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Attachment across the lifespan: insights from adoptive families

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Research with adoptive families offers novel insights into longstanding questions about the significance of attachment across the lifespan. We illustrate this by reviewing adoption research addressing two of attachment theory's central ideas. First, studies of children who were adopted after experiencing severe adversity offer powerful tests of the unique consequences of experiences in early attachment relationships. Although children who experience early maltreatment or institutionalization show remarkable recovery in the quality of their attachments after being placed with their adoptive families, experiencing pre-adoptive adversity also has long-lasting repercussions for these individuals' later attachment representations. Second, adoptive families allow for genetically-informed examinations of the intergenerational transmission process. Indeed, despite the lack of genetic relatedness, adoptive parents' attachment representations are associated with their children's attachment behaviors and representations across childhood and adolescence.

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Attachment theory provides a rich framework for understanding the impact of close relationships for both typical and atypical forms of social and emotional development across the lifespan. Many studies have tested attachment theory's hypotheses over the last several decades [1]. Nonetheless, questions and debates have persisted, even for attachment theory's basic propositions. In this review, we highlight how research with adoptive families can provide novel insights about attachment processes across the lifespan. Specifically, we summarize recent findings that address two longstanding questions in attachment theory: whether early caregiving experiences have a long-term impact on attachment representations that persist across development and whether parents' attachment representations are intergenerationally transmitted.

Long-term consequences of early attachment experiences

One of attachment theory's central hypotheses is that early experiences within attachment relationships shape the formation of a set of mental representations of close relationships that are carried forward across childhood and adolescence and into adulthood [2,3]. This controversial idea has been the source of continued debate about the degree to which the attachment representations formed early in life are malleable and can be revised based on interpersonal experiences at later ages. Although there is widespread agreement that individuals' attachment representations respond adaptively to shifts in the caregiving environment [4], some have proposed that experiences in early attachment relationships leave an enduring mark that continues to shape later development even amid changes in caregiving contexts [5].

An obstacle to testing these ideas is that the quality of the caregiving environment is fairly stable across time for most families. As a result, it is difficult to clearly distinguish between the contributions of early versus later experiences in most studies [6]. By contrast, children who are adopted after being maltreated or after being raised in a group-based institutional setting experience a profound change in their environments. These children often experience pre-adoptive conditions that are poorly suited to their developmental needs, including a lack of consistent attachment figures who are responsive to their signals. Adoptive parents typically provide these children with stable and highly enriched relationship experiences. For this reason, investigations of children who have been adopted after experiencing early adversity are well positioned to evaluate the potential long-term consequences of early experiences for attachment representations [7].

Adoption and attachment during early childhood

Research on attachment in the context of adoption has traditionally focused on observations of children's attachment behaviors during infancy and early childhood. Findings indicate that young children's attachment systems are capable of reorganizing and flexibly adapting to new caregivers after earlier relationships are disrupted. Specifically, most children who are placed in adoptive or foster homes appear to consolidate attachments to their new caregivers within a few months [8•,9•]. Moreover, these children show substantial recovery in attachment quality, as the prevalence of attachment security is

considerably higher among adopted children than among children in maltreating homes or institutional settings [10••,11,12]. Nonetheless, children with histories of pre-adoptive adversity are still at risk for forming insecure attachments to their adoptive parents relative to non-adopted children [10••].

Altogether, these findings support a nuanced view of the plasticity of attachment representations and the potential long-term effects of early caregiving experiences. Early experiences within attachment relationships do not singlehandedly determine later attachment patterns; lawful changes in attachment representations in response to changes in close relationships are possible. At the same time these changes are constrained by prior development [5]. The attachment patterns established within early relationships are carried over and serve as the basis for adopted children's expectations of their new caregivers. In this way, experiences of early adversity can have lingering consequences for later attachment outcomes even in the midst of change.

