

Intervening Early to Promote the Development of Adopted and Foster Children

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Introduction

Children's early relationships with their parents and other caregivers provide the foundation for their later development. For example, caregiving that is sensitive to children's signals and developmental needs helps support healthy brain development, social-emotional well-being, and cognitive and language skills (National Academies of Sciences, Engineering, and Medicine, 2016). Conversely, children who experience adversity in their early caregiving relationships—the lack of consistent caregivers as seen in institutional care or maltreatment at the hands of birth parents—are at risk for problematic outcomes (Dozier & Rutter, 2016; Juffer et al., 2011). The placement of these vulnerable children in safe and stable foster or adoptive families leads to substantial recovery (van IJzendoorn & Juffer, 2006; Zajac, Raby, & Dozier, in press). Nonetheless, problems do persist for some children, especially those that experienced more severe hardships prior to placement.

A growing number of intervention programs has been shown to be effective at promoting the healthy development of foster or adoptive children during infancy or early childhood by improving the parent-child relationship (Dozier & Bernard, 2017; Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2017; Leve, Fisher & Chamberlain, 2009; Purvis, Cross, Dansereau, & Parris, 2013; Spieker, Oxford, Kelly, Nelson, & Fleming, 2012;

Weiner, Schneider, & Lyons, 2009). A common feature of these relational interventions is an emphasis on training parents to interact with their children in ways that are sensitive to developmental needs. Importantly, these evidence-based interventions are distinct from so-called "attachment therapies" that are not supported by research and that have the potential to be extremely harmful to children (Chaffin et al., 2006).

In this paper, we describe one intervention—Attachment Biobehavioral Catch-up (ABC; Dozier & Bernard, 2017)—in detail. ABC has many similarities with other evidence-based interventions for young adopted and foster children. There is a large body of evidence supporting the efficacy of ABC (Bernard, Lee, & Dozier, 2017; Bernard, Dozier, Bick, Lewis-Morrarty, Lindhiem, & Carlson, 2012; Bick & Dozier, 2013; Dozier, Lindhiem, Lewis, Bick, Bernard, & Peloso, 2009; Dozier et al., 2006; Lewis-Morrarty, Dozier, Bernard, Terracciano, & Moore, 2012; Lind, Raby, Carron, Roben, & Dozier, 2017; Raby, Freedman, Yarger, Lind, & Dozier, 2018; Yarger, Hoye, & Dozier, 2016). In fact, ABC has received the highest rating ("well-supported by research evidence") from California Evidence-Based Practice Clearinghouse, a registry of programs relevant to child welfare professionals.



- The Attachment and Biobehavioral Catch-up (ABC) intervention was developed to help caregivers nurture and respond sensitively to the signals of young children with histories of adversity.
- The effectiveness of this brief intervention has been rigorously evaluated using randomized controlled trials.
- ABC has been shown to improve the quality of children's attachments to their parents, enhance children's social-emotional well-being, and boost children's self-regulation and language skills.

The Attachment and Biobehavioral Catch-up intervention

ABC consists of 10, one-hour sessions carried out in parents' homes. ABC is a manualized intervention that targets parenting behaviors relevant to the needs of young children with histories of adversity. Two key parenting behaviors are responding in a nurturing manner when children are distressed and following children's lead when they are not distressed. Similar to other evidence-based programs, parents are educated on the importance of these parenting behaviors during the intervention

sessions and are presented with video examples. A unique feature of ABC is that parents also receive feedback about the behaviors while they are interacting with their children during the intervention session. The interventionists, whom we refer to as "parent coaches," are expected to make comments at least once per minute, thus resulting in parents' receiving extensive feedback (about 60 times in an hour session) regarding how their behaviors fit with intervention targets. The feedback scaffolds parents' behaviors, making it more likely that parents engage in relevant behaviors than would be the case otherwise. Comments can describe the behavior (e.g., "He bumped his head and you said, 'honey are you ok?'"), links to the intervention target (e.g., "What wonderful nurturance"), and link to a child outcome (e.g., "That is the kind of thing that will let him

know he can count on you being there for him."). This in-vivo feedback has been shown to be critical in promoting change in parents' behaviors (Caron, Bernard, & Dozier, 2016).

