

A DEVELOPMENTAL PATHWAYS MODEL OF DISSOCIATION

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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 daydreaming, 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.

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 by examining 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. Consequently, 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).

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 10, this volume & Schore, Chapter 11, 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 consolidate 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, others, 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 quality 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. While 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). 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.

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.

TABLE 9.1 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	19.6%	49
High school diploma or equivalent	16%	40
Some college or technical school coursework	51.2%	128
Bachelor's degree or higher	13.2%	33
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 9.2 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 (CHQ; 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 α 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., 2007). 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 age 4 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 ($M = 32.13$, $SD = 12.14$, 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.

Study participants were diverse with respect to ethnicity/race and socioeconomic status (see Table 9.1 for detailed participant demographics). Children (50% girls, 50% boys) were 4 years old when the study began, and most caregivers (91.2%) 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 9.2 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.

TABLE 9.3 Descriptive Statistics and Bivariate Correlations

	<i>M (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: * $p < .05$, ** $p < .01$

Descriptive and bivariate analyses (see Table 9.3) 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) (see Figure 9.1). 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 a 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 dissociative 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

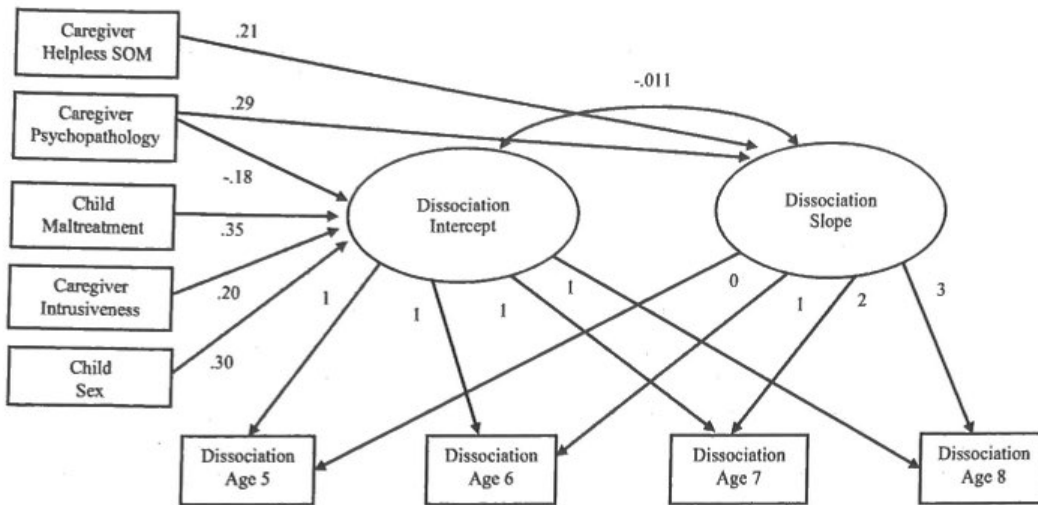


FIGURE 9.1 Conditional linear growth model of children's dissociation from ages 5 to 8. Note: We analyzed growth curve data using the lavaan package in R. The Full Information Maximum Likelihood (FIML) method accounted for missing data; an MLR estimator addressed non-normality and provided robust maximum likelihood estimates. All paths are significant at $p < .05$. Non-significant paths not shown for clarity

(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 of 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, 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 partner 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.

Implications and Future Directions

This developmental pathways investigation of dissociation has significant potential to inform applied efforts to prevent 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.

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