>
- Yasinski, C., Hayes, A. M., Ready, C. B., Cummings, J. A., Berman, I. S., McCauley, T., Webb, C., & Deblinger, E. (2016). In-session caregiver behavior predicts symptom change in youth receiving trauma-focused cognitive behavioral therapy (TF-CBT). *Journal of Consulting & Clinical Psychology, 84*(12), 1066–1077. <https://doi.org/10.1037/ccp0000147>

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