Adoption and attachment at later ages

Studies of the attachment outcomes of adopted children and adolescents suggest that the consequences of early experiences of maltreatment or institutionalization vary across the different facets of the attachment system. Experiences of maltreatment or institutionalization appear to have long-term implications for *global* representations of attachment relationships (i.e., thoughts and feelings about close relationships in general). Adopted individuals with histories of adversity are more likely than non-adopted individuals to development insecure representations, as assessed with story-stem methods [13–16], autobiographical narratives [17, but see 18], and family drawings [19,20]. By contrast, there is limited evidence that early maltreatment or institutionalization have long-term effects on adoptive individuals' attachment security within the adoptive parent–child relationship. Parents report few differences in the attachment behaviors of children adopted after experiencing adversity and non-adopted children [21,22,23•,24,25], and adopted children and adolescents do not report feeling less security in their relationships with their parents than non-adopted children [26–28].

Emerging research on attachment among adults who were adopted as children has produced similar findings. Experiencing early adversity appears to have limited effects on adopted individuals' sense of security with their adoptive parents [10••]. For example, adults between the ages of 22–25 years who were adopted as children from severely depriving Romanian orphanages by English families did not differ in the perceived quality of their relationships with their adoptive parents from young adults who were adopted but did not experience early deprivation [29]. By contrast, experiencing early adversity does have long-term consequences for adopted adults' general representations of attachment as assessed by the Adult Attachment Interview (AAI). For example, a sample of adults adopted later in childhood after experiencing early adversity exhibited relatively high rates of non-autonomous (insecure) states of mind as adults as assessed by the AAI [30]. Similarly, age of adoption has been associated with increased risk for non-autonomous states of mind among adults who were adopted internationally from group-based, institutional care [31]. These findings are consistent with longitudinal evidence that childhood maltreatment confers risk for non-autonomous states of mind among non-adopted adults [32•].

Altogether, these recent research findings indicate adverse early caregiving experiences may have persistent effects on adopted individuals' attachment patterns that extend into adulthood. These long-term effects, however, appear to be unique to adopted individuals' more generalized representations of attachment. Adopted individuals construct representations of their new attachment relationships that become increasingly independent of their early, pre-adoptive experiences. However, these relationship-specific representations may exist alongside rather than in place of more abstract and global representations of attachment, which appear to be more resistant to change.

Intergenerational transmission of attachment

A second central proposition of attachment theory is that attachment representations are transmitted from one generation to the next. Parents' mental representations of attachment relationships are expected to shape their responses to children's behavioral cues which in turn guide the young child's sense of security (or lack thereof) within the attachment relationship [33]. To date, dozens of studies of the intergenerational transmission of attachment have offered support for this basic process [34]. However, because most of these studies have involved biologically-intact parent–child pairs, some have questioned whether intergenerational associations are due to genetic factors shared between parents and their children [35, but see 36]. Research with adoptive families offers the unique opportunity for testing the intergenerational transmission process among genetically unrelated parent–child pairs.

A highly related question is whether adoptive parents' attachment representations differ from those of non-adoptive parents. Dozier and Rutter [37] suggested that adoptive parents may be more likely to have autonomous (secure) states of mind than non-adoptive parents based on the evidence that most adoptive parents exhibit high levels of psychological adjustment. Consistent with that idea, nearly 75% of parents who adopted internationally and couples who are seeking to adopt domestically are

classified as having an autonomous state of mind during the Adult Attachment Interview [38,39]. This estimate is substantially higher than the normative base rate of 55–60% for low-risk mothers [40]. Thus, the majority of parents who pursue adoption have developed attachment-related representations that are assumed to promote secure parent–child attachments in the next generation.

An initial study of the intergenerational transmission of attachment among genetically-unrelated parent–child dyads reported a high concordance between foster mothers' attachment states of mind and their infants' patterns of attachment [41]. Subsequent studies that used similar methods with foster and adoptive parent–child pairs have provided mixed results [42,43], and a recent meta-analysis of this research literature indicated that the association between parents' attachment states of mind and young children's attachment patterns was conditional on the biological relatedness of the parent–child pairs [34]. Among adoptive and foster parents, the intergenerational association was in the expected direction but not statistically significant and approximately half the size of the association observed in studies with biological caregivers.