ABC was originally developed for infants in foster care. More recently, ABC was adapted to address the unique needs of toddler-age children in foster care as well as children who have been adopted internationally after experiencing institutional care. For each of these groups of children, ABC's effectiveness was rigorously evaluated with a randomized controlled trial in which families were randomly assigned to receive ABC or a control intervention. In the next section, we summarize results from those research trials. We summarize the findings related to changes in parenting quality as well as the evidence for improvements in four behavioral outcomes for children: attachment security, social-emotional well-being, self-regulation abilities, and language skills (see Figure 1).

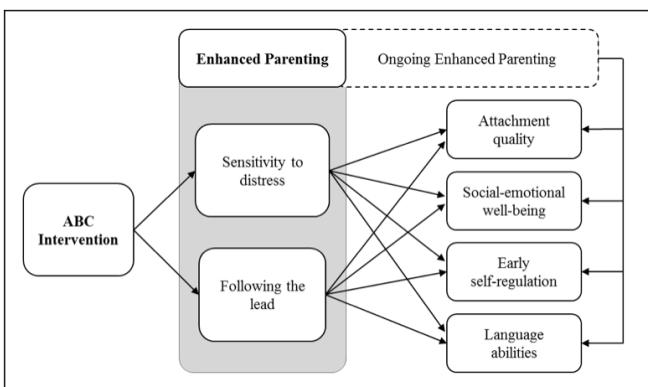


Figure 1. The positive effects of the Attachment and Biobehavioral Catch-up for enhancing parenting quality and promoting key developmental outcomes for adopted and foster children.

Research Evidence Supporting the ABC

Parental sensitivity to their children's signals is seen as the intervention mechanism. Therefore, the most basic test of the efficacy of ABC is whether it results in changes in the target parenting behaviors. Indeed, ABC has been shown to result in improvements in foster parents' skill in following their children's lead that persisted at least 2 years after the completion of the intervention (Bick & Dozier, 2013). ABC also enhances parenting quality among parents of children adopted internationally.

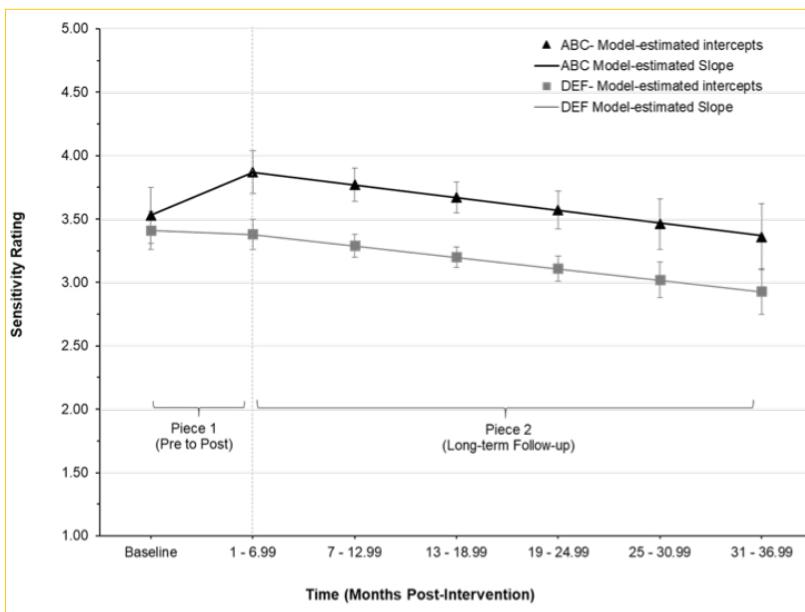


Figure 2. The positive effect of the Attachment and Biobehavioral Catch-up Intervention on parents' following their children's lead ("sensitivity") up to 36 months post-intervention. From Yarger, Bernard, Caron, Wallin, and Dozier (in press).

Adoptive parents who received ABC followed their children's lead more, were less intrusive with their children, and showed more enjoyment of their children than parents in the control condition (Yarger, Bernard, Caron, Wallin, & Dozier, in press). As with foster parents, the positive effects of ABC continued to be observed 2 years later (see Figure 2). This evidence supports ABC engaging the intervention mechanism.

