Etiology

Elsa Marziali and Heather Munroe-Blum

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Etiology

There is considerable variation among clinicians about the etiologic and developmental precursors of BPD. Although most acknowledge the possible influence of genetic, constitutional, neurobehavioral, and early developmental factors, clinicians disagree on which of these features is more important in determining the presence of borderline pathology in adults. Historically, the best formulated and most persuasive postulates regarding the etiology of the borderline syndrome have come from psychodynamic models of personality development that infer from the adult patients' reconstructions of past experiences possible intra- and interpsychic models of separation-inpiduation and identity formation. Patients' memories of early childhood physical and sexual abuse have not been emphasized by psychoanalytic theorists, even though Stern (1938) in his seminal paper on borderline pathology noted that "actual cruelty, neglect and brutality by the parents of many years' duration are factors found in these patients" (p. 468). Only in the 1980s have clinical investigators begun to explore the relevance of early life experiences (physical and sexual abuse, neglect, separation, and loss) in explaining the onset of the disorder and its behavioral manifestations in the adult patient. Results of studies of the effects of neurological impairment in childhood have also been linked to the onset of BPD. It is likely that many

etiologic hypotheses obtain and that there are multiple causes to the onset of BPD.

Not unique to BPD, yet equally important for understanding its salient symptomatic and behavioral features (intense, unstable interpersonal relationships, self-damaging behaviors, affective instability, and impulsivity) is the study of early childhood attachment and bonding, of stages of cognitive development, and of parallel stages of emotion processing. A growing empirical literature illustrates the relevance of these developmental factors in explaining maladaptive behavior in adults. In addition, studies of diagnostic groups of adult patients, including borderlines, provide some evidence for inferring associations between negative early life experiences and later onset of psychopathology.

Three perspectives on the etiology and pathogenesis of BPD a-e reviewed: psychodynamic, neurobehavioral, and familial. In addition, clinical and theoretical hypotheses generated from studies of early childhood attachment and of cognitive and emotional development, as well as studies of adult borderline perceptions of attachment and emotion processing are critiqued.

Psychodynamic Perspective

In psychoanalysis, developmental-diagnostic hypotheses are inferred

from observations of the patient, reported symptoms, and interview material that includes patient recollections of early life experiences with caregivers. Although different psychoanalytic theorists disagree on the specific factors that contribute to the development of BPD, most locate the occurrence of developmental failures or conflicts in the first two years of life (Adler, 1985; Gunderson, 1984; Kernberg, 1975; Mahler, 1971; Masterson & Rinsley, 1975; Mahler, Pine & Bergman, 1975).

According to Kernberg (1975), certain constitutional phenomena combined with deficiencies in the environment contribute to the formation of early developmental conflicts that fail to be adequately resolved. An excessive aggressive drive coupled with a deficiency in the capacity to neutralize aggression or a lack of anxiety tolerance are associated with a failure to integrate good and bad self-other object representations. Primitive defenses (denial, projection, and splitting) are mobilized to keep separate the conflicted perceptions of self and other. Kernberg underemphasizes the role of the parent in determining the pathological outcome of the borderline's identity formation. Rather, his focus is on the progressively integrative aspects of ego development. His model presumes that in the borderline patient, the cognitive capacity for object constancy has been acquired and that borderline pathology evolves from a failure to acquire emotional object constancy. He outlines four stages for the development of integrated images of self as separate from other:

1. Undifferentiated self-object (first month)

2. Coalesced good and bad images of the self and of the object (12 to

3. 18 months).

4. Emotional object constancy

5. Accompanying capacity for intimacy.

Kernberg's fourth developmental stage overlaps with the separation-inpiduation subphase of Mahler, Pine, and Bergman's (1975) rapprochement stage of early development.

Masterson and Rinsley (1975) believe that the etiology of BPD is associated with the mother's withdrawal of libidinal supplies at the developmental stage when the child attempts to separate from the mother in search of his or her own identity. Mahler's (1975) rapprochement subphase of separation-inpiduation is used to locate the developmental conflict. Masterson and Rinsley (1975) describe the mother of the borderline as having a pathological need to cling to her child to perpetuate the gratification experienced earlier when the infant's survival was symbiotically bound to her. According to this paradigm, the mother is available if the child clings and behaves regressively and withdraws if the child attempts to separate and inpiduate. Masterson and Rinsley describe the child's response to the mother's withdrawal as "abandonment depression" that results from the

attempt to keep separate the positive and negative affective states experienced in relation to the mother. Reality is distorted, and ego development is arrested.

Buie and Adler (1982; Adler, 1985) also draw on Mahler's developmental thesis and add elements of Kohut's (1977) self-psychology for explaining the etiology of borderline personality. They believe that the borderline patient has not experienced an environment that could support the development of a stable self-identity in relation to the perception of an independent other. Adler (1985) suggests that the aloneness experienced by borderlines may be associated with the absence of good-enough mothering during the phases of separation-inpiduation. Because of the mother's emotional unavailability the child borderline fails to achieve "evocative memory" represented in Piaget's (1954) theory about the function of memory in cognitive development at age 18 months. Thus, the borderline, in the face of certain stresses, is unable to restore a solid integrated memory of the object and regresses to the earlier stage of "recognition memory" (age 8 months). Even though Adler agrees with other theorists in locating the developmental failure in Mahler's rapprochement and separation-inpiduation subphase, he believes that borderlines experience a primary emptiness due to the absence of stable images of positive introjects; that is, in the absence of these positive introjects, a holding, soothing sense of self does not develop.