Although these meta-analytic results do not rule out the possibility of genetic contributions to the intergenerational transmission of attachment, there are plausible environmentally-orientated explanations for the inconsistent results with adoptive parent–infants pairs. First, parents tend to respond to their children in ways that complement their children's attachment behaviors [44]. Thus, regardless of the parents' own attachment representations, parents of adopted children with histories of maltreatment or institutionalization may at times behave in ways that inadvertently perpetuate their children's insecure expectations of attachment figures. Second, the attachment-related expectations that children construct based on their pre-adoptive interpersonal experiences tend to be carried over into children's new relationships with their adoptive parents and can be resistant to change. This stability of children's attachment representations may weaken the associations between the adoptive caregiving environment (including adoptive parents' attachment representations) and adopted children's attachment outcomes, especially for children with histories of maltreatment or institutionalization who were recently placed with their adoptive families.

These alternative explanations raise the possibility that the associations between parents' and children's attachment patterns may be stronger when children have spent more time in their adoptive families and have had more opportunities for recovering from experiences of pre-adoptive adversity than when they have had less time and fewer opportunities. Mounting evidence suggests that is the case. Adoptive parents' attachment states of mind are associated with their adopted children' attachment behaviors and representations during middle childhood adolescence [45•,46–49]. These findings suggest that, despite the lack of genetic relatedness, adoptive parents' attachment representations shape the attachment patterns of their children and can support recovery in attachment quality for children with histories of early adversity.

Future directions

Additional research with adoptive families will continue to enrich our understanding of attachment across the lifespan. For example, only a few investigations have examined attachment outcomes among adults who were adopted after experiencing early maltreatment or institutionalization. Longitudinal studies that follow adopted individuals with histories of early adversity from childhood to adulthood would advance our understanding of the long-term impact of early caregiving experiences for attachment during adulthood. Similarly, most reports of the attachment outcomes of adopted individuals after early childhood have included only one measure of attachment. Studies that repeatedly gather information about adopted individuals' generalized attachment representations as well as their representations of relationships with adoptive parents would allow for clearer and more direct tests of the potential differential plasticity of the various facets of the attachment system.

A question that remains unanswered by adoption researchers is whether early caregiving experiences have implications for the quality of attachments adoptees form with romantic partners. To our knowledge the only data available on the romantic attachment patterns of adult adoptees have involved individuals adopted at birth [50]. As a result, the findings are indicative of the potential influence of adoption — rather than early adversity *per se* — on individuals' sense of security with adult romantic attachments.

Lastly, additional research is needed into the mechanisms that account for the intergenerational transmission of attachment among adopted parent–child pairs. Relatively few studies have examined the specific aspects of the caregiving environment that may promote the development of secure attachments among adopted individuals [47]. In addition to the clear theoretical value, information about the specific caregiving behaviors that contribute to attachment-related recovery of children adopted after maltreatment or institutionalization has a vital role in the development and application of attachment-based interventions for these at-risk populations.

Conflict of interest statement

Nothing declared.

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References and recommended reading

Papers of particular interest, published within the period of review, have been highlighted as:

- • of special interest
- •• of outstanding interest

1. Cassidy J, Shaver PR: *Handbook of Attachment: Theory, Research, and Clinical Applications*. Guildford Press; 2016.

2. Bowlby J: **Developmental psychiatry comes of age**. *Am J Psychiatry* 1988, **145**:1-10.

3. Sroufe LA, Fleeson J: **Attachment and the construction of relationships**. In *Relationships and Development.* Edited by Hartup WW, Rubin Z. Lawrence Erlbaum Associates; 1986:51-71.

4. Booth-LaForce C, Groh AM, Burchinal MR, Roisman GI, Owen MT, Cox MJ: **Caregiving and contextual sources of continuity and change in attachment security from infancy to late adolescence**. *Monogr Soc Res Child Dev* 2014, **79**:67-84.

5. Sroufe LA, Coffino B, Carlson EA: **Conceptualizing the role of early experience: lessons from the Minnesota Longitudinal Study**. *Dev Rev* 2010, **30**:36-51 http://dx.doi.org/10.1016/j.dr.2009.12.002.

