

A Developmental Pathways Model of Dissociation

Linnea B. Linde-Krieger<sup>1</sup>, Tuppett M. Yates<sup>1</sup>, and Elizabeth A. Carlson<sup>2</sup>

<sup>1</sup>Department of Psychology University of California, Riverside, 900 University Avenue,  
Riverside, CA 92521

<sup>2</sup>Institute of Child Development, University of Minnesota, 51 East River Road Minneapolis, MN  
55455

Citation:

Linde-Krieger, L. B., Yates, T. M., & Carlson, E. A. (In press). A developmental pathways model of dissociation. In M. J. Dorahy & S. N. Gold (Eds.), *Dissociation and the dissociative disorders* (2nd ed.). New York, NY: Routledge.

## Abstract

A developmental model of dissociation holds that dissociation is a normative expression of early childhood regulation that may or may not develop over time in ways that compromise future adaptation. Guided by the integrative framework of developmental psychopathology and the tenets of an organizational perspective on development, we 1) describe normative changes in the expression and adaptive significance of dissociative regulatory processes across development, and 2) consider conditions that may initiate atypical dissociative pathways as potentially distinct from those that maintain or exacerbate the course of pathological dissociation over time. To illustrate a developmental pathways model of dissociation in research, we present results from a novel evaluation of dissociative growth patterns across childhood in which both caregiving behavior and caregiver state of mind predict children's atypical trajectories of dissociation. Importantly, our findings suggest that experiences within the caregiving milieu beyond infancy may contribute to the onset or course of atypical patterns of dissociation, and that caregiver states of mind (and their translation to caregiving practices) may be an important, yet understudied, factor for understanding developmental pathways of dissociation. We conclude with promising directions for future research and applied efforts to mitigate the development of pathological dissociative processes.

Dissociation is a phenomenon of long-standing interest in the psychological sciences, one that is often (mis)characterized as a unilaterally pathological deviation from normative functioning. In fact, dissociative processes range along a continuum of severity from short, often situation-dependent, normative episodes such as day-dreaming, to prolonged or frequent episodes that interfere with individual functioning, to profound disturbances in the self and disintegration across biological, emotional, cognitive, and behavioral systems (American Psychiatric Association, 2013; Putnam, 1991). Dissociative phenomena reflect psychobiological processes that alter the accessibility of memory and knowledge, the integration of emotion, cognition, and behavior, and the sense of a coherent self. These processes may manifest as disturbances of affect regulation (e.g., depression, mood swings, feelings of isolation), identity disruptions (e.g., splitting, fragmentation), autohypnotic phenomena (e.g., trances, time distortions, psychogenic numbing), memory dysfunction (e.g., psychogenic amnesia, fugue), revivification of traumatic experience (e.g., flashbacks, hallucinations), and behavioral disturbances (e.g., inattention, poor impulse control, self-harm; Hornstein & Putnam, 1992). Importantly, the expression, intensity, and adaptive significance of dissociative phenomena change across the developmental continuum. Thus, a developmental approach is integral to advancing dissociation research and clinical practice.

In this chapter, we illustrate how the integrative framework of developmental psychopathology and the corresponding tenets of an organizational perspective on development can advance research on dissociation as well as applied efforts to prevent its pathological expression. First, we emphasize that dissociation is a normative expression of cognitive and regulatory patterns in early childhood which may or may not consolidate over time in ways that compromise adaptation. Second, we describe normative changes in the expression and adaptive

significance of dissociative processes across development. Third, we distinguish factors that initiate pathological dissociative processes as potentially distinct from those that maintain or exacerbate their expression over time. Informed by these principles, we describe a developmental pathways model of dissociation as illustrated by new findings from our own research showing that both caregiving behavior and caregiver state of mind during early childhood predict atypical trajectories of dissociation across childhood. Finally, we identify promising directions for future research and applied efforts to mitigate the development of pathological dissociative processes.

### **3.1 A Developmental Psychopathology Perspective on Dissociation**

As the study of the origins and course of individual patterns of adaptation, developmental psychopathology provides a valuable framework for integrating diverse theoretical accounts of dissociative processes (e.g., Cicchetti & Dawson, 2002; Sameroff, 2000; Sroufe & Rutter, 1984). Importantly, developmental psychopathology encourages process-level analyses of experiences that probabilistically initiate maladaptation, modify the expression of disorder, and account for the maintenance or desistance of maladaptive pathways and patterns over time (see Carlson & Ruiz, 2016; Cicchetti, & Tucker, 1994; Yates et al., 2011). Moreover, this integrative framework values multiple-levels-of-analysis in recognition that all adaptive processes (including dissociation) encompass both internal and external influences on biological and psychological transformations and reorganizations over time (Cicchetti & Dawson, 2002).

The organizational perspective on development incorporates core principles of developmental psychopathology within a theoretical model that yields testable hypotheses about the nature of both typical and atypical development (Labella & Cicchetti, 2017; Sroufe, 2009). In this view, development encompasses a series of qualitative reorganizations whereby earlier patterns of adaptation provide a framework for, and are transformed by, later adaptations. At all

ages, the organizational perspective defines adaptation with respect to how the quality of integration among domains of functioning support or thwart the individual's negotiation of salient developmental issues (Cicchetti & Dawson, 2002). Positive adaptation reflects the integration of biological, emotional, cognitive, and behavioral capacities in a way that promotes the flexible negotiation of concurrent and future developmental issues, whereas maladaptation reflects developmental deviations from typical patterns of adaptation that compromise or constrain subsequent development (Cicchetti & Toth, 2016; Sroufe, 2009). In this way, development is cumulative, and successive adaptations represent the combined influence of contemporaneous experience and development up to that point (Bowlby, 1973; Sroufe, 2005).

The organizational perspective holds that individuals actively participate in the construction of experience, whether adaptive or maladaptive, by interpreting and selecting experiences that are consistent with their developmental history (Carlson et al., 2004; Sroufe, 2009). Across both competent and disordered patterns and pathways, relations among successive adaptations are probabilistic, rather than pre-determined (Hollenstein, 2012; Smith & Thelen, 2003). Thus, a single developmental starting point may yield divergent outcomes (i.e., multifinality), while different patterns of early adaptation may converge on a single developmental endpoint (i.e., equifinality; Cicchetti & Rogosch, 1996). The focus of an organizational investigation rests on *patterns* of adaptation, rather than on continuities in manifest discrete behaviors over time (Sroufe, 2009); developmental coherence occurs at the level of adaptive meaning and function (Sameroff & Chandler, 1975; Wichstrøm et al., 2017). The same observable behavior (e.g., the child's dependence on caregivers) may promote competence at one point in time or in one context, yet undermine it at another depending upon how the individual's developing capacities interface with environmental resources and demands.

In this way, the organizational perspective illustrates a central tenet of developmental psychopathology – normal and atypical developmental patterns are mutually defining and informing (Labella & Cicchetti, 2017). Efforts to identify and understand pathological pathways of dissociation must begin with an understanding of normative expressions and patterns of dissociation across development.