Although most psychodynamic hypotheses about borderline pathology draw on Mahler's observational longitudinal studies of mothers and their children, Mahler (1971) cautioned against drawing inferences about adult psychopathology from observations of chi d- hood developmental phenomena. She suggested some link between the ego fixation problems of the borderline and developmental conflicts during the rapprochement subphase of separation-inpiduation; but she also believed that this hypothesis was not specific to BPD. Similarly, Kernberg's dynamic perspective of the etiology of borderline organization is not unique to borderline personality disorder but applies as well to schizotypal, narcissistic, histrionic, and antisocial personality disorders.

In summary, psychoanalytic hypotheses about the precursors of BPD emphasize intrapersonal, developmental dimensions concerned with identity formation. Borderline pathology is a manifestation of early childhood developmental failures that result in unresolved self-conflicts (Kernberg, 1975; Masterson & Rinsley, 1975) or self-deficits (Adler, 1985). From these perspectives the BPD patient is viewed as either salvaging fragments of a self-identity by keeping separate good- versus-bad images of self and significant others (Kernberg, 1975) or needing to substitute a primary emptiness with new, more stable images of positive self-objects (Adler, 1985). Empirically, it would be extremely difficult, if not impossible, to test whether these hypotheses apply to all BPD patients. Yet, experienced clinicians would agree

that many (but not all) BPD patients manifest difficulties in processing negative affects; that some (but not all) report feeling empty and rudderless; and that some (but not all) have difficulty in controlling high levels of anxiety and rage.

The problem with linear, unidirectional models of causation of a disorder is that alternate explanations are potentially ignored, and observed behavior is interpreted to fit the model, even if it is incorrect. For example, one of the patients screened for the random control trial (RCT) qualified for the BPD diagnosis on all eight of the DSM-III, Axis II criteria. However, the premorbid history provided by the patient, her husband, and chart reports supported a diagnosis of major affective disorder and the absence of BPD. The year before she was included in the study the patient had thrown herself in front of a moving bus and had sustained severe head injuries. Although she had recovered physically and had fully regained her memory and speech, she manifested many of the symptoms and behaviors typical of BPD patients. Clearly a neurobehavioral perspective was needed for understanding the meanings of this patient's behavior. As will be illustrated, neurological trauma sustained at any time in the life cycle, particularly in early childhood, challenge etiologic perspectives that fail to incorporate a range of factors that predispose to a disorder. Similarly, it will be demonstrated that studies of cognitive development, childhood regulation of affect, and early life psychological trauma provide a rich and complex set of factors for revising

hypotheses about the developmental precursors of BPD.

Neurobehavioral Perspective

The neurobehavioral model suggests a connection between the negative developmental effects of childhood brain dysfunction and the development of borderline symptomatology. For the neurologically impaired child, developmental symptoms appear in the form of hyperactivity, short attention span, distractibility, mood oscillation, and high impulsivity. The resultant behavioral syndrome includes problematic social interactions, academic difficulties, and low levels of achievement. Several authors (Hartocollis, 1968; Murray, 1979) postulate an association between the distorting effects of minimal brain dysfunction (MBD) and the child's perceptions of his or her own behaviors and interactions with caregivers. The outcome is one of confused cognition, affect regulation, and impulse control that ultimately leads to borderline ego development and behavior. Some studies have explored empirically the MBD and adult psychopathology hypotheses (Milman, 1979; Quitkin, Rifkin, & Klein, 1976; Weiss, Hechtman, Perlman, Hopkins, & Wener, 1979; Wender, Reimher, & Wood, 1981). Only a few have examined factors specific to the development of borderline pathology (Andrulonis et al., 1981; Andrulonis & Vogel, 1984; Akiskal et al., 1981; Soloff & Millward, 1983). Overall, the findings are equivocal.

A frequently quoted study by Andrulonis et al. (1981) was the first of a series that examined neurological factors specific to the development of BPD. A retrospective chart review was conducted on 91 subjects meeting DSM-III criteria for the borderline diagnosis. Andrulonis was able to subpide the subjects into three groups: a nonorganic group, a minimal brain dysfunction (MBD) group with a history of attention deficit disorder or learning disabilities, and an organic pathology group comprising subjects with a history of traumatic brain injury, encephalitis, or epilepsy. Overall, 38% of the subjects had a history of organicity, either MBD or organic pathology. The group with the history of organicity differed from the nonorganic group on several dimensions; they had earlier onset of illness, acted out more frequently, and were more apt to report family histories of drug and alcohol abuse. In a subsequent study Andrulonis identified four subcategories of BPD, two of which included organicity factors, attention deficit or learning disabled, and organic. Of particular interest were the results that showed differences between male and female borderlines. Forty percent of the males compared with only 14% of the females suffered from an attention deficit disorder or learning disabilities. Also, 52% of the males compared with 28% of the females has either a current or past history of organic assaults, such as head trauma, encephalitis, or epilepsy. Andrulonis concluded that borderlines with minimal brain dysfunction are predominantly male and have an earlier onset of emotional and functional difficulties based in part on a constitutional

deficit.

