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## Chapter 02.04

# Development of Dissociation and Development of the Self

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Dissociation is a complex psychophysiological process that alters the accessibility of memory and knowledge, integration of behavior, and sense of self (Putnam, 1994). The etiologic role of traumatic experience in dissociative processes has long been posited (Breuer & Freud, 1886/1895, Janet 1889), but relatively little attention has aimed to understand the developmental processes that underlie observed associations between trauma and dissociation. Recently, scholars have suggested that the developing self (or disruptions in self processes) may account for this association (Bowlby, 1969/1982; Kohut, 1971). In this chapter, we employ an organizational developmental framework to understand dissociative processes with respect to both developmental adaptation and deviation. We argue that dissociation is integrally related to the developing self, and that pathological dissociation disrupts the development of the self (Putnam, 1994, 1995) and/or results from disturbances in the self (Liotti, 1992). Thus, dissociative processes both affect and are affected by organization of the self.

### *Dissociation: Description and Diagnosis*

Across the developmental spectrum, dissociative 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 disturbance (e.g., inattention, poor impulse control, self-harm) (Hornstein

& Putnam, 1992). Efforts to define dissociation emphasize deficits in integrative memory, disturbances of identity, passive influence experiences, and trance-absorption phenomena that are not better accounted for by organic pathology (American Psychiatric Association, 1994; Putnam, 1997). Memory dysfunctions include the inability to recall autobiographical information or complex behavior and disruptive intrusions of traumatic memories. Disturbances of identity consist of experiences of discrete behavioral states (each associated with a subjective sense of individuality) as well as depersonalization, and psychogenic amnesia. Passive influence experiences involve feelings of mind-body disconnection (e.g., being controlled by an outside force). Experiences of intense absorption or enthrallment may take the form of spontaneous trance states (e.g., lack of awareness of immediate surroundings).

As in adults, dissociative processes in children and adolescents are characterized by disturbances of memory, identity, and perception; however, developmental considerations are paramount in understanding early forms of dissociation (Putnam, 1997). Identification of pathological dissociation in childhood may be confounded by normative dissociative tendencies, particularly in young children (Cole & Putnam, 1992; Fischer & Ayoub, 1994). Dissociative behaviors may not have the same meaning across development, and a number of normative processes may underlie dissociative states in early childhood (e.g., fantasy proneness, hypnotizability, behavioral state regulation) (Hornstein & Putnam, 1992; Putnam, 2000).

Moreover, children, adolescents, and adults differ in their cognitive capacity to recognize discontinuities in their behavior or sense of awareness, and in their subjective distress about any perceived inconsistencies. The assignment of dissociative diagnoses, particularly in childhood, requires familiarity with spectrums of both normal (e.g., imaginative behavior, fantasy/reality boundaries) and disordered behavior (e.g., pathological dissociation) (Putnam, 1997). Pathological dissociation may reflect an absence of the normative decline of dissociative processes across development and/or an increase in individual (idiosyncratic) dissociation.

Dissociation has been characterized both as a continuum of behavior and as an extreme deviation from normality (i.e., a taxon of psychopathology separate from the normative continuum). At the level of process, dissociative experiences 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 organization and integration of self, cognitive, and behavioral processes (Putnam, 1991). At the level of diagnosis, dissociation has been conceptualized as a marked deviation from normality. The current Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) recognizes five types of dissociative disorder: Dissociative Amnesia, Dissociative Fugue, Depersonalization Disorder, Dissociative Identity Disorder (DID) and Dissociative Disorder Not Otherwise Specified (DDNOS). Child and adolescent diagnoses include only DDNOS and DID. Contemporary diagnostic paradigms are consistent with a taxonic interpretation of dissociation.

The taxonic claim is supported by research in which taxon-related items from the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986), measuring amnesia for dissociative experiences, identity confusion, and depersonalization/ derealization, distinguish dissociative individuals (i.e., DID) from both normals and patients with other forms of psychopathology (Waller, Putnam, & Carlson, 1996). In longitudinal study, the consistent strength with which discriminant functions distinguish clinical and normal subgroups provides support for the position that pathological dissociation is distinct from normative dissociation (Ogawa, Sroufe, Weinfield, Carlson & Egeland, 1997). Available data suggest that clinical dissociation represents more than the high end of a distribution of scores; it reflects a deviation from normative development that results in maladaptive behavior that can be differentiated from normal behavior. From the

perspective of development, dissociation may be viewed as a continuum process; at the level of diagnosis, dissociative phenomena may be categorical (Putnam, 1995). However, critical questions concerning environmental and biological factors that influence the developmental processes toward or away from pathological dissociation remain.