Because of their histories of maltreatment and unstable placements, children in foster care and children adopted internationally have difficulty forming secure, organized attachments with their parents (Dozier & Rutter, 2016). Foster parents who received ABC reported that their children were less likely to avoid them when they were distressed (e.g., acting as if they were not hurt or scared, or intentionally moving away from the parent when upset) than reported by parents in the control condition (Dozier et al., 2009). Similarly, among children adopted internationally after experiencing high levels of adversity prior to adoption (e.g., long duration of institutional care), more of the children who had received ABC formed secure attachments to parents than children in the control condition (Raby, Dozier, & Carlson, in preparation; (see Figure 3).

Children in foster care and children who were adopted internationally are also at risk for problematic social-emotional functioning. Parents of children in foster care and parents of children adopted internationally who received ABC reported that their toddler-age children had fewer behavior problems than parents in the control condition (Dozier et al., 2006; Yarger, Lind, Zajac, Raby, Bernard, & Dozier, in preparation). Children adopted internationally whose parents received ABC also demonstrated less aggression and oppositional behavior while interacting with their parents than children in the control condition (Yarger et al., in preparation) and exhibited more prosocial behavior while interacting with both their parents and a stranger than children in the control condition (Lind, Raby, Goldstein, Bernard, & Dozier, in preparation).

During early childhood, children begin to develop the ability to regulate their thoughts and behaviors. These self-regulation skills provide a foundation for children's adjustment at later ages, having implications for their academic performance (Blair & Raver, 2015). In two separate samples, foster children whose parents had received the ABC intervention demonstrated

Figure 3. The positive effect of the Attachment and Biobehavioral Catch-up Intervention on attachment security among children adopted internationally who experienced high levels of adversity prior to adoption. From Raby, Dozier, and Carlson (in preparation).

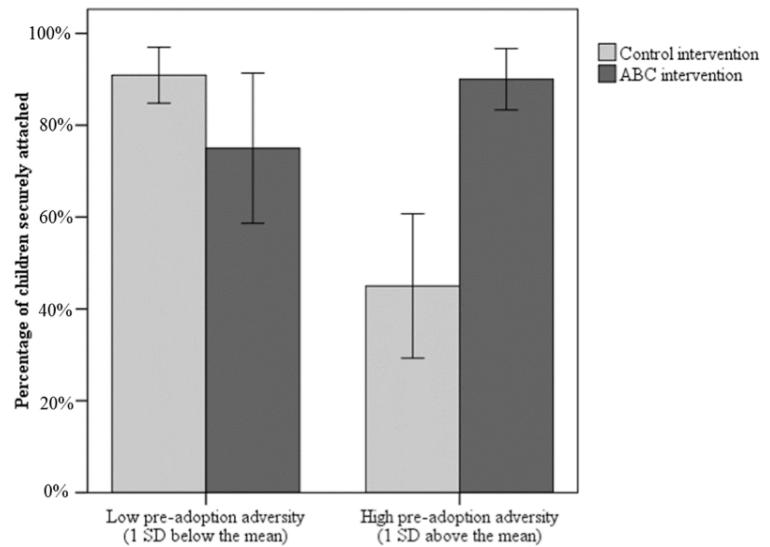
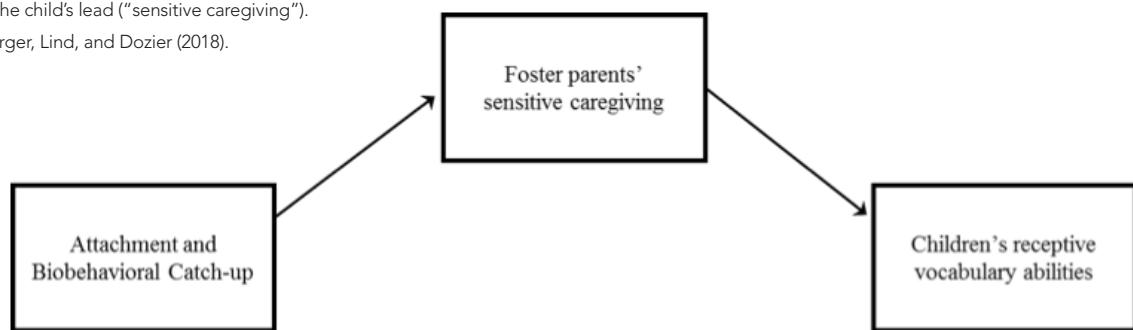