Akiskal (1981; Akiskal et al., 1985) conducted several studies to demonstrate the association between borderlines and affective disorders. Even though his primary focus was not on the exploration of specific neurological factors in borderlines, Akiskal's study of 100 borderline patients showed that in addition to overlapping affective diagnoses for almost half of the group, 11% had organic, epileptic, or attention deficit disorders. The discrepancy between Andrulonis's findings (38% of the subjects had histories of organicity) and Akiskal's findings (11% diagnosed as having neurological problems) can be explained by differences in both the aims and methods of the two studies. Andrulonis used chart reviews to obtain "histories" of organicity in borderlines. In contrast, Akiskal interviewed subjects to explore comorbidity between the borderline diagnosis and other psychiatric disorders that included organic syndromes; the subjects' past histories of organicity were net explored.

Soloff and Millward (1983) tested several etiologic hypotheses in a cohort of borderline patients. Included was a test of a neurobehavioral model of borderline personality style that was a partial replication of Andrulonis's study. Forty-five patients who met the criteria for borderline personality diagnosis on the Diagnostic Interview for Borderlines (DIB, Gunderson, Kolb, & Austin, 1981) were compared with 32 patients meeting research diagnostic

criteria (RDC) for major depressive disorder and 42 patients meeting the RDC for schizophrenia. Information was obtained from the subjects and, for 43% of the cases, from family members as well. A neurobehavioral checklist was used. The results showed that more complications of pregnancy were reported in the prebirth histories of borderlines than in the other two groups. The borderlines had more childhood psychopathology, including temper tantrums, rocking and head banging, but learning difficulties were more prevalent in the schizophrenic group. Because Soloff excluded subjects with any known central nervous system (CNS) abnormality, CNS subjects who also may have qualified for the borderline diagnosis were excluded. The use of retrospective historical methods to infer neurobehavioral factors in both the Soloff and Andrulonis studies may explain the discrepancies in their findings. On the other hand, the consistencies in their findings lend some support for developmentally based neurobehavioral hypotheses for explaining the onset and course of BPD.

Family Studies

In the 1980s the results of a series of studies have provided some support for etiologic hypotheses that link early childhood separations, losses, neglect, and physical and sexual abuse with the development of borderline personality disorder in adults. These studies can be viewed as partial attempts to test psychodynamic, developmental theories about borderline

pathology; that is, what associations, if any, exist between children's early experiences with their caregivers and later onset of the borderline disorder. Studies of early childhood experiences have relied on retrospective reports of developmental histories gleaned from chart reviews or reported by adult borderline patients. The results across studies are consistent.

Separation and Loss

Bradley (1979) obtained histories of early maternal separations from the mothers or significant caregivers of 14 young adolescent borderlines and matched groups of 12 psychotic, 33 nonpsychotic psychiatric patients, and 23 nonpsychiatric, delinquent controls. Separation was defined as removal of the child from the home for more than 3 to 4 weeks. The results showed that the borderlines experienced significantly more early separations than the other groups. Soloff and Millward (1983) used a similar retrospective historical method to compare the early life separation experiences of borderlines with those experienced by schizophrenics and patients with major depressive disorders. The borderline group experienced more parental loss due to death and porce, but there were no between-group differences for separations experienced due to either parent or child illnesses. The borderlines reported more problems in coping with normal separations such as attending school, transferring to a different school, and normal school transitions (elementary to high school). Both Bradley (1979) and

Soloff and Millward (1983) view their findings as supporting psychoanalytic theories that associate borderline pathology in the adult with an arrest during the separation-inpiduation phase of development in childhood.

Parental Care

Several investigators (Goldberg, Mann, Wise, & Segall, 1985; Paris & Frank, 1989) have examined qualities of parental care experienced by borderlines. Paris and Frank (1989) assessed subjects' recollections of the quality of care and protection received from parents during early childhood. Eighteen borderline (DIB score of 7 or more) and 29 nonborderline (DIB scores of 4 or less) female patients completed Parker's Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979). Tire PBI yields scores on two dimensions, parental care and parental protection. The results showed that only the degree of perceived maternal care significantly differentiated the two groups. In an earlier study, Goldberg, Mann, Wise, and Segall (1985) used the PBI to compare the responses of hospitalized borderline patients with two control groups; 24 had a clinical diagnosis of borderline, 22 had assorted psychiatric disorders, and 10 were nonclinical normal subjects. The borderlines perceived their parents to care less than the two control groups. The borderlines also perceived their parents to be more overprotective than the nonclinical control group but did not differ on this dimension from the

psychiatric controls. Despite the sampling differences in the Paris and Frank (1989) and the Goldberg (1985) studies, the results could be viewed as supporting an association between the quality of early parental care and the development of borderline disorder. Alternately, the disorder itself may have influenced the responses to the instrument.

Physical and Sexual Abuse

There is increasing evidence for associating abuse trauma in childhood with psychological difficulties in adults (Bryer, Nelson, Miller, & Krel, 1987; Gelinas, 1983). Bryer, Nelson, Miller, and Krol (1987) obtained sexual and physical abuse histories from 68 female psychiatric patients who had been admitted to a private psychiatric hospital. The subjects completed a symptom checklist and received the Millon Clinical Multiaxial Inventory (MCMI). Overall, 72% of the subjects reported a history of early abuse by family members. The physically abused group contained a higher proportion of borderline patients; these patients had also experienced sexual abuse.