### *Etiology of Dissociation*

First noted by 20<sup>th</sup> century psychologists, dissociation and its developmental underpinnings have been a central focus of psychological inquiry. On the periphery of the psychoanalytic tradition, Janet (1889) proposed that constitutional vulnerability interacts with extreme experience to foster cognitive-affective disintegration. In later works, Freud (1926) placed greater emphasis on environmental influences and their interaction with psychological processes. He suggested that trauma (i.e., extreme experiences of helplessness) precipitates defense mechanisms, such as dissociation, in an effort to manage environmentally- and psychologically-induced anxiety and avoid re-traumatization. Contemporary theories have integrated these early notions to suggest that the combined influence of experience (i.e., repeated trauma) and biological reorganization as a function of experience contribute to pathological dissociation. These theories propose that dissociation begins as an individual defense against unexpected overwhelming negative experience. The defensive pattern becomes entrenched as an automatic and uncontrollable response to stress with repetition and anticipation of probable attack (Perry, Pollard, Blakley, Baker, Vigilante, 1995; Putnam, 1997; Terr, 1990, 1991, 1994).

Object-relations perspectives conceptualize the psychological phenomenon of dissociation in terms of internal dynamics whereby trauma necessitates the premature maturation of a “false” self that rigidifies and obscures more spontaneous authentic experience (the “true” self) (Winnicott, 1965; 1971). The false self is viewed as predominantly a mental construction in which secondary (primarily cognitive) processes are enlisted to ensure survival in unpredictable overwhelming conditions. From a Jungian perspective, Kalsched (1996) describes this dissociative dynamic as a “dyadic self-care structure” that consists of both precocious caretaking and regressed infantile aspects of the self. Similar to Winnicott’s “false” self, the caretaking aspect of the self-care system strives to protect the regressed self, even becoming persecutory in the service of self-preservation and the avoidance of re-traumatization. In this view, experience becomes traumatic when existing regulatory capacities are overwhelmed (due to developmental immaturity, structural rigidity, and/or lack of supportive

emotional relationships), yet evolving systems strive to maintain or preserve existing organization. Thus, trauma in and of itself does not shatter self organization; internal processes shatter the organization in an effort to protect or maintain a sense of coherence that is the self.

Empirical research has demonstrated consistent associations between traumatic experience and biological and behavioral manifestations of dissociation. Moreover, these relations appear to be moderated by the frequency of the trauma and the developmental status of the individual at the time of traumatic exposure. Level of dissociation has been related to chronicity and severity of trauma in retrospective self-report studies (Chu & Dill, 1990; Kirby, Chu, & Dill, 1993; Waldinger, Swett, Frank, & Miller, 1994) and in a recent prospective study (Ogawa et al., 1997). Links between dissociation and child sexual, physical abuse, and neglect have been demonstrated in adult nonclinical (e.g., Briere & Runtz, 1988; Irwin, 1996; Ross, Joshi, & Currie, 1990; Sanders & Becker-Lausen, 1995), clinical (e.g., Briere & Zaidi, 1989; Chu & Dill, 1990; Kirby et al., 1993; Lipschitz, Kaplan, Sorkeen, & Chorney, 1996; Putnam et al., 1996), and dissociative disorder (e.g., Putnam, Guroff, Silberman, Barban, & Post, 1986; Ross et al., 1991) samples. Dissociation in adulthood has also been related to experiences of loss in childhood (Irwin, 1994) and to witnessing violence (Zlotnick, Shea, Pearlstein et al., 1996).

Most of the research concerning trauma and dissociation has been retrospective, focusing on relations between self-reported abuse in childhood and high levels of dissociation in adulthood. Several retrospective studies have found severity of dissociation in adulthood to be related to age of onset of trauma, suggesting a particular vulnerability to the dissociative effects of negative experience in early childhood (e.g., Kirby et al., 1993; van IJzendoorn & Schuengel, 1996; Zlotnick, Shea, Zakriski et al., 1995). Moreover, recent studies suggest that trauma may lead to elevated levels of contemporaneous dissociation in childhood.

Dissociative processes in childhood have been related to multiple forms of maltreatment, including sexual abuse, physical abuse, and neglect (Coons, 1996; Hornstein & Putnam, 1992; Macfie, Cicchetti, & Toth, 2001; Malinosky-Rummel & Hoier, 1991; Putnam, Helmers, & Trickett, 1993; Ogawa et al., 1997; Sanders & Giolas, 1991).

