Research Statement

One of the most longstanding questions in the field of developmental psychology is whether early experiences with parents and other caregivers have a lasting influence on individuals’ development. In fact, this question has attracted such an extensive amount of theoretical and empirical attention that some scholars consider the developmental significance of early caregiving experiences to be an axiom. My research examines three specific questions regarding the significance of early caregiving experiences that have remained unanswered: 1) Do early caregiving experiences shape later adaptation not only during childhood and adolescence but also during the years of adulthood? 2) What are the specific mechanisms that underlie the impact of early caregiving experiences on subsequent adjustment? 3) And how do the consequences of the early caregiving environment interact with each individual’s unique genetic characteristics?

The long-term significance of early caregiving experiences

One of attachment theory’s most central and provocative claims is that early parent-child relationships provide a foundation for competent adaptation across the entire life-course (Sroufe, Coffino, & Carlson, 2010). This theoretical tenet has been critiqued as being overly deterministic and naïvely simple. In fact, other scholars have challenged this idea by proposing that effects of early caregiving experiences are likely to fade with time as individuals encounter a range of later experiences, such as peer groups, neighborhood influences, and educational opportunities (e.g., Kagan, 1996). These competing perspectives have inspired a wealth of short-term longitudinal studies into the consequences of early caregiving experiences for functioning during childhood and adolescence. However, there are a limited number of studies examining whether the effects persist into adulthood, a time in which individuals face novel challenges related to work and family and have greater autonomy over their own development.

My colleagues and I have investigated the long-term significance of early caregiving experiences using data from the Minnesota Longitudinal Study of Risk and Adaptation, one of the few longitudinal projects that has prospectively followed participants from birth to adulthood. Using this unique data-set, we provided rare prospective, longitudinal evidence for intergenerational continuities in parenting. Specifically, we demonstrated that individuals who experienced more sensitive caregiving during the first three years of life were more likely to provide high quality parental care for their own children nearly 30 years later (Raby et al., 2015, Dev. Psychology). In a separate study, we reported that individuals who experienced more sensitive early caregiving were more likely to form committed romantic partnerships and have higher educational attainment during adulthood (Raby et al., 2015, Child Dev.). Importantly, the consequences of early sensitivity for social and academic outcomes during childhood was as strong as the effect three decades later.

My colleagues and I have recently extended these findings by examining the long-term significance of more atypical caregiving experiences, namely experiences of childhood abuse and neglect. This research was guided by a developmental psychopathology perspective, which views normal and abnormal development as mutually informative (Cicchetti, 1984; Rutter & Sroufe, 2010). We have shown that individuals who experience childhood maltreatment are at an increased risk for mental health problems during adulthood (Cutuli, Raby et al., 2013, J. of Affective Disorders; Martin, Raby et al., 2017, Attach. & Human Dev.) and are more likely to
provide lower quality parenting (Labella, Raby et al., in press, *Dev. & Psychopathology*). In addition, we provided evidence that individuals who experience abuse and neglect during the first five years of life experience more difficulties with romantic relationships and ultimately receive less education in adulthood than non-maltreated children (Raby, Roisman et al., 2018, *Child Dev*.). Importantly, the predictive effects of early maltreatment experiences were not simply due to the stability of caregiving across time, as early experiences of abuse and neglect were associated with more problematic adult outcomes even after accounting for the effects of childhood maltreatment that occurred during later childhood and adolescence. This paper recently received the Early Career Outstanding Paper award from the Division 7 (Developmental Psychology) of the American Psychological Association.

**Mechanisms underlying the developmental consequences of early caregiving experiences**

Altogether, the findings of my research with the Minnesota Longitudinal Study are consistent with the idea that early parent-child relationship experiences have a unique influence on individuals’ developmental adaptation that persists into adulthood. The focus of my research has begun to shift to clarifying the mechanisms underlying these long-term effects. Guided by contemporary developmental systems perspectives (Gottlieb, 2007; Sameroff, 2009), I have adopted a multiple-levels-of-analysis approach to investigating this issue. The first level involves basic behavioral processes that may be shaped by early caregiving experiences and contribute to more complex interpersonal, academic, and mental health outcomes. For example, my colleagues and I are using an experimental design to test the effects of sensitive caregiving on children’s executive functioning skills (Lind, Raby et al., 2017, *Dev. & Psychopathology*) and language abilities (Raby et al., revise & resubmit, *Dev. Science*).