6. Lamb ME, Thompson RA, Gardner WP, Charnov EL, Estes D: **Security of infantile attachment as assessed in the strange situation: its study and biological interpretation**. *Behav Brain Sci* 1984, **7**:127-171 http://dx.doi.org/10.1017/S0140525X00026522.

7. Julian MM: **Age at adoption from institutional care as a window into the lasting effects of early experiences**. *Clin Child Fam Psychol Rev* 2013, **16**:101-145 10.1007/s10567-013-0130-6.

8. • Carlson EA, Hostinar CE, Mliner SB, Gunnar MR: **The emergence of attachment following early social deprivation**. *Dev Psychopathol* 2014, **26**:479-489.

Carlson *et al*. studied the extent to which children adopted following institutional care formed clear attachments to their adoptive parents. Children with more pre-adoption adversity took longer to form clear attachments to their parents, but most had formed clear attachments by 7–9 months after adoption.

9. • Stovall-McClough KC, Dozier D: **Forming attachments in foster care: infant attachment behaviors during the first 2 months of placement**. *Dev Psychopathol* 2004, **16**:253-271.

Attachment behaviors in newly forming dyads were studied daily over the first two months of infants' placements in new foster care settings. Children placed at younger ages consolidated attachment behaviors more quickly than those placed later.

10. •• Van den Dries L, Juffer F, Van IJzendoorn MH, Bakermans-Kranenburg MJ: **Fostering security? A meta-analysis of attachment in adopted children**. *Child Youth Serv Rev* 2009, **31**:410-421.

In this meta-analysis, Van den Dries and colleagues found that children adopted before 12 months of age show rates of secure attachment as high as non-adopted children, which was not true for children adopted after a year of age.

11. Cyr C, Euser EM, Bakemans-Kranenburg MJ, Van IJzendoorn M: **Attachment security and disorganization in maltreating and high-risk families: a series of meta-analyses**. *Dev Psychopathol* 2010, **22**:87-108.

12. Lionetti F, Pastore M, Barone L: **Attachment in institutionalized children: a review and meta-analysis**. *Child Abuse Negl* 2015, **42**:135-145.

13. Kaniuk J, Steele M, Hodges J: **Report on a longitudinal research project, exploring the development of attachments between older, hard-to-place children and their adopters over the first two years of placement**. *Adopt Foster* 2004, **28**:61-67.

14. Pace CS, Cavanna D, Velotti P, Zavattini GC: **Attachment representations of late-adopted children through attachment narratives: an assessment of disorganisation mentalising and coherence of mind for adoption practice**. *Adopt Foster* 2014, **38**:255-270 10.1177/0308575914543235.

15. Román M, Palacios J, Moreno C, López A: **Attachment representations in internationally adopted children**. *Attach Hum Dev* 2012, **14**:585-600 http://dx.doi.org/10.1080/14616734.2012.727257.

16. Vorria P, Papaligoura Z, Sarafidou J, Kopakaki M, Dunn J, Van IJzendoorn MH, Kontopoulo A: **The development of adopted children after institutional care: a follow-up study**. *J Child Psychol Psychiatry* 2006, **47**:1246-1253.

17. Escobar MJ, Santelices MP: **Attachment in adopted adolescents. National adoption in Chile**. *Child Youth Serv Rev* 2013, **35**:488-492 10.1016/j.childyouth.2012.12.011.

18. Vorria P, Ntouma M, Vairami M, Rutter M: **Attachment relationships of adolescents who spent their infancy in residential group care: the Greek Metera study**. *Attach Hum Dev* 2015, **17**:257-271 10.1080/14616734.2015.1028947.

19. Howard ARH, Razuri EB, Call CD, DeLuna JH, Purvis KB, Cross DR: **Family drawings as attachment representations in a sample of post-institutionalized adopted children**. *Arts Psychother* 2017, **52**:63-71.

20. Pace CS, Zavattini GC, Tambelli R: **Does family drawing capture attachment representations of late-adopted children? A preliminary report**. *Child Adolesc Mental Health* 2015, **20**:26-33 http://dx.doi.org/10.1111/camh.12042.

21. Cohen NJ, Farnia F: **Social–emotional adjustment and attachment in children adopted from China: processes and predictors of change**. *Int J Behav Dev* 2011, **35**:67-77 http://dx.doi.org/10.1177/0165025410371602.