Despite considerable evidence connecting pathological dissociation with prior trauma, little is known about the normative trajectory of dissociation or processes linking maltreatment and dissociation across development (Putnam, 1995). Our own view of the developmental

relation between trauma and dissociation is grounded within the integrative framework of developmental psychopathology which encompasses ideas from a range of theoretical perspectives (Cicchetti, 1984; Rutter, 1996a; Sroufe & Rutter, 1984). The remainder of the chapter provides an overview of: 1) the organizational developmental perspective derived from the domain of developmental psychopathology, 2) normative processes in self development, 3) normative dissociative processes, 4) dissociative developmental trajectories, 5) effects of dissociation on self functioning, and finally, 6) diagnostic implications of a developmental approach to the study of dissociation.

### *Dissociation within the Framework of Developmental Psychopathology*

As the study of the origins and course of individual patterns of behavioral adaptation, developmental psychopathology provides a useful framework for integrating diverse theoretical accounts of dissociative processes and the developing self (e.g., Cicchetti & Toth, 1997; Rutter, 1996a; Sameroff, 2000; Sroufe & Rutter, 1984). Beyond descriptive psychopathology and risk identification paradigms, developmental psychopathology encourages process-level analyses of experiences that probabilistically lead to disturbance, that modify the expression of disorder, and that contribute to the maintenance or desistance of developmental pathways and patterns (See Cicchetti, & Tucker, 1994; Gottlieb, 1991; Rutter, 1996b; Sameroff & Emde, 1989). These dynamic processes include both internal and external influences and biological and psychological transformations and reorganizations that occur over time (Cicchetti & Cohen, 1995).

An organizational perspective of development incorporates core principles of developmental psychopathology within a theoretical framework that yields testable hypotheses about the nature of both typical and atypical development (Cicchetti & Cohen, 1995; Sroufe, 1979; Sroufe & Rutter, 1984). A central tenet of developmental psychopathology is that normal and atypical developmental patterns are mutually informing (Cicchetti, 1990, 1993; Cicchetti & Cohen, 1995; Sroufe, 1990b; Sroufe & Rutter, 1984). The organizational perspective conceptualizes development as a series of qualitative reorganizations whereby earlier patterns of adaptation provide a framework for, and are transformed by, later adaptations. In this way, development is cumulative, and early experience is uniquely influential. Each successive adaptation represents the combined influence of contemporaneous experience and development up to that point (Bowlby, 1980). Across developmental patterns and pathways,

whether normal or disordered, relations among successive adaptations are probabilistic and multi-determined (Thelen, 1992). 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). For example, harsh parental treatment may lead to both conduct problems and depression; yet, neither form of pathology stems solely from parental harshness.

Within the organizational model, adaptation is defined with respect to the quality of integration among domains of functioning related to salient developmental issues and later adaptation (Cicchetti, 1989; Waters & Sroufe, 1983). Positive adaptation is enabled by integrations of biological, socioemotional, cognitive, and representational capacities that promote the flexible negotiation of concurrent and future developmental issues (Cicchetti, 1993; Egeland, Carlson, & Sroufe, 1993; Sroufe, 1989; Waters & Sroufe, 1983). Maladaptation (i.e., psychopathology) reflects developmental deviation(s) from normal patterns of adaptation that compromise subsequent development (Cicchetti, 1993; Sroufe, 1989). From a developmental perspective, individuals actively participate in the construction of experience, whether adaptive or maladaptive, by interpreting and selecting experiences that are consistent with their developmental history (Sroufe & Fleeson, 1986).

As suggested by an emphasis on developmental challenges, the organizational model focuses on patterns of adaptation, rather than continuities in manifest discrete behaviors (Sroufe & Waters, 1977). Thus, developmental coherence occurs at the level of the meaning and function of behavior (Sameroff & Chandler, 1975; Waddington, 1940). The same observable behavior (e.g., the child's dependence on caregivers) may be viewed as adaptive at one point and maladaptive at another depending upon the individual's developing capacities and environmental resources and demands. Just as equivalent levels of adaptation may appear dissimilar across developmental periods, manifestations of psychopathology may change across development (Cicchetti & Schneider-Rosen, 1986; Sroufe & Rutter, 1984). Herein lies the contribution of a developmental perspective to the study of psychopathology. Whereas early models of psychopathology were largely downward extensions of adult manifestations of psychopathology to child and adolescent populations, a developmental approach is informed by the study of both normative and disordered

processes in the developing child. This chapter aims to further our understanding of dissociation from such a perspective, wherein dissociative processes are inextricably linked to normative processes of self development.