The second level of analysis involves individuals’ cognitive representations of close relationships. My research on this topic is motivated by attachment theory (Bowlby, 1988). Indeed, my research has provided evidence for several of attachment theory’s central hypotheses, including the idea that attachment security during infancy and adulthood has its origins in childhood caregiving experiences (Raby et al., 2012, *Psych. Science*; Raby, Labella et al., 2017, *Dev. & Psychopathology*), individual differences in attachment security exhibit stability across development and across generations (Raby et al., 2013, *JCPP*; Raby et al., 2015, *Attach. & Human Dev.*), and attachment-related representations influence individuals’ responses within adult romantic and parent-child relationships (Waters, Raby et al., in press, *Developmental Psych.*; Zajac, Raby, & Dozier, in press, *Dev. & Psychopathology*).

The third level of analysis involves individuals’ stress neurophysiology. This research tests the possibility that early caregiving experiences exert a long-term influence by becoming biologically embedded in the physiological systems that mediate individuals’ responses to threats and stressors (Shonkoff, Boyce, & McEwen, 2009). Consistent with this idea, my research has demonstrated that adults with childhood histories of less supportive caregiving exhibited greater increases in sympathetic nervous system arousal during moderately stressful interactions with their romantic partners (Raby et al., 2015, *Psych. Science*). Recently, I have extended those analyses by examining the social regulation of children’s neuroendocrine systems. For example, I am supervising an honor’s student who is examining the consequences of early adversity for the functioning of children’s hypothalamic-pituitary-adrenal systems (Isenhour, Raby, & Dozier, under review, SRCD conference presentation).
Currently, I am extending my work on the mechanisms underlying the developmental consequences of early caregiving through a collaborative project with Elizabeth Conradt and Sheila Crowell. This project is examining the 18-month outcomes for a sample of 160 parent-child pairs participating in a study of the consequences of prenatal exposure to maternal emotional dysregulation. This collaboration will offer opportunities for me to investigate the immediate implications of early caregiving experiences for infants’ basic behavioral functioning, attachment representations, and physiological responses to stress.

**The interplay between early caregiving experiences and individuals’ genetic characteristics** Historically, parental contributions to children’s outcomes and genetic influences on developmental trajectories were viewed as mutually exclusive possibilities. However, contemporary developmental perspectives recognize that genetic and environmental influences interact with one another in complex ways (Rutter, 2006). Another increasingly focal aspect of my research has been clarifying the precise interplay between early caregiving experiences and individuals’ genetic characteristics.

I initially investigated this issue using a candidate gene approach. Although that research design showed much promise early on (e.g., Caspi et al., 2003), it has increasingly been recognized that many candidate gene findings are difficult to replicate with independent samples (Raby, Roisman, Booth-LaForce, 2015, *Dev. Psychology*). Therefore, I have shifted to conducting research with adoptive families. Adoption designs are a well-established approach for examining both genetic and environmental contributions to development. Indeed, my colleagues and I have demonstrated that post-adoptive caregiving experiences may alter the HPA stress responses (DePasquale, Raby et al., 2018, *Psychoneuroendocrinology*) and attachment patterns (Raby, Dozier, & Carlson, under review) of children adopted internationally.

Currently, I am building a registry of Utah adoptive families as a first step towards extending my research with adoptive families. To do this, I have developed community partnerships with various adoption-service providers in the Salt Lake City area. I am currently establishing the feasibility of conducting adoption research in Utah by conducting a web-based survey for parents who recently adopted in Utah. In order to support this research, I recently submitted a proposal to the University of Utah’s Faculty Scholarly Grant Program. I also was invited to submit a proposal to the Herbert I. and Elsa B. Michael Foundation. The survey data I am collecting will be represent the pilot data for a grant application to the National Science Foundation for a project examining the role of the early caregiving environment for shaping the early biobehavioral development of adopted children.