22. McCall R, Muhamedrahimov R, Groark C, Palmov O, Nikiforova N, Salaway J, Julian M: **The development of post-institutionalized versus parent-reared Russian children as a function of age at placement and family type**. *Dev Psychopathol* 2016, **28**:251-264 http://dx.doi.org/10.1017/S0954579415000425.

23. • Palacios J, Román M, Moreno C, León E: **Family context for emotional recovery in internationally adopted children**. *Int Soc Work* 2009, **52**:609-620 http://dx.doi.org/10.1177/0020872809337679.

Children adopted from Russia showed significant recovery over time in behaviors characteristic of attachment disorders.

24. Raaska H, Elovainio M, Sinkkonen J, Matomäki J, Mäkipää S, Lapinleimu H: **Internationally adopted children in Finland: parental evaluations of symptoms of reactive attachment disorder and learning difficulties — FINADO study**. *Child Care Health Dev* 2012, **38**:697-705.

25. Santos-Nunes M, Narciso I, Vieira-Santos S, Roberta MS: **Parenting and emotional well-being of adoptive school-aged children: the mediating role of attachment**. *Child Youth Serv Rev* 2017, **81**:390-399 http://dx.doi.org/10.1016/j.childyouth.2017.08.026.

26. Barroso R, Barbosa-Ducharne M, Coelho V: **Portuguese adopted adolescents' perception of attachment relationships to parents**. *Child Fam Soc Work.* doi:10.1111/cfs.12401, in press.

27. McSherry D, Malet M, Weatherall K: **Comparing long-term placements for young children in care: Does placement type really matter?** *Child Youth Serv Rev* 2016, **69**:56-66 10.1016/j.childyouth.2016.07.021.

28. Roskam I, Stievenart M: **Is there a common pathway to maladjustment for internationally adopted and non-adopted adolescents?** *J Appl Dev Psychol* 2014, **35**:215-222 http://dx.doi.org/10.1016/j.appdev.2013.12.005.

29. Sonuga-Barke EJS, Kennedy M, Kumsta R, Knights N, Golm D, Rutter M, Maughan B, Schlotz W, Kreppner J: **Child-to-adult neurodevelopmental and mental health trajectories after early life deprivation: the young adult follow-up of the longitudinal English and Romanian Adoptees study**. *Lancet* 2017, **389**:1539-1548.

30. Balenzano C, Coppola G, Casibba R, Moro G: **Pre-adoption adversities and adoptees' outcomes: the protective role of**

post-adoption variables in an Italian experience of domestic open adoption. *Child Youth Serv Rev* 2018, **85**:307-318 http://dx.doi.org/10.1016/j.childyouth.2018.01.012.

31. Irhammar M, Bengtsson H: **Attachment in a group of adult international adoptees**. *Adopt Quart* 2004, **8**:1-25.

32. • Raby KL, Labella MH, Martin J, Carlson EA, Roisman GI: **Childhood abuse and neglect and insecure attachment states of mind in adulthood: prospective, longitudinal evidence from a high-risk sample**. *Dev Psychopathol* 2017, **29**:347-363 http://dx.doi.org/10.1017/S0954579417000037.
Using data from the Minnesota Longitudinal Study of Risk and Adaptation, Raby *et al*. found that the experience of maltreatment as a child, especially when multiple subtypes were experienced across multiple developmental periods, was associated with preoccupied but not dismissing state of mind.

33. Main M, Kaplan N, Cassidy J: **Security in infancy, childhood, and adulthood: a move to the level of representation**. *Monogr Soc Res Child Dev* 1985, **50**:66-104 (1–2, Serial No. 209).

34. Verhage ML, Schuengel C, Madigan S, Fearon RMP, Oosterman M, Cassibba R, Bakermans-Kranenburg MJ, Van IJzendoorn MH: **Narrowing the transmission gap: a synthesis of three decades of research on intergenerational transmission of attachment**. *Psychol Bull* 2016, **142**:337-366.