### *Normative Self Processes*

From a developmental perspective, the self is conceived as an inner *organization* of attitudes, feelings, expectations, and meanings (Sroufe, 1990a). The self arises from an organized caregiving matrix (an organization that exists prior to the emergence of self) and has organizational significance for adaptation and experience (Sroufe, 1990a, 1996; Sroufe & Waters, 1977). Organization of the self evolves from dyadic experience through recursive patterns of differentiation and integration, providing a framework for subsequent individual experience (Sander, 1975; Sroufe, 1996). Recognition of others as part of regulation, of one's actions as effective or ineffective in eliciting care, and of the self as the origin of experience are all part of the self system.

Within an organizational developmental framework, core levels of self competence derive from the quality of early experience in the caregiving milieu and contribute to the negotiation of developmental issues at multiple, interactive levels (Sroufe, Egeland, & Carlson, 1999). At the *motivational* level, the child who has experienced responsive care holds positive expectations about relationships with others that motivate her/him to seek out, derive pleasure from, and rely on interpersonal connections. *Attitudes* formed in the caregiving relationship lay the foundation for views of the self as worthy of, and effective in, eliciting care and responsiveness from others. A strong *emotional* base, derived from a supportive caregiving relationship, provides a solid foundation for flexible and effective arousal modulation, impulse control, and adaptation to the demands of the environment. At the *instrumental* level, relationship experience shapes the development of specific skills that enable the successful negotiation of salient developmental issues. Finally, at the *relational* level, the child with a history of responsive care possesses capacities to apprehend the rules of social reciprocity and to establish and maintain genuine empathic connections with others.

The regulation of emotion lies at the core of early socioemotional experience (Thompson, 1998). Such regulation entails processes responsible for monitoring, evaluating, and modifying arousal that enable individuals to function adaptively in the environment

(Cicchetti, Ganiban, & Barnett, 1991). Moreover, core affective dimensions endow individuals with a sense of continuity of self throughout development and across relationships with others (Emde, 1983). Longitudinal research supports the link between well-functioning affective attunement in early childhood and adaptive functioning in motivational, attitudinal, instrumental, emotional, and relational domains across development (Thompson, 1998; Weinfield, Sroufe, Egeland, & Carlson, 1999).

The foundations of emotional regulation are laid in early physiological and affective experience within the primary caregiving relationship (i.e., emotional synchrony and distress modulation) (Cicchetti et al., 1991; Sroufe, 1996). Examining the quality of these early affective exchanges is critical to understanding compensatory regulatory processes, such as dissociation. Infants enter the world with a biologically-based propensity for interaction (Bowlby, 1969/1982), initiating, maintaining, and terminating interactions reflexively and without intention (Ainsworth, Bell & Stayton, 1974). Within the caregiving environment, the infant's fluctuating states are incorporated into increasingly varied and complex behavioral and affective caregiver-orchestrated exchanges. With the emergence of motoric and intentional capabilities, the child assumes an increasingly active role in regulation, and dyadic regulatory patterns based on differences in caregiving history and infant expectations regarding caregiver availability become apparent (Sroufe, 1996). The range of emotional experience, including both positive (e.g., joy, love) and negative (e.g., anger, fear, grief) affects, plays a vital role in human adaptation by promoting closeness in relationships. Relational distortions result when emotions repeatedly fail to achieve their purpose, when they are persistently activated, or when their expression is blocked or punished. Distortions in emotional regulation (and associated defensive distortions of behavior) reflect distortions in care (Bowlby, 1969/1982) that manifest as dysynchronies between caregiving behavior and child emotional experience and needs (Sameroff & Emde, 1989).

During the toddler and preschool years, emotional challenges involve the expression of affect and the control and modulation of affective experiences (Sroufe, 1996). Direct affective expression requires access to feelings and positive expectations regarding one's safety in expressing emotion. Emotional control and modulation require the capacity to maintain organization in the face of high arousal and the belief that one can reorganize following strong affective experience. In the

preschool years, increasingly stable patterns of self regulation or enduring aspects of the emerging personality emerge, and broad differences in developmental trajectories become apparent (Kopp, 1982; Kopp, Krakow, & Vaughn, 1983; Schore, 1994; Sroufe, 1996). Interpersonal exchanges in the caregiving milieu become internalized as part of the child's repertoire of affect and behavior (Sroufe, 1996), neurological organization (Cicchetti & Lynch, 1995; Schore, 1994), and relationship expectations and beliefs (Carlson & Sroufe, 1995; Sroufe, Carlson, Levy, & Egeland, 1999).