In a similar study, Briere and Zaidi (1989) reviewed 100 charts of female patients seen in a psychiatric emergency service for histories of sexual abuse. Fifty of the charts were selected randomly from files where the clinician had not been directed to inquire about sexual abuse. These were compared with 50 charts selected randomly from files written by a clinician

who had been instructed to inquire about early childhood sexual abuse. The charts were coded for demographic variables, incidence of sexual abuse, and for the presence or absence of three personality disorder clusters (DSM-III-R). The most revealing finding was the very large discrepancy in the rate of reported abuse between subjects who had not been specifically asked about experiences of sexual abuse (6%) and those who had been asked (70%). For the latter, associations with clinical variables are similar to those reported by Bryer et al. (1987). Three times as many abused versus nonabused subjects had been given diagnoses of personality disorder. Also, five times as many of the abused patients had received specific diagnoses of BPD or borderline traits.

Three recent studies (Herman, Perry, & van der Kolk, 1989; Shearer Peters, Quaytman, & Ogden, 1990; Zanarini et al., 1989) compared reports of childhood trauma provided by borderline patients with those provided by several cohorts of patients with other psychiatric disorders. Zanarini (1989) used the revised version of the DIB to select 50 borderlines. Another interview schedule, the Diagnostic Interview for Personality Disorders (DIPD), was used to select 29 antisocial personality disorder controls. A second control group consisted of 26 patients who met the criteria for dysthymic disorder on the Structured Clinical Interview for DSM-III-R (SCID-II; Spitzer et al., 1987). Two semi-structured interviews were used to obtain histories of family pathology and early separation experiences. The reported

neglect and abuse experiences were segmented into three childhood periods, early (0-5 years), latency (6-12 years), and adolescence (13-18 years). A significantly higher percentage of borderlines than controls (antisocial and dysthymic) reported being abused (verbal, physical, or sexual) during all three childhood periods. The borderlines were more likely than the dysthymic group to have been sexually abused during latency and adolescence and to have been physically abused during early childhood. A history of neglect, emotional withdrawal, and disturbed caretaker behavior discriminated the borderlines from the antisocial controls in each of the childhood phases. More borderlines than dysthymics reported early childhood prolonged separations, but they did not differ from the antisocial group on this dimension. The authors conclude that although their results lend support to hypotheses that link the development of borderline disorders with early life experiences of abuse, neglect, and loss, there is insufficient evidence to suggest that any one type of childhood experience predicts the development of the disorder.

In a similar study of BPD (Herman, Perry, & van der Kolk, 1989), childhood trauma reported by 21 subjects was compared with reports provided by subjects with related diagnoses (schizotypal and antisocial personality disorders and bipolar II affective disorders; N-23). A 100-item, semi-structured interview was used to obtain childhood histories. The interview data were scored for positive indexes of trauma in three areas:

physical abuse, sexual abuse, and witnessing of domestic violence. The frequency of occurrence of each type of trauma was segmented into three childhood stages; childhood (0-6 years), latency (7-12 years), and adolescence (13-18 years). Eighty-one percent of the borderline patients gave histories of major childhood trauma: 17% had been physically abused, 67% had been sexually abused, and 62% had witnessed domestic violence. The borderlines also reported more types of trauma that lasted longer. Women had significantly higher total trauma scores, and they reported more physical and sexual abuse in childhood. For the borderline group, when gender differences were controlled, the total childhood trauma score remained significant when compared with the other two groups.

In a study of suicidal behavior in 40 female inpatients with a BPD diagnosis, Shearer (Shearer, Peters, Quaytman, & Ogden, 1990) obtained histories of childhood sexual and physical abuse. The patients who reported sexual abuse were more likely to have a concomitant diagnosis of "suspected complex partial seizure disorder," an eating disorder, or a drug abuse disorder. A history of physical abuse was associated with early family disruption, more psychiatric hospital admissions, and a concurrent diagnosis of antisocial personality disorder. Because of the small sample size the authors were cautious in interpreting the significance of their findings. However, they hypothesized that the subjects may have had neurological problems at birth and that the accompanying deficits made them more

vulnerable to family neglect, abuse, and disruption.

In summary, the results of these studies were well supported in our observations of the BPD patients who qualified for the RCT. As a group, every form of negative childhood experience was reported, but the nature and intensity of the experience varied for each patient. Some had sustained truly horrible experiences in which they had been both physically and sexually abused, whereas others had not sustained either form of abuse but had experienced a see-saw relationship with one or both parents. As one patient put it, “one day they loved me, and the next I was stupid and useless." The ongoing wish for a reunion with parents who would acknowledge their earlier failures as protective caregivers was of clinical significance. For example, many of the female patients who had been sexually abused wanted their mothers to admit that they had known at the time but had failed to rescue them. For many, this awareness was more painful than the actual experience of the abuse. Some patients wanted to gain acknowledgment and approval from parents whom they perceived as either unavailable or hypercritical. One patient who was 38 years old when he entered the study talked about his wishes for approval from his father whom he remembered as having consistently rejected him no matter how hard he tried to please him. In contrast, one of the female patients had been abandoned by her father in early childhood. She was an only child and remembered having enjoyed her privileged position in relation to her mother. However, as an adult she

continued to have a morbid attachment to her mother despite the fact that her mother was very demanding, intrusive, and perpetually critical.