In a developmental psychopathology framework, dissociation, like all psychopathology, represents a problematic elaboration of otherwise adaptive capabilities (Yates et al., 2011). As in adults, dissociative processes in children and adolescents include alterations in memory, identity, and perception that reflect and/or precipitate disconnections across biological, emotional, cognitive and behavioral systems (Putnam, 1997). However, some degree of dissociation, or experiential fractionation, is expected in early childhood (e.g., fantasy proneness, hypnotizability; Fischer & Ayoub, 1994; Putnam, 2000). Dissociative processes may be a natural expression of typical childhood cognitive structures and regulatory strategies prior to the child's transition to new levels of integrative organization (Cole et al., 1996; Fischer & Ayoub, 1994). In this view, the young child's mind is naturally fractionated prior to developing the ability to process and integrate complex or contradictory experiences (e.g., early compartmentalization of positive versus negative views of self and other, or of good versus bad experiences; Harter, 1998; Putnam, 1991). Fischer and colleagues refer to children's natural tendency toward fractionation in advance of subsequent integration as "passive" dissociation, whereas, "active" dissociation is a motivated systemic response to dysregulating or traumatic experience. Processes of active dissociation make use of the child's natural proclivity for compartmentalizing affect and experience in ways that stymie, rather than promote, subsequent integration (Fischer & Ayoub, 1994; Fischer & Pipp, 1984).

Children, adolescents, and adults differ not only in their cognitive capacity to recognize discontinuities in their behavior or sense of awareness, but also in their subjective distress about perceived inconsistencies. As such, the expression of dissociative symptoms may not have the same meaning across development. Given that proto-dissociative behaviors typically decline across childhood as children achieve increasing levels of organization and integration (Ogawa et al., 1997), maladaptive dissociative expressions in later development may reflect the absence of a typical decline in dissociative tendencies and/or an atypical increase in dissociative processes. Moreover, whereas dissociative behaviors may be natural (and prevalent) in early childhood, the significance and complexity of dissociation as an indicator of psychopathology may increase with age and more advanced modes of thought (Putnam, 1997; Wieland, 2011). Benefitting from adaptive dissociation early on, typical development and self-organization progress towards greater flexibility, complexity, and integration across diverse aspects of experience (Sroufe, 1996). In pathological dissociation, however, development progresses toward greater complexity without complementary integration (Carlson et al., 2009).

### **3.2 The Etiology of Dissociation**

The organizational perspective on development holds that the origins of self-regulation lie within early biological, emotional, cognitive, and behavioral experiences of co-regulation in the primary caregiving relationship (e.g., emotional attunement, distress modulation; Labella & Cicchetti et al., 2017; Sroufe, 1996; see Schimmenti, chapter XX, this volume & Schore, chapter XX, this volume). Experiences within the caregiving environment may support or distort children's emergent regulatory capacities, such that receipt of sensitive, responsive care promotes adaptive functioning, whereas inadequate or aversive care instantiates maladaptation (Bowlby, 1973). Responsive caregiving enables young children to maintain organization in the

context of internal arousal and/or external threat, which, in turn, supports their emergent confidence that their emotions (both positive and negative) can be understood and managed (Bowlby, 1969/1982; Denham et al., 2015; Lieberman, 2017). A history of responsive care provides children with access to both affectively- and cognitively-generated information. Over time, these experiential dimensions are integrated with increasing complexity and flexibility to meet intra- and interpersonal demands. In contrast, when a child's emotions repeatedly fail to achieve their purpose, when they are persistently activated without resolution, or when their expression is blocked or punished, emotions may become segregated from important relationships and experiences. Thus, repeated experiences of contradictory or overwhelming emotional experience in childhood, particularly in the absence of a supportive caregiving relationship, may potentiate normative dissociative propensities into rigid patterns of pathological dissociation.

Research demonstrates that major disturbances in care, particularly early-occurring and chronic maltreatment, are salient etiologic factors in the development of pathological dissociation. Maltreatment is consistently associated with elevated levels of contemporaneous dissociation within childhood (Byun et al., 2016; Hebert et al., 2020; Macfie et al., 2001; Ogawa et al., 1997). Moreover, adult research suggests these relations extend over time with evident links between dissociation and childhood sexual abuse, physical abuse, and neglect in both nonclinical (e.g., Schimmenti, 2018; Selvi et al., 2012; Vonderlin et al., 2018) and clinical (e.g., Frewen et al., 2014; Kefeli et al., 2018; Zanarini et al., 2000) samples.

In addition to robust evidence supporting the etiologic role of early childhood maltreatment in the development of dissociation, some research suggests that more subtle disturbances in the parent-child relationship may lead to elevated levels of dissociation in later



development. Experiences of insensitive or contradictory, though not overtly abusive, care can disrupt child development. In particular, experiences of intrusive care, in which the caregiver misreads or ignores the child's cues in a way that communicates a lack of respect for the child as an individual, can undermine the child's emergent capacities for regulation and integration (Carlson et al., 1995; Mortensen & Barnett, 2019; Rudd et al., 2017). Likewise, caregiving characterized by undue hostility or low support may instantiate or exacerbate developmental vulnerabilities within and/or across time. Investigations exploring the role of family environmental factors in the development of dissociation suggest that neglectful parenting (Schimmenti, 2018), low parental warmth and support (Modestin et al., 2002), poor parent-child relationship quality (Maaranen et al., 2004), and infant attachment disorganization (Carlson, 1998) are associated with later dissociation.

These findings are consistent with the principles of attachment theory, which posits that children's representational processes (i.e., internalized expectations of self, other, and self-in-relation-to-others) and their regulatory functions develop in the context of early caregiving exchanges (Bretherton & Munholland, 2008; Schore, 2013). Expectations and attitudes regarding the self and others emerge in coordination with emotion regulation strategies (Sameroff & Emde, 1989; Waters et al., 2010) in ways that bias children's reactions to subsequent experience (Gresham & Gullone, 2012; Sroufe, 1996). Thus, when infants experience care that is inconsistent or threatening, they may develop dissociated or unintegrated internal working models of the primary caregiver and, by extension, of the self. In turn, these representations function as information processing heuristics that magnify the disintegrative potentialities of subsequent stressful or traumatic experiences (Liotti, 1999).

Prospective investigations of attachment have examined the role of caregiver-infant relationship qualities in pathways toward dissociation. In a seminal study, Ogawa and colleagues (1997) found that disorganized attachment *and* psychological unavailability of the caregiver prior to age two were the strongest independent predictors of elevated dissociation in late adolescence. Of note, psychological unavailability of the caregiver held more predictive power (accounting for 19% of the variance in dissociation scores at age 19) than disorganized attachment (accounting for 6% of the variance), and physical and sexual abuse did not add significant predictive power to the model. Moreover, as a testament to the probabilistic, rather than deterministic, pattern of adaptation over time, Ogawa and colleagues (1997) also found that some infants who were not classified as disorganized nevertheless developed maladaptive dissociation in late adolescence. This finding is consistent with subsequent studies yielding mixed relations between attachment disorganization and maladaptive dissociation in later development (Haltigan & Roisman, 2015; Smeekens et al., 2009).

In a second longitudinal study of attachment and later dissociation, Dutra and colleagues (2009) found that the quality of mother-infant interaction in the first 18 months of life accounted for half the variance in dissociation scores at age 19. Although disrupted mother-infant communication significantly contributed to elevated dissociative symptoms in late adolescence, neither childhood maltreatment nor infant disorganized attachment independently predicted later dissociation. These findings are consistent with Liotti's (1999) suggestion that attachment disorganization may be one mechanism by which traumatic experience in the caregiving environment yields adaptational vulnerabilities, such as dissociation. This view counters the belief that dissociation results from trauma alone and posits a diathesis-stress model wherein attachment disorganization renders individuals more vulnerable to the consolidation of

pathological dissociative processes in the wake of ongoing or subsequent trauma. It is particularly noteworthy that Dutra and colleagues (2009) found “quieter” caregiving disruptions, such as a lack of positive maternal affective involvement, disrupted mother-child communication, and flat maternal affect, which is a construct similar to the psychological unavailability noted by Ogawa et al. (1997), predicted late adolescent dissociation scores, whereas, maternal hostility/negativity did not predict later dissociation.