Developing representational processes (i.e., internalized expectations of self, other, and self in relation to others) and their regulatory functions also develop in the context of the early caregiving relationship (Sander, 1975; Schore, 1994, Sroufe, 1996; Stern, 1985, 1995). Expectations and attitudes regarding the self and other in relationship emerge in coordination with emotional regulatory patterns (Sameroff & Emde, 1989; Sander, 1975) and bias infant reactions to subsequent experience (Sroufe, 1996; Stern, 1995). This early network of emotional, behavioral, and representational associations evolves interactively with development (Thompson, 1998). Because interactive experiences are occurring in the context of maturing biological systems, transactional experience in the caregiving environment may entrain excitatory and inhibitory neurological processes that underlie the child's capacity for arousal modulation and socioemotional regulation (Kraemer, 1992, Schore, 1994). With development, dynamic changes in emerging cognitive and neurological capabilities, caregiver scaffolding (e.g., parental modeling, reinforcing, structuring, redirecting, and altering interpretations), and interactions with the social world contribute to the child's evolving repertoire of self-regulatory strategies (Buchsbaum & Emde, 1990; Maccoby, 1992; Nelson, 1999; Sroufe, 1983; Thompson, 1998; Vygotsky, 1978).

#### *Normative Dissociative Processes*

From the beginning, development is defined by advances in complexity, integration, and differentiation. Typically, self organization progresses towards more flexible levels of complexity and integration with respect to diverse aspects of experience (Sroufe, 1996). Pathological dissociation represents a profound distortion of core self processes such that development progresses toward greater complexity without complementary integration. Integration and dissociation are viewed as antagonistic options of self development in the face of salient experience (Breger, 1974). When experience is acknowledged and accepted, integration

follows; to the extent that dissociation prevails, there is fragmentation of the self.

To some degree, dissociative processes, or the fractionation of experience, are characteristic of early childhood functioning. Young children may be prone to dissociative processes as basic skills are acquired and prior to transitions to new levels of integrative organization (Cole & Putnam, 1992; Fischer & Ayoub, 1984; Harter, 1983). Thus, dissociative processes may represent typical manifestations of childhood cognitive structures and a normative regulatory strategy through early childhood (Breger, 1974; Cole & Putnam, 1992). The mind of the young child naturally fractionates prior to the development of the ability to process complex or contradictory experiences (e.g., compartmentalizing content into positive versus negative, good versus bad) (Harter, 1998; Putnam, 1991). Moreover, early self-representations are highly differentiated and isolated from one another. Fischer and colleagues refer to this natural tendency toward fractionation as “passive” dissociation (Fischer, & Ayoub, 1994; Fischer & Pipp, 1984). Although uncoordinated initially, a potential for subsequent integration exists. “Active” dissociation, a motivated response to extreme or traumatic experience, capitalizes on the child’s natural proclivity for compartmentalizing affect and experience (e.g., Fischer & Ayoub, 1984; Fischer, & Pipp, 1984; Putnam, 1995). Because a significant level of cognitive and perceptual fluidity is developmentally normative during this period, it remains unclear whether pathological dissociation can be diagnosed in early childhood.

From a developmental perspective, organization, or the formation of links between isolated repeated experiences and the extraction of invariants in relationship interactions, is forged in caregiving relationship experiences. Responsive caregiving enables the infant to maintain organization in the context of internal arousal and/or external threat (Bowlby, 1969/1982; Winnicott, 1965). From a history of responsive care, children gain access to both affectively- and cognitively-generated information, and over time integrate these dimensions with increasing complexity and flexibility to meet intra- and interpersonal demands. Thus, cognition moderates affect, and affect informs cognition (Crittenden, 1992; Sroufe, 1996). Within the caregiving environment, normative processes may be shaped by experience to serve adaptive or maladaptive functions (Bowlby, 1973). Because core self-regulatory processes are formed in the context of the caregiving relationship, experiences of insensitive care may be particularly powerful, promoting distortions in patterns of adaptation.

Overwhelming emotional experience (i.e., trauma) in childhood may consolidate normative dissociative propensities into rigid patterns of pathological dissociation. Based on a developmental perspective, the process by which dissociative phenomena in childhood become crystallized into pathological dissociation depends in part upon the caregiving environment (i.e., qualities of the caregiving relationship independent of trauma) and upon the developmental capacities of the child (e.g., capacities to self-soothe, symbolize experience through play or language). Vulnerability to dissociative coping mechanisms is more likely in the absence of experiences of reliable support and self efficacy.