Each patient's early childhood traumatic experiences were "packaged" differently and held different meanings for each patient. Loss of a parent, sexual or physical abuse, or neglecting parents did not affect in equally damaging ways the patients who shared these experiences. Thus, the arena for observation of the effects of the patient's early life experiences was not so much in their portrayals of specific childhood trauma but, rather, in their narratives about the meanings of current adult intimate relationships, including their ongoing relationships with one or both parents.

Developmental Hypotheses from Normative Studies of Early Life Experience

Theoretical and clinical hypotheses about the pathogenesis of BPD must be interpreted in the context of empirical investigations of normative patterns of early life development. This is particularly important as theoretical and clinical propositions about the dynamic precursors of BPD have not been empirically validated. A number of authors (Bowlby, 1979, 1988; Stern, 1985; Westen, 1990) have critiqued a psychoanalytic theoretical approach that assumes that there is a parallel association between a continuum of early development and of psychopathology. However, no empirical findings support clinical inferences about children's intrapsychic

experiences from the reports of adult patients. The notion that phase-specific trauma or fixations in early childhood lead to adult pathology has not been supported empirically. In fact, studies of early child development challenge psychoanalytic formulations about psychological development. Given the weight of this evidence, etiologic hypotheses about personality formation, including maladaptive versions, must include the study of the following:

1. Attachment and relationships

2. The nature of cognitive processing

3. The function of emotion processing.

Parallel emphasis needs to be placed on the study of contextual factors, in particular of genetic endowment and environmental variables. There is evidence to support the validity of each of these areas of personality development, but their respective contributions to an integrated model of personality function remain untested. Nonetheless, a review of the empirical literature on child development elucidates variables that may be important for understanding characteristics of borderline behavior. Studies of attachment, cognitive, and emotional response behaviors in adult borderline patients are also reviewed. A synthesis of these approaches may support hypotheses for linking features in the psychopathology of borderlines with early developmental experiences.

behavior of the new attachment figure. Because all relationships are reciprocal, the expectations and behaviors of the new attachment figure play a role in the evolving dynamic interactions. The resulting interpersonal transactions reflect both converging and perging expectations of the partners in the relationship. Their respective capacities for modifying and reshaping pergent expectations determine the outcome of the attachment.

Although there is some support for hypotheses that associate the quality of past attachments with the quality of future relationships (Cohn, 1990; Crittenden, 1990; Main, Kaplan, & Cassidy, 1985), the exact function of internal working models of self in relation to other is unknown. For example, the BPD patients who qualified for the RCT spanned a continuum of perceived satisfaction with intimate others. Despite having conflicted perceptions of intimate others (friends, family members, or partners) they viewed these relationships as providing important sources of support. In fact, it was surprising to find that the mean response on satisfaction with intimate others on a measure of the adequacy of social support was not dissimilar to that reported for a cohort of neurotic patients. Thus, it would appear that BPD patients have experienced and retained both positive and negative images of self in relation to other. The proportion of negative over positive determines their expectations in new relationships, including the therapeutic relationship. For example, one of the patients had withdrawn from relationships with the exception of her husband and son. She felt that her

expectations of others had been consistently thwarted in the past to an extent that she had given up engaging with others, including leaving a job because it required “too much communication with co-workers." In the group sessions this patient observed others and revealed little of herself. The therapists and the other group members were not to be trusted because, as with others in the past, her expectations would be frustrated. In contrast, another patient had sustained several friendships of long duration, had good rapport with her sister, an ambivalent relationship with her father, but had experienced a series of volatile, mutually violent relationships with men. This patient readily engaged with the group but wanted "answers" from the therapists and other group members. They were to tell her how to disengage from a current, abusive relationship with a man that she seemed unable to control.

Cognitive Processing

The notion of self-schema has been proposed as a theoretical paradigm for the cognitive processes involved in coordinating perceptions of self and other in a relational context. The term is frequently interchanged with self and object mental representations and was derived from Piaget's (1952, 1954) studies of children's cognitive development. Piaget's work generated the concepts of mental schemas, representation, assimilation, and accommodation. These constructs provide theoretical structures for understanding mental contents that have to do with processing information

on all three memory systems (semantic, episodic, and procedural) and influence in important ways the processing of new interpersonal situations. In maladaptive personalities what appears as blocked access to attachment information may possibly reflect a paucity of enduring schemas; thus attempts at processing new meanings are curtailed by the absence of person knowledge, including the absence of information for appraising aroused emotions. In contrast, adaptive personalities have access to a wide range of enduring schemas that are processed more flexibly; there is an openness to new information, and affective responses are integrated with stored information about previous affect-laden experiences.

An example from the IGP group treatment study illustrates the limitations and the rigidity of expectations contained in self-other schemas. At the first session of one of the groups a patient announced that she did not want to be in the group but was going to "stick it out" because that was all that the referring hospital could offer her. Although she told fragments of her story in ensuing sessions, she was very persistent in conveying to the other group members and the therapists that she did not want to talk to them. Yet, she showed up for every session. When other group members were rejected by her after repeated attempts to involve her, they started to attack her, saying, for example, "you needn't come, no one is forcing you." The patient's responses were counter-defensive; it seemed that, regardless of the quality of the other group members' communications, this patient was unable to alter

her expectations. Either her feelings toward a group of strangers overpowered her judgments about their trustworthiness or she had a paucity of positive self-schemas to guide her wishes to engage with them in a good way. This patient's mental schemas seemed to be restricted to anxious ambivalent views of self in relation to others. She communicated a wish to engage with the group by being present at each session and by talking about her problems but simultaneously rejected the group members' and therapists' overtures to connect with them. The schemas were often played out through subtle manipulations during which the patient would first allude to feelings of hopelessness and suicidal ideation and then punish anyone who attempted to come to her rescue. She preserved these rigid and limited versions of self-other expectations for three-quarters of the scheduled group sessions. Only after several open and hostile confrontations with two of the other group members was she able to observe and begin to alter her perceptions of herself and others. The patient's routine pattern of simultaneously engaging and rejecting others were tolerated by the group members and by the therapists. They challenged the patient, let her know how her behaviors were frustrating and hurtful, but did not reject her.