Taken together, previous prospective studies support multiple developmental pathways to dissociation and suggest that parent-child relationship factors beyond infancy and beyond those associated with childhood maltreatment may be important predictors of problematic dissociation in later development. Thus, processes by which dissociative phenomena in childhood canalize into problematic dissociation depend upon features of the caregiving environment (e.g., qualities of caregiver-child interaction, caregivers’ state of mind regarding the parent-child relationship) *and* upon the developmental capacities of the child (e.g., capacities to self-soothe, abilities to symbolize experience through play or language). Beyond infancy, children’s advancing capacities for representation and symbolization through language, play, and fantasy provide new tools for managing affective experience (Carlson & Sroufe, 1995). Through language and playful interaction, children develop increasingly cohesive personal narratives that support the integration of affect, cognition, and sensory information. In the context of supportive caregiving relationships, these adaptive capacities promote the child’s understanding (and thereby integration and tolerance) of disparate feelings, attitudes, and experiences (Lieberman, 2017). However, in the absence of emotional support and scaffolding, these same capacities may fuel further segregation of experience and the consolidation of dissociative regulatory patterns. Thus, we argue that a truly developmental model of dissociation must adopt a pathways perspective

that considers the child's developmental strengths and vulnerabilities as integrally connected to those of the caregiving milieu.

### **3.3 A Developmental Pathways Model of Dissociation**

Chronic and severe trauma in early development may disrupt emergent integrations across biological, cognitive, emotional, and behavioral systems in ways that consolidate normative dissociative tendencies in early childhood into pathological dissociative processes that endure over time, particularly if traumatic events are ongoing. However, as noted earlier, even in the absence of abject trauma, marked deviations in early caregiving quality can undermine the organization of children's attachment system, and resultant attachment disorganization may function as a diathesis for later pathological dissociation. Malevolent or frightening caregiving dysregulates immature cognitive structures, thwarts emergent capacities for representation and adaptive experiential integration, and heightens the child's vulnerability to the effects of subsequent trauma (Liotti, 1999). Although trauma and attachment disorganization are most often cited in the etiology of pathological dissociation, "quieter" caregiving insensitivities, including those extending beyond the period of infancy, may overwhelm the child's abilities and/or neglect their needs in ways that similarly disrupt the expected developmental progression toward greater integration amidst declining dissociative tendencies (Dutra et al., 2009; Lyons-Ruth, 2003).

In addition to direct experiences of caregiving, theory and recent empirical evidence highlight the potential for caregiver's state of mind about their child and the parent-child relationship to influence their child's development and adaptation. Consistent with the tenets of attachment theory, children's expectations and internalized representations of self, others, and self-with-others are carried forward to influence later relationships with peers, partners, and,

ultimately, with one's own child(ren) in the next generation (Bowlby, 1973; Bretherton & Munholland, 2008). Thus, a caregiver's own beliefs and expectations about their child and the parent-child relationship are largely informed by their prior experiences of receiving care. In turn, caregivers' mental representations will influence the quality of care they provide to the next generation and shape the broader developmental context to which the child is exposed (e.g., family emotional climate, caregiver assessment of safety/danger for the child, partner selection and relationship quality). Research suggests that a caregiver's unresolved state of mind regarding their own attachment experiences in childhood is associated with a helpless state of mind with regard to parenting their child(ren), which, in turn, predicts problematic caregiving of the next generation (George & Solomon, 1999; Linde-Krieger & Yates, 2018; Lyons-Ruth et al., 2004).

In sum, extant evidence points to individual and interactive contributions of trauma, attachment, and caregiver state of mind to children's representational and regulatory development, including dissociative processes. Moreover, consistent with a developmental psychopathology perspective (Yates et al., 2011), these and other factors may differentially influence the onset of dissociation versus patterns of persistence or desistance in dissociation over time. Moving forward, a developmental pathways perspective on dissociation requires nuanced investigations of dissociative growth across time to document typical and atypical trajectories of dissociation and to elucidate factors that initiate, maintain, and/or modify atypical dissociative processes.

In a new study of 250 parent-child dyads drawn from the community, we employed a pathways model of dissociation to evaluate if and how caregiving behaviors and caregiver states of mind beyond infancy influenced children's trajectories of dissociative symptoms. Following previous research (e.g., Ogawa et al., 1997), we predicted that children's dissociative symptoms

would decline from early to middle childhood. However, we further expected that both the quality of caregiving with regard to “quieter” caregiving behaviors, such as intrusion, hostility, and support, *and* the caregiver’s state of mind with regard to perceived helplessness in the parenting role would influence children’s initial levels of dissociative behaviors in early childhood (i.e., intercept) and patterns of change in dissociation over time (i.e., slope) in potentially unique ways.

Study participants were diverse with respect to ethnicity/race and socioeconomic status (see Table 1 for detailed participant demographics). Children (50% girls, 50% boys) were 4 years old when the study began, and most caregivers (91.4%) were biological mothers. Annually from ages 4 to 8, dyads completed a three-hour laboratory assessment that included measures with the child, the caregiver, and the caregiver and child interacting. Children’s teachers provided additional reports on children’s adjustment following each laboratory visit. Using these data, we evaluated prospective relations of observational measures of caregiving when the children were 4 years old and caregiver reports related to a helpless state of mind when the children were 5 years old with teacher reports of child dissociation across ages 5, 6, 7 and 8.

Table 2 provides a summary of the study measures. Caregivers’ intrusive, hostile, and supportive behaviors were coded during a series of semi-structured teaching tasks, which were adapted from Block and Block (1980) to be just beyond the level of difficulty that the child could complete alone. Caregivers self-reported their state of mind regarding their relationship with the participating child using the Caregiving Helplessness Questionnaire (George & Solomon, 2011). Teachers rated children’s dissociative symptoms using items selected from the Teacher Report Form (McConaughy & Achenbach, 2004) as in previous research (e.g., Ogawa et al., 1997;

Smeekens et al., 2009). All analyses controlled for children's exposure to prior maltreatment, child IQ, family socioeconomic status (SES), and caregiver psychopathology.

Descriptive and bivariate analyses revealed that children's mean levels of dissociation decreased from ages 5 to 8, and correlations among dissociation scores as reported by *different* teachers over time were moderately to highly stable. Ratings of caregivers' low support, intrusiveness, and hostility were significantly correlated with children's dissociation across time. A series of unconditional and conditional growth models evaluated our hypothesis that caregiving practices and caregivers' state of mind would account for developmental patterns of dissociation across middle childhood. Unconditional models first evaluated within- and between-person variance in dissociation and change in children's dissociative symptoms over time. We then tested conditional growth models to evaluate predictors of children's initial levels of dissociation at age 5 (i.e., intercept) and changes in dissociation across ages 5 through 8 (i.e., slope).