Insensitive care compromises infants’ beliefs in their own worthiness and efficacy and, in turn, the formation of normal levels of defenses and integration that such beliefs afford. In the context of malevolent caregiving relationships, extreme emotionally-arousing experience evokes simultaneous conflicting needs to flee toward and away from the parent. Contradictory and dramatically fluctuating cues may overwhelm immature cognitive processing, resulting in multiple, incompatible emotional cues, behavioral patterns, and expectations of self and other (Liotti, 1992). Repeated experiences of “fright without solution” contribute to a collapse in attentional and behavioral strategies for coping with distress (Hesse & Main, 2000; Main & Solomon, 1990). The collapse in regulatory strategies may allow multiple cues to determine action simultaneously, giving rise to dissociative regulatory patterns.

As the child assumes a more active role in the regulation of emotion and behavior, these patterns become evident as disorganization in the attachment relationship. Behavioral manifestations of the breakdown in dyadic attachment organization include stilling, freezing, contradictory or incomplete behaviors. These behaviors bear a phenotypic resemblance to later manifestations of dissociative defensive patterns (Liotti, 1999; Main & Morgan, 1996) and to conflict behaviors resulting from the simultaneous activation of incompatible behavioral systems (see Hinde, 1979). Up to 80% of maltreated infants (versus 20-40% of controls) exhibit such behaviors, or attachment disorganization (Carlson, Cicchetti, Barnett, & Braunwald, 1989).

Attachment disorganization may be one mechanism by which traumatic experience in the caregiving environment is translated into adaptational vulnerabilities, such as dissociation (Liotti, 1992, 1999). Preliminary support for this hypothesis has been demonstrated in correlations between attachment disorganization measured in infancy and dissociative

behaviors and experiences from middle childhood through adulthood (Carlson, 1998; Ogawa et al, 1997). The data, however, reflect an asymmetrical relation between disorganization and dissociation such that, prospectively, most infant disorganization is not related to manifest pathological dissociation, but, retrospectively, most dissociation in later development can be traced to attachment disorganization in infancy. These data are consistent with a biological/evolutionary perspective on dissociation, which suggests that dissociative behaviors are more normative early in life and become increasingly indicative of psychopathology with age (Perry et al., 1995).

With increasing capacities and changing social environments, development provides opportunities for adaptive integration of experience as well as for the consolidation of maladaptive regulatory patterns. Typically, as the self develops, increasing capacities for representation and symbolization through language, play, and fantasy provide new avenues for managing affective experience (Carlson & Sroufe, 1995; Sroufe, 1990a; Stern, 1985). In particular, language and interpersonal interaction enable the formation of a personal narrative and verbal exchange that connects experience with the self and enables the integration of affect, cognition, and sensory information. Symbolic capacities (especially language) allow children to talk about feeling states, to share interpretations regarding the motivations, effects, and affects associated with behavior, and to clarify misinterpretations (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986). Thus, within the context of emotional support, adaptive capacities or functions of the mind concern not so much the conscious organization of experience as tolerance (and thereby integration) of disparate feelings, attitudes, and experiences (Winnicott, 1965). In trauma, the individual encounters a "speechless terror" processed largely in non-verbal or preverbal domains of experience (Kafka, 1969; van der Kolk, 1994). Dissociative processes interfere with the formation of a personal narrative and verbal exchange, undermining the integration of traumatic events with other experience (Mollon, 1996; van der Hart & Horst, 1989). When capacities to verbalize affect have been compromised by intolerable experience and lack of relationship support, important avenues for affective differentiation and integration may be restricted, and development proceeds along alternate pathways (Cicchetti & Toth, 1995). In the absence of supportive relationships (shared experience), secondary or compensatory psychological processes, such as dissociation, substitute to organize experience.

Cognitive development in middle childhood and adolescence may enable adaptive integration across splits and dissociations or the pathological construction of more advanced and varied types of splitting and dissociation. In this way, dissociative processes reflect normative developmental phenomena, becoming increasingly complex and paralleling ongoing cognitive development in adolescence and adulthood. For example, normative (largely conscious) experiences of multiplicity of self in adolescence (e.g., friend and employee) are thought to allow for higher order thinking and moral deliberation (Fischer & Ayoub, 1984, Wolf, 1990). As a result, transient experiences of depersonalization and derealization may be more common during adolescence (Putnam, 1995). In contrast, a history of trauma and experiential fragmentation may instantiate a maladaptive pathway in which advanced and sophisticated ways of dissociating evolve with developing capacities. Dissociative behaviors may be more natural (and prevalent) in early childhood; however, with the appearance of more advanced modes of thought, the significance and complexity of dissociative behavior as an indicator of psychopathology may increase with age (Breger, 1974; Putnam, 1997; Waller et al., 1996).