Because borderline patients have persistent difficulties in maintaining social relationships, possibly the cognitive-processing problems described for maladaptive personalities in general are relevant to BPD. Integrating psychoanalytic and cognitive theories of developmental processes, Fonagy

and Higgitt (1990) offer parallel hypotheses about cognitive deficits in adult BPD patients. They posit that a developmental paradigm in which the child has accurately perceived the caregiver as hostile and rejecting is at the root of the disorder; but in order to protect herself or himself from the awareness of the violent intent of the caregiver, the child defensively blocks cognitive processing of the mental states of others. Thus, the borderline patients' self-object schemas and their external relationships with others are profoundly constrained by a failure to conceptualize others as thinking, feeling, and needing emotional supplies. Fonagy and Higgitt (1990) suggest that this failure in cognitive processing can take place anytime during early development, but they speculate that it most likely occurs between the ages of 2 and 4 when cognitive development advances rapidly. Support for these hypotheses can be found in clinical situations in which the borderline patient projects on to others (including the therapist) the expectation of harm and abandonment. These expectations are not surprising; as Westen (1990) points out, “patients may expect and elicit much abuse in relationships in part because that is precisely what they learned to expect and became motivated to induce from relationships in childhood" (p. 684). Thus, change in the borderline patient's expectations would require the development of new ways of thinking and feeling about self and other in an interpersonal context that is tolerant, empathic, and supportive.

Emotion Processing and Temperament

Emotion regulation begins in the neonatal period (Kopp, 1989). Studies have shown that infants' facial movements correspond to expected patterns of expression of basic emotions (joy, fear, anger) (Demos, 1986). In response to painful stimulation, infants show facial signals and instrumental manifestations of a pain state, including withdrawal from social interaction and a decreased ability to self-soothe (Campos, 1988). Fitzpatrick (1985) and Harris (1989) have shown that during the preoperational and operational stages of cognitive development (ages 2 to 7 years) children develop a logical system of emotion constructs. Feelings are external to the self and are bound to events. For example, happiness "arrives" with a gift and "leaves" when the gift is taken away. Children in this age group appear to externalize the stimulus for their experienced emotions. Also they are unable to process simultaneously positive and negative emotions (Gnepp, 1987; Harter, 1987). Between the ages of 7 and 12 years (concrete operational stage of cognitive development) children are able to provide more refined definitions of feelings, both their own and those of others. They are able to distinguish feelings arising from internal states from feelings associated with external events. Also, feelings within the self are differentiated from feelings in others, even when they are discrepant (Selman, 1980). By the age of 10, children are able to recognize the experience of opposite valenced emotions toward the same event, but true capacity for the processing of mixed emotions is not integrated until adolescence (Harter, 1987).

Other studies have shown that

1. Temperament emerges early in life and shows high heritability (Buss & Plomin, 1986; Rushton, Fulker, Neale, Nias, & Eysenck, 1986).

2. Temperamental disposition is stable over time (Fox, 1989; Gunnar Mangelsdorf, Larson, & Hertsgaard, 1989), but its behavioral manifestations change over the course of development (Kagan, Reznick, & Snidman, 1986; Reznick et al., 1986).

3. Two categories of temperamental states, irritability (Korner Hutchinson, Kaspersky, Kraemer, Schneider, 1981; Matheny, Riese, & Wilson, 1985; Riese, 1987) and inhibition (Kagan, Reznick & Snidman, 1988) show impressive levels of continuity over time.

4. Children's temperamental features influence the ways other people respond to them (Rutter, 1978).

This latter point is especially relevant for understanding psychological risk factors attributed to temperamental disposition. For example, Lee and Bates (1985) found that temperamentally difficult infants elicited more conflicted confrontations from their mothers. Stevenson-Hinde *&:* Hinde (1986) showed that children with negative emotionality were more likely to have mothers who were irritable and teachers who responded with hostility. Huttenden and Nyman (1982) and Care) (1986) found an association between difficult temperamental disposition and an increased rate of

accidents, sleep difficulties, and infantile colic.

Although temperament has been studied as a variable separate from cognition and emotion, all three variables play significant roles in explaining personality development. More important, these factors influence the organization of intrapersonal and interpersonal processes. In particular, the studies of temperament underline the reciprocal influences of interpersonal transactions and support both the nature *and* nurture hypotheses on personality development. From this perspective, personality can be seen as an amalgam of cognitions about affective and behavioral attributes of the self in interaction with the environment. These cognitions define the self-system and determine how change occurs.