The unconditional means model revealed significant variability in children's dissociation scores at age 5 (i.e.,  $\Psi = .272$ ,  $SE = .020$ ,  $p < .001$ ), as well as significant within-person variance ( $\Psi = .017$ ,  $SE = .005$ ,  $p < .001$ ) and significant between-person variance ( $\Psi = .068$ ,  $SE = .008$ ,  $p < .001$ ) in children's dissociation intercept. Unconditional growth models of dissociation across ages 5, 6, 7, and 8 indicated that a linear growth pattern was the best fit for the data (RMSEA = .01 [.00, .09], SRMR = .04, CFI = 1.00). Both the intercept at age 5 ( $b_0 = .307$ ,  $p < .001$ ) and the slope or growth of dissociation from ages 5 to 8 ( $b_1 = -.018$ ,  $p = .05$ ) were significant, as were individual differences in dissociation intercept ( $\Psi = .094$ ,  $SE = .017$ ,  $p < .001$ ) and slope ( $\Psi = .004$ ,  $SE = .002$ ,  $p = .05$ ). These findings indicate that, at the group level, there was a significant decline (negative linear slope) in dissociative symptoms across childhood, with

significant variation in children's initial levels at age 5 (i.e., intercept) and in their developmental pathways (i.e., slope) from ages 5 to 8. Further, the significant covariance between the intercept and slope ( $\Psi = -.011, p < .05$ ) indicated that higher levels of dissociation at age 5 were associated with greater declines in dissociation from ages 5 to 8.

Consistent with a developmental pathways perspective, conditional growth models revealed distinct predictors of initial levels of dissociation at age 5 (i.e., intercept) as compared to changes in dissociation across ages 5 to 8 (i.e., slope). Caregiver intrusiveness, but not hostility or low support, predicted higher levels of dissociation at age 5 above and beyond children's exposure to prior maltreatment and other covariates. Caregiver helpless state of mind, though not significantly related to initial levels of dissociation, emerged as the only predictor of *change* in children's dissociation scores across time, such that higher levels of helpless state of mind predicted slower declines in dissociation across childhood. Regarding covariates, boys evidenced higher initial levels of dissociation than girls, prior maltreatment predicted higher initial levels of dissociation at age 5 but not change over time, and caregiver psychopathology predicted less dissociation at age 5 and slower declines in dissociation scores from 5 to 8. Model fit for the conditional growth model was good (RMSEA = .02 [.00, .06], SRMR = .03, CFI = .99). In sum, the conditional growth model indicated that caregiver intrusiveness, child maltreatment, and male sex were associated with higher levels of dissociation at age 5 (i.e., intercept), whereas caregivers' helpless state of mind regarding the parent-child relationship and caregiver psychopathology inhibited the normative decline of children's dissociative symptoms from ages 5 through 8 (i.e., slope). Consistent with a developmental pathways perspective, these findings show that factors associated with dissociative onset may be distinct from those related to the course of symptomatology across time.



Our results illustrate how a developmental pathways model of dissociation captures the dynamics of dissociative processes across development in a way that acknowledges the potential for multiple etiologic factors, including those that differentially influence the initiation versus expression of dissociation across time. Consistent with prior theory (Putnam, 1997) and preliminary evidence (Ogawa et al, 1997), children's dissociative tendencies declined from early to middle childhood. However, there were significant differences both in where children began (i.e., the intercept of dissociative symptoms at age 5) and how they changed over time (i.e., the slope of dissociative symptoms from ages 5 to 8). Consistent with the findings of Dutra and colleagues (2009), the current findings show that subtle or "quieter" parenting processes are significantly linked to potentially problematic dissociative patterns. Specifically, intrusive caregiving behavior, but not low support or hostility, predicted higher levels of dissociation at age 5. Our results suggest that caregiving behaviors that undermine children's autonomy predict levels dissociative symptoms above and beyond reports of child maltreatment and other covariates. Intrusive care may compromise children's beliefs in their own worth and efficacy, which, in turn, stymies the flexible regulatory strategies and adaptive integration that such beliefs afford.

While intrusive caregiving predicted initial levels of dissociation at age 5 in our sample, only caregiver helpless state of mind was associated with disruptions in expected dissociative declines over time. This finding suggests that, beyond direct caregiving behavior, a caregiver's feelings, beliefs, and representations about the child and the self-as-parent (i.e., the caregiver's internal working model) may influence the development of dissociation. A caregiver's state of mind influences both caregiving practices and the broader family environment via effects on mate selection, assessment of safety/danger for the child, and the caregiver's own capacity to

model and scaffold successful regulation. Thus, caregiver state of mind may have ongoing and far-reaching implications for children's regulatory adaptation.

Extending extant evidence that caregiver-*infant* relationship qualities influence the development of dissociation (Dutra et al., 2009; Ogawa et al., 1997), our findings suggest that experiences in the caregiving milieu beyond infancy also shape the onset and course of atypical patterns of dissociation. Mixed findings regarding the influence of caregiving factors on dissociation in prior studies (e.g., Haltigan & Roisman, 2015; Smeekens et al., 2009) may reflect inadequate attention to a crucial principle of the organizational perspective, namely, that different conditions may initiate versus maintain (mal)adaptive pathways across time (Yates et al., 2011). Development reflects a cumulative and probabilistic series of reorganizations whereby early patterns of adaptation influence, and are transformed by, subsequent adaptations (Sroufe, 2005). Thus, experiences of chronic caregiving insensitivities beyond infancy and transactional processes in the caregiving environment (including the caregiver's state of mind) may influence dissociative regulatory patterns during middle childhood and beyond.

### **3.5 Implications and Future Directions**

This developmental pathways investigation of dissociation has significant potential to inform applied efforts to prevent and mitigate the development of problematic dissociation. Interventions targeting insensitive caregiving behavior may buffer young children against disorganized attachment and promote security in the caregiver-child relationship (e.g., Attachment and Biobehavioral Catch-up; Bernard et al., 2012). In addition to intervening on caregiving behavior, caregiver state of mind is an important port of therapeutic entry and change (Lyons-Ruth et al., 2004; Sameroff et al., 2004; Sher-Censor & Yates, 2014). Caregivers' mental representations of the parent-child relationship underlie parenting practices and influence the

broader developmental context to which children are exposed. However, because mental representations are flexible and may be modified through intervention (Van IJzendoorn, 1995), applied efforts to shift the caregiver's state of mind regarding the caregiver-child relationship may help them to address feelings of helplessness and develop more coherent and effective working models of the caregiver-child relationship (Erickson et al., 1992; Sher-Censor & Yates, 2014). Attachment- and mentalization-based therapies that focus on both parenting behavior and caregiver representations of the parent-child relationship (e.g., *Minding the Baby*, Slade et al., 2020; *Mothering from the Inside Out*, Suchman et al., 2013) may be particularly effective for preventing and/or re-directing children's atypical trajectories of dissociation.

Caregivers' beliefs and expectations regarding their child(ren) are informed by their own experiences of receiving care during childhood (Bowlby, 1973). Some research suggests that caregivers with a history of maltreatment during their own childhoods may be at heightened risk for engaging in insensitive caregiving behaviors toward the next generation (Linde-Krieger & Yates, 2021). With regard to child maltreatment, effects can carry across generations to influence parenting in ways that may not be abjectly abusive, but are nevertheless damaging to child adaptation (Chu & DePrince, 2006). Importantly, the novel findings presented in this chapter suggest that both child maltreatment and intrusive caregiving may instantiate problematic pathways toward dissociation. Moreover, we documented significant contributions of caregivers' mental representations of the caregiver-child relationship to patterns of dissociation in the next generation, even beyond contemporaneous caregiving practices. Some research has shown that a parent's own history of trauma may contribute to dissociation in the next generation via distortions in their capacities to perceive threat to their child(ren) and enact protective strategies (Hulette et al., 2011). This study highlights the need for both basic and applied research to

understand (and modify) transgenerational influences on the development of childhood dissociation.