Figure 4. The positive effect of the Attachment and Biobehavioral Catch-up intervention on the receptive vocabulary abilities of toddlers in foster care via improvements in foster parents' following the child's lead ("sensitive caregiving").
From Raby, Freedman, Yarger, Lind, and Dozier (2018).



stronger self-regulation skills than foster children in the control group (Lind et al., 2017; Lewis-Morrarty et al., 2012). Unlike children in the control condition, the self-regulation abilities of children who received ABC were similar to those of low-risk children who had never been involved with the foster care system. In addition, foster parents who received ABC reported that their children had fewer attention problems than children in the control condition (Lind et al., 2017).

Another important milestone of early childhood is developing a rich vocabulary for communicating with others. Infants whose foster parents received ABC developed a more advanced receptive vocabulary than children whose parents had received the control intervention (Bernard et al., 2017). This effect was replicated with toddler-age children in foster care (Raby et al., 2018). Moreover, the positive effect of ABC on the toddler-age foster children's vocabularies was shown to be mediated by improvements in foster parents' skill with following their children's lead (see Figure 4).

Future Directions

In summary, the Attachment and Biobehavioral Catch-up intervention has been shown to enhance parenting quality, improve the quality of children's attachments to their parents, enhance children's social-emotional well-being, and boost children's self-regulation and language skills.

These findings are bolstered by the results of randomized controlled trials of ABC with high-risk

birth parents (Bernard et al., 2012; Yarger et al., 2016). Similar results involving other parenting-focused early interventions with foster or adopted children have also been reported (e.g., Juffer, Bakermans-Kranenburg et al., 2017). In other words, evidence-based programs exist that can help promote the healthy development of adopted and foster children.

There are additional questions that warrant additional research. For example, some internationally adopted children who experienced institutional care during the first few years of life fail to exhibit developmentally appropriate levels of wariness of unfamiliar people (Dozier & Rutter, 2016). The ABC intervention was adapted to address these clinically significant issues with parents of children adopted internationally. However, the base rate of these "indiscriminately friendly" behaviors was too low to allow for an evaluation of whether those efforts were successful. Studies involving children adopted from institutional care at even later ages are most likely needed.

Children with histories of adversity who receive ABC or one of the other evidence-based parenting interventions develop in a healthy manner during early childhood. A remaining question is whether these early interventions may result in sustained improvements in children's functioning that persist into middle childhood and adolescence. This is an important issue because children in foster care and children adopted internationally are at risk for problematic outcomes related to attachment, social-emotional functioning, and self-regulation abilities during these later years (Juffer et al., 2011).

Another future direction at the intersection of research and clinical practice is effectively disseminating the evidence-based interventions to families in need. In general, there is a gap between the needs for interventions and the types of interventions that are available (Kazdin, 2017). In addition, implementing an evidence-based intervention in the community with adequate fidelity can be difficult. Much smaller treatment effects are often seen in the community than when tested in randomized clinical trials (Durlak & DuPre, 2008).

Ongoing research with ABC offers suggestions for how to disseminate these evidence-based intervention broadly while also maintaining fidelity and effectiveness when implemented in the community. Specifically, the system for training, supervision, and certification in ABC is organized around the component that has been shown to be critical in promoting change in parents' behaviors, namely the parent coaches' provision of live feedback about parents' use of the target behaviors during the intervention sessions (Roben, Dozier, Caron, & Bernard, 2017). ABC is currently being disseminated at multiple sites across the United States and internationally. Both the analyses of the changes in parents' behavior from pre- to post-intervention at various dissemination sites (Caron et al., 2016; Roben et al., 2007) and a recent randomized controlled trial in the community (Berlin, Martoccio, & Harden, in press) have reported effects sizes that were similar to those observed in the laboratory-based trials. These dissemination studies with ABC provide a template for successfully implementing evidence-based interventions in the community to promote the healthy development of adopted and foster children.

significant issues, such as indiscriminately friendly behaviors.

- Another task for future research is examining whether these early interventions result in sustained improvements in children's functioning that persist beyond early childhood and middle childhood and adolescence.