35. Barbaro N, Boutwell BB, Barnes JC, Shackelford TK: **Rethinking the transmission gap: what behavioral genetics and evolutionary psychology mean for attachment theory. A comment on Verhage et al. (2016)**. *Psychol Bull* 2017, **143**:107-113.

36. Verhage ML, Schuengel C, Fearon RMP, Madigan S, Oosterman M, Cassibba R, Bakermans-Kranenburg MJ, Van IJzendoorn MH: **Failing the duck test: reply to Barbaro, Boutwell, Barnes, and Shackelford (2017)**. *Psychol Bull* 2017, **143**:114-116.

37. Dozier M, Rutter M: **Challenges to the development of attachment relationships faced by young children in foster and adoptive care**. In *Handbook of Attachment: Theory, Research, and Clinical Applications,* edn 2. Edited by Cassidy J, Shaver P. Guilford Press; 2008:698-717.

38. Raby KL, Yarger HA, Lind T, Fraley RC, Leerkes E, Dozier M: **Attachment states of mind among internationally adoptive and foster parents**. *Dev Psychopathol* 2017, **29**:365-378 http://dx.doi.org/10.1017/S0954579417000049.

39. Santona A, Zavattini GC: **Partnering and parenting expectations in adoptive couples**. *Sex Relatsh Ther* 2005, **20**:309-322.

40. Bakermans-Kranenburg MJ, Van IJzendoorn MH: **The first 10,000 Adult Attachment Interviews: distributions of adult attachment representations in clinical and non-clinical groups**. *Attach Hum Dev* 2009, **11**:223-263.

41. Dozier M, Stovall K, Albus KE, Bates B: **Attachment for infants in foster care: the role of caregiver state of mind**. *Child Dev* 2001, **72**:1467-1477.

42. Lionetti F: **What promotes secure attachment in early adoption? The protective roles of infants' temperament and adoptive parents' attachment**. *Attach Hum Dev* 2014, **16**:573-589.

43. Van Londen-Barentsen WM: *Attachment in Adoptive Families: Intergenerational Transmission and Disorganized Attachment*. 2002. (Unpublished doctoral dissertation, University of Utrecht).

44. Stovall KC, Dozier M: **The development of attachment in new relationships: single subject analyses for 10 foster infants**. *Dev Psychopathol* 2000, **12**:133-156.

45. • Barone L, Lionetti F, Green J: **A matter of attachment? How adoptive parents foster post-institutionalized children's social and emotional adjustment**. *Attach Hum Dev* 2017, **19**:323-339 http://dx.doi.org/10.1080/14616734.2017.1306714.
Baron *et al*. examined the significance of adoptive mothers' and fathers' attachment states of mind for their adoptive children's attachment patterns. Preschool-age children were most likely to develop secure attachment representations, as assessed with a stormy stem technique, when both their mother and their father had an autonomous state of mind.

46. Piermattei C, Pace CS, Tambelli R, D'Onofrio E, Di Folco S: **Late adoptions: attachment security and emotional availability in mother–child and father–child dyads**. *J Child Fam Stud* 2017, **26**:2114-2125 10.1007/s10826-017-0732-6.

47. Pace CS, Zavattini GC, D'Alessio M: **Continuity and discontinuity of attachment patterns: a short-term longitudinal pilot study using a sample of late-adopted children and their adoptive mothers**. *Attach Hum Dev* 2012, **14**:45-61.

48. Steele M, Hodges J, Kaniuk J, Steele H, Hillman S, Asquith K: **Forecasting outcomes in previously maltreated children; the use of the AAI in a longitudinal adoption study**. In *Clinical Applications of the Adult Attachment Interview*. Edited by Steele H, Steele M. Guilford; 2008:427-451.

49. Pace CS, Di Folco S, Guerriero V, Santona A, Terrone G: **Adoptive parenting and attachment: association of the internal working models between adoptive mothers and their late-adopted children during adolescence**. *Frontiers Psychol* 2015, **6** http://dx.doi.org/10.3389/fpsyg.2015.01433.

50. Feeney JA, Passmore NL, Peterson CC: **Adoption, attachment, and relationship concerns: a study of adult adoptees**. *Pers Relatsh* 2007, **14**:129-147.