The BPD patients who qualified for the study varied enormously in temperamental style. The angry, aggressive, and provocative style most often associated with BPD was certainly evident in a number of patients. When coupled with some paranoid thinking, this patient style of behavior results in alienation of others. One man in his late twenties was very resentful when patients did not attend group sessions regularly. Why were they not there? Their absence affected the quality of the treatment he expected. He attacked the therapists for their failure to enforce rules that would require consistent attendance. Because the "rules" that this patient wished to invoke were entirely reasonable he could not understand the concept that each patient

needed to decide for herself or himself whether or not to attend a session. In contrast, some patients portrayed primarily a compliant, dependent style. They wanted to please others, particularly the therapists. Many had difficulty expressing angry thoughts and feelings and expected conflict and chaos if feelings (their own and others') got out of hand. One patient perceived herself to be a “nice person" who was generous, sensitive, and helpful to others; however, she had little awareness of the meanings of her punitive behavior toward her husband. She had several male friends with whom she spent time, excluding her husband but later telling him how much more affectionate they were than him. All of this was recounted in the group in a jolly, humorous manner.

Studies of Attachment, Cognitive Processing, and Emotion Responses in Adult Borderline Patients

In the 1980s increasing attention has been given to the study of borderline patients' responses to measures of attachment behaviors, mental representations of self in relation to others, and processing of emotions. These empirical studies, although few in number, are reviewed. They demonstrate new directions for exploring etiologic hypotheses about BPD.

Studies of Attachment

The quality of attachment experienced by borderlines can be inferred

from studies of adult patients' ratings of their parents. Gunderson, Kerr, and Englund (1980) compared borderline patients' perceptions of their parents with those of a group of paranoid schizophrenics and a group of neurotics. The BPD subjects reported more paternal psychopathology and more maternal ineffectiveness. As reported in the Family Studies section, other investigators have found that, when compared with other psychiatric groups of patients and nonclinical groups, borderlines perceived their fathers as less interested and less approving (Frank & Paris, 1981); perceived both parents as less nurturing and less affectionate (Frank & Hoffman, 1986); rated both parents as more overprotective and less caring (Goldberg et al., 1985); and rated their mothers as significantly less caring (Paris & Frank, 1989).

A recent study (Stalker, 1993) used Main's Adult Attachment Interview (AAI) (Main & Goldwyn, 1990) to assess internal working models of attachment in a cohort of 41 adult women who had been sexually abused as children. The AAI instrument uses extensive interview data to rate the quality of attachment of the subject during early childhood. Each category (secure, preoccupied, dismissing) are conceptualized as parallel forms of Ainsworth's (1985) qualities of attachment in young children (secure, anxious avoidant, and anxious ambivalent). Thirty-six subjects met criteria for one or more personality disorders on the SCID (Spitzer et al., 1987); all were classified as either preoccupied or dismissing. Eight subjects met criteria for BPD; one-half were classified as preoccupied, and the other half as dismissing. Most of the

borderlines (7 out of 8) were also classified as "unresolved," indicating that issues concerned with childhood loss and trauma remained problematic. These results challenge theoretical models that posit either "conflict" or "deficit" models of early childhood development for borderlines; rather, borderlines have complex, problematic internal working models of self in relation to other that are manifested through different patterns of interpersonal transactions, as for example, "preoccupied" and "dismissing."

In a study of attachment pathology West and colleagues (1993) used the Reciprocal Attachment Questionnaire (West, Sheldon, & Reiffer, 1987) to assess the responses of borderline patients compared with nonborderlines. On four of eleven scales (feared loss, secure base, compulsive care-seeking, and angry withdrawal), the borderline subjects had significantly higher mean scores. According to the authors two of the scales that differentiated the two groups (feared loss and secure base) are related to attachment anxiety, that is, the degree to which the subject fails to experience security in an attachment relationship. The other two scales (compulsive care seeking and angry withdrawal) identify patterns of dysfunctional attachment relationships. These results parallel those of Stalker (1993) and underscore the importance of attachment phenomena for understanding the effects of specific relationship dimensions on the development and course of borderline pathology.

differentiated the three diagnostic groups; thus, the level of object representation appears to vary with degree of pathology.

Bell and colleagues (1986, 1988) developed the Bell Object Relations Inventory from which four subscale scores can be generated: Alienation, Insecure Attachment, Egocentricity, and Social Incompetence. When compared with a group of schizophrenic subjects, borderline patients had significantly higher mean scores on the first three subscales. Both groups had higher mean scores on all four subscales when compared with a nonpsychiatric group of subjects. In particular, the alienation subscale was the most successful for differentiating the borderlines from the other two groups.

Marziali and Oleniuk (1990) developed a measure for assessing levels of object representation on the basis of spontaneous descriptions of significant others. The measure, Descriptions of Significant Others (DSO), was derived from a method devised by Blatt and Lerner (1983). The capacity to differentiate perceptions of self from perceptions of other is defined on a continuum of high to low object differentiation. A preliminary study that compared the descriptions of borderlines with those of a nonpsychiatric group showed that the overall level of object differentiation generated by the borderline patients was significantly lower. In a subsequent study Oleniuk (1992) was able to demonstrate that the DSO borderline patients had

significantly lower mean scores (the lowest level of object differentiation) than both a schizophrenic and nonpsychiatric group of subjects. This means that the borderlines were the least able to describe self as separate from other.