Guided by the integrative framework of developmental psychopathology and the tenets of an organizational perspective on development, we have illustrated that a developmental model of dissociation requires an appreciation of both normative and atypical development, that both subtle and substantial deviations in caregiving may influence pathways of dissociation, and that conditions that initiate atypical dissociative processes may be distinct from those that maintain or exacerbate their expression over time. Importantly, our findings also suggest that experiences within the caregiving milieu beyond infancy may contribute to the onset or course of atypical patterns of dissociation, and that caregiver states of mind (and their translation to caregiving practices) may be an important, yet understudied, factor in the etiology and course of maladaptive dissociation.

## References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Publisher.
- Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. A. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. *Child Development, 83*(2), 623-636.
- Blizard, R. A. (2003). Disorganized attachment, development of dissociated self states, and a relational approach to treatment. *Journal of Trauma and Dissociation, 4*, 27-50.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Minnesota symposia on child psychology* (Vol. 13, pp. 39–101). Hillsdale, NJ: Erlbaum.
- Bowlby, J. (1969/1982). *Attachment and loss (Vol. 1): Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss (Vol. 2): Separation*. New York: Basic Books.
- Bremner, J. D., Bolus, R., Mayer, A.M. (2007). Psychometric properties of the early trauma inventory–self report. *Journal of Nervous Mental Disorders, 195*(3), 211–218.
- Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (p. 102–127). New York, NY: The Guilford Press.
- Byun, S., Brumariu, L. E., & Lyons-Ruth, K. (2016). Disorganized attachment in young adulthood as a partial mediator of relations between severity of childhood abuse and dissociation. *Journal of Trauma & Dissociation, 17*(4), 460-479.

- Carlson, E. A. (1998). A prospective longitudinal study of disorganized attachment. *Child Development, 69*(4), 1107-1128.
- Carlson, E. A., Jacobvitz, D., & Sroufe, L. A. (1995). A developmental investigation of inattentiveness and hyperactivity. *Child Development, 66*(1), 37-54.
- Carlson, E.A., & Sroufe, L.A. (1995). The contribution of attachment theory to developmental psychopathology. In D. Cicchetti & D. Cohen (eds.), *Developmental processes and psychopathology: Vol. 1. Theoretical perspectives and methodological approaches* (pp. 581-617). New York: Cambridge University Press.
- Carlson, E. A., Sroufe, L. A., & Egeland, B. (2004). The construction of experience: A longitudinal study of representation and behavior. *Child Development, 75*(1), 66-83.
- Carlson, E. A., Yates, T. M., & Sroufe, L. A. (2009). Dissociation and development of the self. In P. F. Dell, J. O'Neil, & E. Somer (Eds.), *Dissociation and the dissociative disorders: DSM V and beyond* (pp. 39-52). New York, NY: Routledge.
- Carlson, E. A. & Ruiz, S. (2016). Transactional processes in the development of adult personality disorder symptoms. *Development and Psychopathology, 18*, 639-651.
- Chu, A., & DePrince, A. P. (2006). Development of dissociation: Examining the relationship between parenting, maternal trauma and child dissociation. *Journal of Trauma & Dissociation, 7*(4), 75-89.
- Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology, 6*, 533-549.
- Cicchetti, D., & Dawson, G. (2002). Multiple levels of analysis. *Development and Psychopathology, 14*(3), 417-420.

- Cicchetti, D., & Rogosch, F.A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8, 597-600.
- Cicchetti, D., & Toth, S. (2016). Child maltreatment and developmental psychopathology: A multilevel perspective. In D. Cicchetti (Ed.) *Developmental psychopathology (3<sup>rd</sup> Edition)*, Vol. 3: *Maladaptation and psychopathology* (pp. 457- 512). New York: John Wiley & Sons.
- Cole, P. M., Alexander, P. C., & Anderson, C. L. (1996). Dissociation in typical and atypical development: Examples from father-daughter incest survivors. In L. K. Michelson & W. J. Ray (Eds.), *Handbook of dissociation: Theoretical, empirical, and clinical perspectives* (pp. 69-89). New York: Plenum Press.
- Denham, S. A., Bassett, H. H., & Wyatt, T. (2015). The socialization of emotional competence. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (p. 590–613). New York, NY: The Guilford Press.
- Derogatis, L. R., & Spencer, P. M. (1993). *Brief symptom inventory: BSI* (Vol. 18). Upper Saddle River, NJ: Pearson.
- Dutra, L., Bureau, J. F., Holmes, B., Lyubchik, A., & Lyons-Ruth, K. (2009). Quality of early care and childhood trauma: A prospective study of developmental pathways to dissociation. *The Journal of Nervous and Mental Disease*, 197(6), 383.
- Egeland, B. (1982). *42-month teaching task code manual*. Minneapolis, MN: University of Minnesota.
- Egeland, B., Carlson, E., & Sroufe, L.A. (1993). Resilience as process. *Development and Psychopathology*, 5(4), 517-528.

- Erickson, M. F., Korfmacher, J., & Egeland, B. R. (1992). Attachments past and present: Implications for therapeutic intervention with mother-infant dyads. *Development and Psychopathology*, 4(4), 495-507.
- Fischer, K.W., & Pipp, S.L. (1984). Development and the structures of unconscious thought. In K. Bowers & D. Meichenbaum (eds.), *The unconscious reconsidered* (pp. 88-148). New York, NY: Wiley.
- Fischer, K.W., & Ayoub, C. (1994). Affective splitting and dissociation in normal and maltreated children: Developmental pathways for self in relationships. In D. Cicchetti & S.L. Toth (eds.), *Rochester symposium on developmental psychopathology: Disorders and dysfunctions of the self* (Vol. 5, pp. 149-222). Rochester, NY: University of Rochester Press.
- Frewen, P., Kleindienst, N., Lanius, R., & Schmahl, C. (2014). Trauma-related altered states of consciousness in women with BPD with or without co-occurring PTSD. *European Journal of Psychotraumatology*, 5(1), 24863.
- George, C., & Solomon, J. (1999). Attachment and caregiving: The caregiving behavioral system. *Handbook of attachment: Theory, research, and clinical applications*, 649-670.
- George, C., & Solomon, J. (2011). Caregiving helplessness: The development of a screening measure for disorganized caregiving. In J. Solomon & C. George (Eds.), *Disorganized attachment and caregiving* (pp. 133–166). New York, NY: Guilford Press.
- Gresham, D., & Gullone, E. (2012). Emotion regulation strategy use in children and adolescents: The explanatory roles of personality and attachment. *Personality and Individual Differences*, 52(5), 616-621.