#### *Developmental Pathways of Dissociation*

Thus far, we have described how disorganization in the attachment relationship may undermine effective adaptation rendering the child vulnerable to pathological dissociative processes, particularly in the face of subsequent trauma. In accordance with organizational principles, however, initiating conditions are shaped by subsequent experience and may yield divergent outcomes. For example, early experiences of attachment disorganization followed by normative life experience may yield elevated, but subclinical dissociative levels. Such individuals may harbor a latent predisposition toward dissociative behavior that surfaces only infrequently under stress (see Figure 1, pattern A) (Liotti, 1992). In contrast, severe and chronic trauma following disorganized dyadic relational experience may reinforce a pathological dissociative trajectory (see Figure 1, pattern B). Within this pattern, oscillating or disruptive caregiving interactions in infancy interfere with emerging dyadic integrative processes, and elaborated dissociative mechanisms become established later in development in response to experiences of severe or chronic trauma and the pervasive absence of emotional support. Empirical support for these pathways can be found in negative relations between the strength of the self (e.g., esteem, ego control, ego

resilience) and dissociation (Ogawa et al., 1997; Waller et al., 1996).

A healthy self may imbue the child with a greater capacity for subsequent integration of disturbing experience (i.e., a return to non-dissociative functioning), but it does not confer immunity to dissociative reactions in the face of overwhelming experience (Liotti, 1992). A history of dyadic organization and supportive relationship experience may initiate a normative developmental trajectory of dissociative processes (see Figure 1, pattern C). Within the context of stable self organization, defensive responses such as dissociation, are employed adaptively (i.e., flexibly and temporarily) in service of the self, postponing the impact of overwhelming experience until environmental support becomes available and integration possible. However, in the event of severe or chronic trauma (i.e., experiences that overwhelm normal defenses) following early self organization, a trajectory of dissociative processes may result despite early organization (see Figure 1, pattern D). Consistent with developmental theory (i.e., developmental bias toward integration and positive adaptation), the threshold of caregiving quality required to facilitate the development of cohesive self organization may be fairly low, whereas the severity and repetition of empathic failures required to induce fragmentation may be relatively high.

#### *Dissociation and Self Functioning*

Sustained and pervasive dissociation in early childhood distorts or disrupts the development of basic self-processes, including experiences of self agency (i.e., authorship of one's own experience and behavior), expectations of specific consequences from one's actions, and capacities for self-observation and -reflection (Herman, 1992; Mollon, 1996; Putnam, 1994, 1995). As development proceeds under typical conditions (i.e., average expectable environment), children develop increasing capacities for cognitive and emotional coordination and organization which enables the progressive integration of contradictory expectations and beliefs (e.g., Carlson & Sroufe, 1995; Cicchetti & Lynch, 1995) and the development of an enduring core view of self with a positive bias (Sroufe, 1996). Traumatic experience (especially related to caregiving relationships) may begin to organize experience via active dissociative mechanisms and the reversal of a normative positivity bias (Calvery, Fischer, & Ayoub, 1994; Westen & Cohen, 1992).

Disruptions and distortions in self processes occur at core levels of experience (i.e., motivational, attitudinal, instrumental, emotional, and/or relational). At the

*motivational* level, dissociative processes (and intrusive thoughts and actions) interfere with the development of consistent positive expectations regarding self experience and relationships, and sense of safety and security. Dissociative processes instill a sense of passivity whereby events are perceived as happening *to* the individual or controlled outside of the self (i.e., without volition) (e.g., Breger, 1974; Bowlby, 1969/1982). Children become hypervigilant to the attitudes and intentions of others, further compromising emergent self-awareness and the child's ability to attend to her/his own needs and thoughts (Briere, 1988; Calvery et al., 1994; Putnam, 1997; Westen, 1994). A lack of sense of authorship, in turn, undermines (provides basis for fragmentation of) temporal, physical, emotional, and autobiographical aspects of self continuity.