Implications for the Future of Adoption: Practice

- There is an urgent need to successfully disseminate these evidence-based interventions to families in need.
- Monitoring the implementation process to ensure that these interventions are implemented in the community with adequate fidelity is crucial.

Implications for the Future of Adoption: Policy

- Parents of children who have experienced early adversity often need services to promote their ability to care for their children adequately.
- Policies should encourage intervention programs to have a strong evidence base in order to receive public funding.

Implications for the Future of Adoption: Research

- Interventions that focus on improving parents' sensitivity to their children's signals have been shown to promote healthy outcomes for adopted and foster children who experienced early adversity.
- Additional research is needed to examine the impact of these interventions on other clinically

References

- Berlin, L. J., Mortoccio, T. L., & Harden, B. J. (in press). Improving early head start's impacts on parenting through attachment-based intervention: A randomized controlled trial. *Developmental Psychology*.
- Bernard, K., Lee, H. E., & Dozier, M. (2017). Effects of the ABC intervention on foster children's receptive vocabulary: Results from a randomized controlled trial. *Child Maltreatment*, 22, 174–179. DOI: 10.1177/1077559517691126
- 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, 623–636. DOI: 10.1111/j.1467-8624.2011.01712.x
- Bick, J., & Dozier, M. (2013). The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. *Infant Mental Health Journal*, 34, 95–103. DOI: 10.1002/imhj.21373
- Blair, C., & Raver, C. C. (2015). School readiness and self-regulation: A developmental psychobiological approach. *Annual Review of Psychology*, 66, 711–731. DOI: 10.1146/annurev-psych-010814-015221.
- Caron, E., Bernard, K., & Dozier, M. (2016). In vivo feedback predicts parent behavior change in the Attachment and Biobehavioral Catch-up intervention. *Journal of Clinical Child & Adolescent Psychology*. Advance online publication. DOI: 10.1080/15374416.2016.1141359
- Chaffin, M., Hanson, R., Saunders, B. E., Nichols, T., Barnett, D., Zeanah, C., ... Miller-Perrin, C. (2006). Report of the APSAC task force on attachment therapy, reactive attachment disorder, and attachment problems. *Child Maltreatment*, 11, 76–89. DOI: 10.1177/1077559505283699
- Dozier, M., & Bernard, K. (2017). Attachment and Biobehavioral Catch-up: Addressing the needs of infants and toddler exposed to inadequate or problematic caregiving. *Current Opinion in Psychology*, 15, 111–117. DOI: 10.1016/j.copsyc.2017.03.003
- 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*, 26, 321–332. DOI: 10.1007/s10560-009-0165-1
- Dozier, M., Peloso, E., Lindhiem, O., Gordon, M.K., Manni, M., Sepulveda, S., et al. (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. *Journal of Social Issues*, 62, 767–785. DOI: 10.1111/j.1540-4560.2006.00486.x
- Dozier, M., & Rutter, M. (2008). Challenges to the development of attachment relationships faced by young children in foster and adoptive care. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd edn., pp. 698–717). New York: Guilford Press.
- Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, 41, 327–350. DOI: 10.1007/s10464-008-9165-0
- Lewis-Morrarty, E., Dozier, Juffer, F., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2017). Pairing attachment theory and social learning theory in video-feedback intervention to promote positive parenting. *Current Opinion in Psychology*, 15, 189–194. DOI: 10.1016/j.copsyc.2017.03.012
- Juffer, F., Palacios, J., Mare, L. L., Sonuga-Barke, E. J. S., Tieman, W., Bakermans-Kranenburg, M. J., ... Verhulst F. C. (2011). Development of adopted children with histories of early adversity. In R. B. McCall, M. H. Van IJzendoorn, F. Juffer, C. J. Groark, and V. K. Groza (Eds.), *Children without permanent parents: Research, practice, and policy. Monographs of the Society for Research in Child Development*, 76, 31–61. DOI: 10.1111/j.1540-5834.2011.00627.x
- Kazdin, A. E. (2017). Addressing the treatment gap: A key challenge for extending evidence-based psychosocial interventions. *Behaviour Research and Therapy*, 88, 7–18. DOI: 10.1016/j.brat.2016.06.004
- Leve, L. D., Fisher, P. A., & Chamberlain, P. (2009). Multidimensional Treatment Foster Care as a preventive intervention to promote resiliency among youth in the child welfare system. *Journal of Personality*, 77, 1869–1902. DOI: 10.1111/j.1467-6494.2009.00603.x
- Lewis-Morrarty, E., Dozier, M., Bernard, K., Terracciano, S. M., & Moore, S. V. (2012). Cognitive flexibility and theory of mind outcomes among foster children: Preschool follow-up results of a randomized clinical trial. *Journal of Adolescent Health*, 51, S17–S22. DOI: 10.1016/j.jadohealth.2012.05.005
- Lind, T., Raby, K. L., Carron, EB, Roben, C. K. P., & Dozier, M. (2017). Enhancing executive functioning among toddlers in foster care with an attachment-based intervention. *Development and Psychopathology*, 29, 575–586. DOI: 10.1017/S0954579417000190
- Lind, T., Raby, K. L., Goldstein, A., Bernard, K., & Dozier, M. (in preparation). *Attachment and Biobehavioral Catch-up: Improving social competence in internationally adopted children*.
- National Academies of Sciences, Engineering, and Medicine (2016). *Parenting matters: Supporting parents of children ages 0-8*. Washington, DC: The National Academies Press. DOI: 10.17226/21868.
- Purvis, K. B., Cross, D. R., Dansereau, D. F., & Parris, S. R. (2013). Trust-based relational intervention (TBRI): A systemic approach to complex developmental trauma. *Child & Youth Services*, 34, 360–386. DOI: 10.1080/0145935X.2013.859906
- Raby, K. L., Dozier, M., & Carlson, E. C. (in preparation). *Promoting attachment security among internationally adopted children with histories of early adversity: Results from a randomized controlled trial*.
- Raby, K. L., Freedman, E., Yarger, H. A., Lind, T., & Dozier, M. (2018). Enhancing the language development of toddlers in foster care by promoting foster parents' sensitivity: Results from a randomized control trial. *Developmental Science*. Advance online publication. DOI: 10.1111/desc.12753
- Roben, C. K. P., Dozier, M., Caron, E., & Bernard, K. (2017). Moving an effective parenting program into the community. *Child Development*, 88, 1447–1452. DOI: 10.1111/cdev.12898
- Spieker, S. J., Oxford, M. L., Kelly, J. F., Nelson, E. M., & Fleming, C. B. (2012). Promoting First Relationships: Randomized trial of a relationship-based