- Haltigan, J. D., & Roisman, G. I. (2015). Infant attachment insecurity and dissociative symptomatology: Findings from the NICHD Study of Early Child Care and Youth Development. *Infant Mental Health Journal, 36*(1), 30-41.
- Harter, S. (1998). The development of self-representations. In W. Damon & N. Eisenberg (eds.), *Handbook of child psychology, Volume 3: Social, emotional, and personality development* (5 ed., pp. 553-617). New York: Wiley & Sons, Inc.
- Hebert, M., Langevin, R., & Charest, F. (2020). Disorganized attachment and emotion dysregulation as mediators of the association between sexual abuse and dissociation in preschoolers. *Journal of Affective Disorders, 267*, 220-228.
- Hollenstein, T. (2012). The dynamic systems perspective. *The Cambridge handbook of environment in human development*, 138-151.
- Hollingshead, A. B. (1975). Four-factor index of social status. New Haven, CT: Yale University.
- Hornstein, N.L., & Putnam, F.W. (1992). Clinical phenomenology of child and adolescent dissociative disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 1077-1085.
- Hulette, A. C., Kaehler, L. A., & Freyd, J. J. (2011). Intergenerational associations between trauma and dissociation. *Journal of Family Violence, 26*(3), 217-225.
- Huth-Bocks, A. C., Guyon-Harris, K., Calvert, M., Scott, S., & Ahlfs-Dunn, S. (2016). The Caregiving Helplessness Questionnaire: Evidence for validity and utility with mothers of infants. *Infant Mental Health Journal, 37*(3), 208-221.
- Kefeli, M. C., Turow, R. G., Yildırım, A., & Boysan, M. (2018). Childhood maltreatment is associated with attachment insecurities, dissociation and alexithymia in bipolar disorder. *Psychiatry Research, 260*, 391-399.

- Labella, M.H., & Cicchetti, D. (2017). Developmental psychopathology. In *The SAGE Encyclopedia of Abnormal and Clinical Psychology*.
- Lecompte, V., & Moss, E. (2014). Disorganized and controlling patterns of attachment, role reversal, and caregiving helplessness: Links to adolescents' externalizing problems. *American Journal of Orthopsychiatry*, 84(5), 581-589.
- Lieberman, A. F. (2017). *The emotional life of the toddler*. New York, NY: Simon and Schuster.
- Linde-Krieger, L., & Yates, T. M. (2018). Mothers' history of child sexual abuse and child behavior problems: The mediating role of mothers' helpless state of mind. *Child Maltreatment*, 23(4), 376-386.
- Linde-Krieger, L. B., & Yates, T. M. (2021). A structural equation model of the etiology and developmental consequences of parent-child role confusion. *Journal of Applied Developmental Psychology*, 72, 10126.
- Liotti, G. (1999). Disorganization of attachment as a model for understanding dissociative psychopathology. In J. Solomon & C. George (eds.), *Attachment disorganization* (pp. 39-70). New York, NY: Guilford Press.
- Lyons-Ruth, K. (2003). Dissociation and the parent-infant dialogue: A longitudinal perspective from attachment research. *Journal of the American Psychoanalytic Association*, 51(3), 883-911.
- Lyons-Ruth, Melnick, S., Bronfman, E., Sherry, S., & Llanas, L. (2004). Hostile-helpless relational models and disorganized attachment patterns between parents and their young children: Review of research and implications for clinical work. *Attachment Issues in Psychopathology and Intervention*, 65-94.

- Maaranen, P., Tanskanen, A., Haatainen, K., KoivumaaHonkanen, H., Hintikka, J., & Viinamaki, H. (2004). Somatoform dissociation and adverse childhood experiences in the general population. *Journal of Nervous and Mental Disease, 192*, 337–342.
- Macfie, J., Cicchetti, D., & Toth, S.L. (2001). The development of dissociation in maltreated preschool-aged children. *Development and Psychopathology, 13*, 233-254.
- McConaughy, S. H., & Achenbach, T. M. (2004). *Manual for the Test Observation Form for ages 2-18*. Burlington, VT: University of Vermont, Center for Children, Youth, & Families.
- McGee, R. A., Wolfe, D. A., Yuen, S. A., Wilson, S. K., & Carnochan, J. (1995). The measurement of maltreatment: A comparison of approaches. *Child Abuse & Neglect, 19*(2), 233-249.
- Modestin, J., Lötscher, K., & Erni, T. (2002). Dissociative experiences and their correlates in young non-patients. *Psychology and Psychotherapy: Theory, Research and Practice, 75*(1), 53-64.
- Mortensen, J. A., & Barnett, M. A. (2019). Intrusive parenting, teacher sensitivity, and negative emotionality on the development of emotion regulation in early head start toddlers. *Infant Behavior and Development, 55*, 10-21.
- Ogawa, J.R., Sroufe, L.A., Weinfield, N.S., Carlson, E.A. & Egeland, B. (1997). Development and the fragmented self: A longitudinal study of dissociative symptomatology in a non-clinical sample. *Development and Psychopathology, 9*, 855-879.
- Putnam, F.W. (1991). Dissociative disorders in children and adolescents: A developmental perspective. *Psychiatric Clinics of North America, 14*, 519-532.

Putnam, F.W., Helmers, K. & Trickett, P.K. (1993). Development, reliability, and validity of a child dissociation scale. *Child Abuse & Neglect*, 17, 731-741.

Putnam, F.W. (1997). *Dissociation in children and adolescents: A developmental approach*. New York: Guilford Press.

Putnam, F.W. (2000). Dissociative disorders. In A.J. Sameroff, M. Lewis, & S. Miller (eds.), *Handbook of developmental psychopathology* (2<sup>nd</sup> Edition), (pp. 739-754). New York: Kluwer Academic/Plenum Publishers.

Putnam, F. W., Helmers, K., & Trickett, P. K. (1993). Development, reliability, and validity of a child dissociation scale. *Child Abuse & Neglect*, 17(6), 731-741.

Rudd, K. L., Alkon, A., & Yates, T. M. (2017). Prospective relations between intrusive parenting and child behavior problems: Differential moderation by parasympathetic nervous system regulation and child sex. *Physiology & Behavior*, 180, 120-130.

Sameroff, A. (2000). Dialectical processes in developmental psychopathology. In A. Sameroff & M. Lewis & S. Miller (eds.), *Handbook of developmental psychopathology* (2nd ed., pp. 23-40). New York: Kluwer Academic/Plenum.

Sameroff, A.J. & Chandler, M.J. (1975). Reproductive risk and the continuum of caretaking casualty. In F. D. Horowitz & M. Hetherington & S. Scarr-Salapatek & G. Siegel (eds.), *Review of child development research* (Vol. 4, pp. 187-243). Chicago, IL: Chicago University Press.

Sameroff, A. & Emde, R. (1989). *Relationship disturbances in early childhood*. New York, NY: Basic Books.

Sameroff, A. J., McDonough, S. C., & Rosenblum, K. (Eds.). (2004). *Treating parent-infant relationship problems: Strategies for intervention*. New York, NY: Guilford Press.

- Sattler, J. M. (2008). *Assessment of children: Cognitive foundations*. San Diego, CA: JM Sattler.
- Schimmenti, A. (2018). The trauma factor: Examining the relationships among different types of trauma, dissociation, and psychopathology. *Journal of Trauma & Dissociation, 19*(5), 552-571.
- Schore, A. N. (2013). Relational trauma, brain development, and dissociation. In J. D. Ford & C. A. Courtois (Eds.), *Treating complex traumatic stress disorders in children and adolescents: Scientific foundations and therapeutic models* (p. 3–23). New York, NY: Guilford Press.
- Sher-Censor, E., & Yates, T. M. (2014). Mothers' expressed emotion and narrative coherence: Associations with preschoolers' behavior problems in a multiethnic sample. *Journal of Child and Family Studies, 24*(5), 1392-1405.
- Selvi, Y., Besiroglu, L., Aydin, A., Gulec, M., Atli, A., Boysan, M., & Celik, C. (2012). Relations between childhood traumatic experiences, dissociation, and cognitive models in obsessive compulsive disorder. *International Journal of Psychiatry in Clinical Practice, 16*(1), 53-59.
- Slade, A., Holland, M.L., Ordway, M. R., Carlson, E. A., Jeon, S., Close, N., Mayes, L. C., Sadler, L. S. (2020). Minding the Baby: Enhancing infant attachment and parental reflective functioning in an attachment-based, interdisciplinary home visiting program. *Development and Psychopathology, 32*, 12-137.
- Smeekens, S., Riksen-Walraven, J. M., & Van Bakel, H. J. (2009). The predictive value of different infant attachment measures for socioemotional development at age 5 years. *Infant Mental Health Journal: Official Publication of the World Association for Infant Mental Health, 30*(4), 366-383.