Dissociative processes related to compartmentalization and passivity of experience in conjunction with the developmental need to view the caregiving relationship as a source of safety support a distorted sense of self and negativity bias (*attitudinal* base). In order to preserve a semblance of safety and adult protection within a harsh caregiving relationship, the child may internalize a sense of self-criticism and hostility to protect an idealized image of the caregiver (Westen, 1994). Over time, the child may come to regard the self as defective, unlovable, and loathsome (Fischer & Ayoub, 1994; Westen & Cohen, 1992). Empirical research supports a relation between traumatic experience (i.e., maltreatment) and low self regard across development (e.g., Armsworth, Stronck, & Carlson, 1999; Egeland, Sroufe, & Erickson, 1983; Schneider-Rosen & Cicchetti, 1984; 1991).

By definition, dissociation is related to deficits in flexible and effective arousal modulation, impulse control, and/or adaptation to environmental demands (*emotional* base). Early traumatic experience may instantiate developmental deviation in emotional regulation (Cicchetti & Toth, 1995), compromising emerging regulatory strategies and fostering maladaptive compensatory strategies. Dissociative experience may include intrusive thoughts and behaviors, unpredictable state changes, and marked shifts in arousal levels disproportionate to environmental context. The child may develop a propensity for hyper- or hypo-aroused responses to emotional stimuli, especially those related to signals of threat or danger.

Dissociative experience is associated with deficits in the capacity to symbolize and mentalize affective experience (i.e., to integrate affective experience into higher order cognition) at the *instrumental* level. Trauma

“overwhelms and defeats one’s capacity to organize it” (Laub & Auerhahn, 1993, p. 288). Deficits in affective processing may include the inability to describe internal states (i.e., alexithymia; Krystal, 1988) and restrictions in attributional focus (i.e., negative bias; Beeghly & Cicchetti, 1994). Similar deficits in symbolic capacities have been observed in the play behavior of maltreated children (Allessandri, 1991) and in their ability to recognize a range of emotional displays (Barahal, Waterman, & Martin, 1981; Camras, Grow, & Ribordy, 1983). In general, these children appear to have difficulty reflecting upon affective states of others, and by extension, of the self (Fonagy & Target, 1997).

Finally, dissociative experiences may lead to poor *relational* competence due to the misreading of interpersonal cues and lack of access to inner emotional experience. In this way, self functioning in social relationships may mirror individual experience. Social behavior may be characterized by intrusiveness, aggression, and insensitivity to interpersonal cues and rules.

#### *Conclusions and Diagnostic Implications*

From a developmental perspective, organization and integration of experience defines the self (Breger, 1974; Loevinger, 1976). Failure to integrate salient experience represents a profound distortion or fragmentation in the self system. When experience is unnoticed, disallowed, unacknowledged or forgotten, connections among experiences are thwarted, and the resulting gaps in personal history compromise the integrity of the self and subsequent adaptation. In infancy, the “self” consists of discrete behavioral states of consciousness. Early on, these states are modulated by the caregiver and her/his daily routines. Over time, however, the capacity for self-regulation is internalized. Through repeated exchanges with a sensitive caregiver, the child comes to experience the self as a cohesive, unitary entity (Emde, 1983; Sroufe, 1996). Consistent responsive caregiving enables the recognition of consistency in the self and affective experience across time and context. In contrast, in the context of extreme hypo- or hyperarousal (i.e., due to parent neglect or abuse, respectively), the child’s emergent capacity for regulation may be overwhelmed and the developing organization of the self may be fragmented (see van der Kolk, 1987, 1988).

Within an organizational framework, the study of dissociation is also a study of the self. The process of dissociation, which begins as a protective mechanism to promote the integrity of the self in the face of trauma, may directly threaten optimal functioning when employed routinely or pervasively as a response to real

or anticipated environmental threat. The study of developmental mechanisms and processes underlying the origin and evolution of dissociative behavior is integrally related to the study of the organization of behavior, representation, and environmental influences on the developing self.

The diagnostic and clinical implications of complementary studies of integration and dissociation of self processes are manifold. First, early experiences of trauma (especially within caregiving relationships) may be particularly influential in instantiating dissociative developmental trajectories. Second, the meaning and significance of dissociative behaviors may change across development. Moreover, normally developing behavior (e.g., polarized evaluations, emerging discrete behavioral states) must be differentiated from pathological dissociative processes. Finally, the transactional processes by which normative dissociative phenomena in childhood become crystallized into pathological dissociation depend upon multiple influences, including the quality of the caregiving environment (i.e., parent-child relationship) and developmental capacities of the child (e.g., language). We believe the organizational theory of development provides a useful framework within which these issues and future investigations of dissociation and development may be effectively conceptualized.

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Figure Caption

Figure 1. Developmental pathways of dissociation.