Authors

intervention for toddlers in child welfare. *Child Welfare*, 17, 271–286. DOI: 10.1177/1077559512458176

Van IJzendoorn, M. H., & Juffer, F. (2006). The Emanuel Miller Memorial Lecture 2006: Adoption as intervention: Meta-analytic evidence for massive catchup and plasticity in physical, socio-emotional and cognitive development. *Journal of Child Psychology and Psychiatry*, 47, 1228–1245. DOI: 10.1111/j.1469-7610.2006.01675.x

Weiner, D. A., Schneider, A., & Lyons, J. S. (2009). Evidence-based treatments for trauma among culturally diverse foster care youth: Treatment retention and outcomes. *Children and Youth Services Review*, 31, 1199–1205. DOI: 10.1016/j.childyouth.2009.08.013

Yarger, H. A., Bernard, K., Caron, E., Wallin, A., & Dozier, M. (in press). Enhancing parenting quality for young children adopted internationally: Results of a randomized controlled trial. *Journal of Clinical Child and Adolescent Psychology*.

Yarger, H. A., Hoye, J. R., & Dozier, M. (2016). Trajectories of change in Attachment and Biobehavioral Catch-up among high-risk mothers: A randomized clinical trial. *Infant Mental Health Journal*, 37, 525–536. DOI: 10.1002/imhj.21585

Yarger, H. A., Lind, T., Zajac, L., Raby, K. L., Bernard, K., & Dozier, M. (in preparation). *Intervening to improve social-emotional functioning among children adopted internationally*.

Zajac, L., Raby, K. L., & Dozier, M. (in press). Receptive language abilities of children placed in foster care and children who remained with birth parents after involvement with CPS. *Child Maltreatment*.



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