- Smith, L. B., & Thelen, E. (2003). Development as a dynamic system. *Trends in Cognitive Sciences*, 7(8), 343-348.
- Sroufe, L.A., & Rutter, M. (1984). The domain of developmental psychopathology. *Child Development*, 55, 17-29.
- Sroufe, L.A. (1996). *Emotional development: The organization of emotional life in the early years*. New York, NY: Cambridge University Press.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349–367.
- Sroufe, L.A. (2009). The concept of development in developmental psychopathology. *Child Development Perspectives*, 3(3), 178-183.
- Suchman, N.E., Decoste, C., Roosa Ordway, M. & Bers, S. (2013). Mothering from the inside out. In N. Suchman, M. Pajulo, & L.C. Mayes (eds.), *Parenting and substance abuse: Developmental approaches to intervention* (pp. 407-433). New York, NY: Oxford University Press.
- Van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, 117(3), 387.
- Vulliez-Coady, L., Obsuth, I., Torreiro-Casal, M., Ellertsdottir, L., & Lyons-Ruth, K. (2013). Maternal role confusion: Relations to maternal attachment and mother–child interaction from infancy to adolescence. *Infant Mental Health Journal*, 34(2), 117-131.
- Vonderlin, R., Kleindienst, N., Alpers, G. W., Bohus, M., Lyssenko, L., & Schmahl, C. (2018). Dissociation in victims of childhood abuse or neglect: A meta-analytic review. *Psychological Medicine*, 23, 17-24.

- Waters, S. F., Virmani, E. A., Thompson, R. A., Meyer, S., Raikes, H. A., & Jochem, R. (2010). Emotion regulation and attachment: Unpacking two constructs and their association. *Journal of Psychopathology and Behavioral Assessment, 32*(1), 37-47.
- Wechsler, D. (2002). *WPPSI-III administration and scoring manual*. San Antonio, TX: Psychological Corporation.
- Wichstrøm, L., Belsky, J., & Steinsbekk, S. (2017). Homotypic and heterotypic continuity of symptoms of psychiatric disorders from age 4 to 10 years: A dynamic panel model. *Journal of Child Psychology and Psychiatry, 58*(11), 1239-1247.
- Wieland, S. (2011). Dissociation in children and adolescents: What it is, how it presents, and how we can understand it. In S. Wieland (ed.), *Routledge psychosocial stress series. Dissociation in traumatized children and adolescents: Theory and clinical interventions* (p. 1–27). New York, NY: Routledge/Taylor & Francis Group.
- Yates, T. M., Burt, K. B., & Troy, M. F. (2011). A developmental approach to clinical research, classification & practice. In *The Minnesota symposia on child psychology: The origins and organization of adaptation and maladaptation* (Vol. 36, pp. 231-282). New York, NY: Wiley.
- Zanarini, M. C., Ruser, T. F., Frankenburg, F. R., Hennen, J., & Gunderson, J. G. (2000). Risk factors associated with the dissociative experiences of borderline patients. *The Journal of Nervous and Mental Disease, 188*(1), 26-30.

Table 1

*Participant Demographics at Wave 1*

	%	N
Child sex		
Male	50%	125
Female	50%	125
Child ethnicity/race		
Latinx	46%	115
Black	18%	45
White	11.2%	28
Multiracial	24.8%	62
Caregiver ethnicity/race		
Latinx	55.6%	139
Black	19.2%	48
White	19.6%	49
Asian	1.6%	4
Other/Multiracial	4.0%	10
Caregiver relation to child		
Biological mother	91.2%	228
Foster/adoptive mother	3.6%	9
Grandmother/other kin	5.2%	13
Caregiver education		
Did not complete high school	19.8%	49
High School diploma or equivalent	17.3%	43
College or technical school	62.9%	157
Caregiver employment		
Employed	55.6%	139
Not employed	44.4%	111
Caregiver partner status		
Married	61.6%	154
Other committed relationship	18.8%	47
Single	19.6%	49
Poverty status		
Poverty (Income < 100% of the poverty line)	37.6%	94
Near Poverty (Income < 130% of the poverty line)	9.2%	23
No Poverty	53.2%	133



Table 2

*Description of Study Measures*CORE STUDY MEASURES

**Insensitive Caregiving:** When children were 4-years-old, caregivers' intrusive, hostile, and supportive behaviors were rated during a series of semi-structured teaching tasks (Block & Block, 1980). Independent coders evaluated caregivers' parenting quality during each task using 7-point scales (Carlson et al., 1995; Egeland, 1982). Intrusiveness assessed the extent to which the caregiver lacked respect for the child as an individual and failed to recognize the child's efforts to gain autonomy with higher scores connoting greater levels of intrusiveness ( $M = 2.79$ ,  $SD = 0.82$ ;  $ICC = 0.75$ ). Hostility was indicated by the caregiver's expression of anger, discounting, or rejection of the child with higher scores reflecting greater hostility ( $M = 1.47$ ,  $SD = 0.49$ ;  $ICC = 0.80$ ). Supportive presence captured the extent to which the caregiver provided a secure base for the child and remained attentive to the child's needs for the duration of each task (Egeland, 1982). Support was reverse-scored so that a score of 7 indicated low support and a score of 1 indicated high support ( $M = 3.14$ ,  $SD = 0.81$ ;  $ICC = 0.81$ ).

**Caregivers' Helpless State of Mind:** Caregivers self-reported their state of mind regarding their relationship with the target child using the Caregiving Helplessness Questionnaire (George & Solomon, 2011). Helpless state of mind was assessed for the first time at age 5 using the 6-item "mother helpless" subscale (e.g., When I am with my child, I often feel out of control) with items rated on a 5-point Likert scale from 1 (*not at all characteristic*) to 5 (*very characteristic*). The CHQ helpless subscale evidences discriminant validity with measures of parental stress and coping and convergent validity with interview ratings of maternal helplessness (George & Solomon, 2011; Huth-Bocks et al., 2016; Vulliez-Coady et al., 2013). The CHQ demonstrates good reliability in prior research (Lecompte & Moss, 2014) and in the current sample ( $\alpha = .88$ ).

**Children's Dissociation:** Following the laboratory assessments when children were 5, 6, 7, and 8, teachers completed Achenbach's Teacher Report Form (McConaughy & Achenbach, 2004). Twelve items reflecting dissociative tendencies (e.g., sudden changes in mood or feelings; confused or seems to be in a fog) rated 0 (*not true*), 1 (*somewhat or sometimes true*), or 2 (*very or often true*) were composited based on their similarity to items on the Child Dissociative Checklist (Putnam et al., 1993). This dissociation composite evidenced acceptable reliability (average  $\alpha$  across waves = .82) and is consistent with prior research (Haltigan & Roisman, 2015; Ogawa et al., 1997; Smeekens et al., 2009).

COVARIATES

**Early Childhood Maltreatment:** Children's early maltreatment was assessed at age 4 based on caregiver reports on the Early Trauma Inventory (Bremner et al., 2000). Two independent coders rated the severity of each maltreatment type using criteria set forth by McGee and colleagues (1995) on a 4-point scale, including 0 (*no maltreatment*), 1 (*mild*), 2 (*moderate*), and 3 (*severe*). A composite of child physical abuse, sexual abuse, emotional/verbal abuse, exposure to domestic violence, and neglect severity was used in these analyses.

**Child IQ:** The Vocabulary and Block Design subtests from the Wechsler Preschool and Primary Scale of Intelligence-III (WPPSI-III; Wechsler, 2002) assessed children's cognitive skills at wave 1. Using the published scoring guidelines, a pro-rated measure of full-scale IQ was computed by averaging the child's verbal and performance IQ scores (Sattler, 2008).

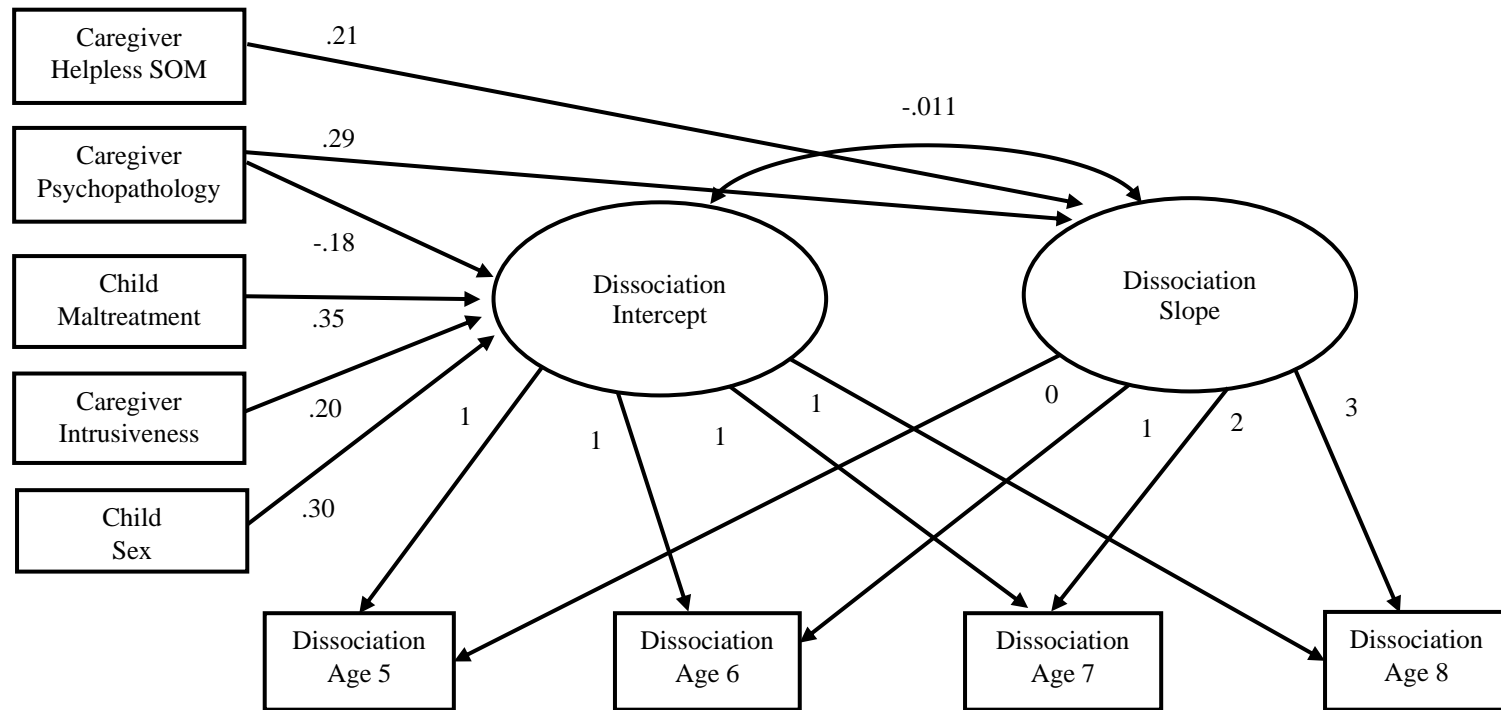
**Family Socioeconomic Status (SES):** Family SES was measured at the start of the study using Hollingshead's (1975) Four-Factor Index of Social Status based on caregivers' education and occupation. Scores ranged from 9 (unemployed with a 10th grade education) to 66 (an attorney with a graduate degree) with higher scores connoting higher SES ( $M_{SES} = 32.13$ ,  $SD = 12.14$ , e.g., a licensed vocational nurse with a trade degree).

**Caregiver Psychopathology:** The Brief Symptom Inventory (Derogatis & Spencer, 1993) evaluated caregiver's psychopathology during the week preceding the wave 1 interview. Caregivers indicated how much 47 symptoms (e.g., "feeling lonely") bothered them on a 5-point scale from not at all 0 (*not at all*) to 4 (*extremely*). Analyses controlled for caregiver's Global Severity Index  $t$ -scores, which reflect the number of symptoms and intensity of perceived distress.

Table 3  
*Descriptive Statistics and Bivariate Correlations*

	<i>M</i> ( <i>SD</i> )	1	2	3	4	5	6	7	8	9	10
1. Dissociation Age 5	.329 (.415)	---	---	---	---	---	---	---	---	---	---
2. Dissociation Age 6	.281 (.333)	.677**	---	---	---	---	---	---	---	---	---
3. Dissociation Age 7	.261 (.315)	.391**	.677**	---	---	---	---	---	---	---	---
4. Dissociation Age 8	.243 (.276)	.597**	.663**	.735**	---	---	---	---	---	---	---
5. Low Support	3.145 (.800)	.368**	.313**	.223*	.326**	---	---	---	---	---	---
6. Intrusiveness	2.780 (.824)	.312**	.283**	.310**	.194*	.573**	---	---	---	---	---
7. Hostility	1.540 (.628)	.302**	.302**	.244**	.212*	.543**	.413**	---	---	---	---
8. Helpless State of Mind	1.326 (.515)	.135	.099	.000	.198*	-.186**	.077	.155*	---	---	---
9. Family SES	32.13 (12.14)	-.171	-.225**	-.140	-.187*	-.181**	-.132*	-.040	-.010	---	---
10. Child IQ	95.174 (13.47)	-.257**	-.226**	-.244**	-.324**	-.163**	-.070	-.079	-.038	.256**	---
11. Caregiver Psychopathology	48.250 (11.07)	-.028	.114	.268*	.219*	.089	.074	.127*	.339**	-.016	.029

Note: \* $p < .05$ , \*\* $p < .01$ .



*Figure 1.* Conditional linear growth model of children’s dissociation from ages 5 to 8.  
 Note: We analyzed growth curve data using the lavaan package in R. The Full Information Maximum Likelihood (FIML) method accounted for missing data; an MLR estimator addressed non-normality and provided robust maximum likelihood estimates. All paths are significant at  $p < .05$ . Non-significant paths not shown for clarity.