The Core Conflictual Relationship Theme (CCRT) method developed by Luborsky (Luborsky & Crits-Christoph, 1990) provides a systematic procedure for evaluating patients' patterned ways of perceiving self in relation to other. Narratives about relationship episodes involving patients and other people in their lives provide the unit of analysis. Within each object narrative, the patient's wishes, needs, and intentions toward the other person can be inferred. Similarly, the expected responses from the other person as well as self-reactions to those responses can be rated. Schleffer (Schleffer, Selzer, Clarkin, Yoemans, & Luborsky, 1989) applied the CCRT method to relationship episodes extracted from treatment sessions of borderline patients. The most prevalent themes included:

1. Borderline patients' most frequent wishes were to avoid conflict and to be close to others.

2. Their most frequent responses from others were rejecting and oppositional.

3. Their most frequent responses from self were anger and being out of control.

Furthermore, the CCRTs of the borderline patients were characterized by confusion between self and other, between negative and positive impulses, and between wish and action.

Westen and colleagues (1990) developed a method for scoring dimensions of object relations from responses to the Thematic Apperception Test (TAT). Four dimensions of object relations can b? reliably and validly assessed:

1. Complexity of representations of people
2. Affect tone of relationship paradigms
3. Capacity for emotional investment in relationships
4. Understanding of social causality.

With the exception of affect tone, each dimension is assessed on scales which span high and low levels of developmental functioning. In a study comparing the responses of borderline subjects with those of major depressives and normals, Westen, Lohr, Silk, Gold, & Kerber (1990) found that the borderline group did not differ from the depressive group on the two cognitive dimensions (complexity and social causality) but had lower mean scores on affect tone and emotional investment. The borderlines also produced more pathological responses than either of the other two groups. Of

interest was the fact that nearly half of the borderlines produced representations at the higher levels of complexity. This finding shows the variability of cognitive functioning in borderline patients; at times their representations are cognitively quite primitive, whereas at other times they are able to represent others in complex ways and sometimes in overly complex ways. Westen (1990) suggests that "the cognitive structure of borderline object representations may be characterized by two opposite forms of pathology: a tendency to represent people in ways that are too shallow and developmentally primitive, and a tendency to represent people in overelaborated ways that are not shallow enough in the face of limited data" (p. 680).

The results of the studies of borderline patients' processing of information about relationships show considerable congruence. Borderlines have difficulty in distinguishing perceptions and emotions related to themselves from those related to significant others. They tend to experience others in need-gratifying ways. They represent themselves as negatively as they represent others. They expect to be alienated, rejected, and criticized. Of importance is the variation both within and between borderline patients in their capacities for representing self in relation to other. These findings challenge psychodynamic hypotheses that associate the development of borderline personality disorder with preoedipal developmental arrests, and support a perspective that views object-relational development as continuing

throughout childhood, adolescence, and adulthood.

The study patients' narratives about important people in their lives revealed their negative expectations of themselves and others. Most hoped for rescue by a fantasized caring and trustworthy love object, but few actually believed that their life situations would change. One patient said that she knew what she needed: love from a caring man, marriage, and a family but had given up hope that her wishes would be fulfilled. She alternated between taking good care of herself, initiating social contacts, and maintaining a positive attitude, with ignoring her appearance (did not bathe or wash her clothes), isolating herself, overeating, overdrinking, and thinking of killing herself. Many of the patients had similar self-other narratives. A young male patient engaged in relationships with positive expectations. For example, he had allowed a friend who was "down and out" to share his apartment until he was able to "get it together again." After a few days the "friend" had taken money from his wallet, had damaged furniture with burning cigarette butts, and had seduced the patient's girlfriend. The patient was hurt and angry but had no awareness of the type of interpersonal information he would need to process to make more accurate predictions about others' behaviors. Rather, he was driven by the need to hold on to the relationship.

Studies of Emotion Processing

Although the problems that borderline patients experience in the regulation of affect have been well described, there has been little empirical work directed at understanding how emotions are perceived and processed. In a recent study, Levine (1992) selected four measures of emotion processing and compared the responses of borderlines ta those of a cohort of nonpsychiatric subjects. The measures included:

1. Levels of awareness of emotions in self and in other, which included an empathy subscale

2. Capacity to coordinate mixed valence emotions

3. Accuracy with which pictures of facial expressions of emotions are distinguished

4. Intensity of emotion responses to daily life events.

Compared to the control group the borderline subjects showed lower levels of awareness of their own and others' emotions, gave fewer empathic responses, provided fewer mixed valence responses, were less accurate in recognizing facial expression of emotions, and showed a significantly greater intensity of negative affects. The results of this study confirm clinical observation and have implications for the technical management of borderline patient's exaggerated emotions witnessed in any therapeutic encounter.

In the study by Westen and colleagues (1990) two of the dimensions included in their measures of object relations focus on isolating specific emotions in an interpersonal context. "Affect tone of relationship paradigms" is concerned with the affective quality of the object world on interpersonal expectancies, from malevolent to benevolent. The second dimension, "capacity for emotional investment in relationships and moral standards," defines a continuum between need-gratifying interpersonal orientation versus investment in values, ideals, and committed relationships. As predicted, Westen found that the responses from borderline patients were rated at the lowest end of a five-level scale for each dimension. For the Affect Tone scale, representations of others reflected violence or negligence from significant others, or of others as hostile, capricious, although not profoundly malevolent. Ratings of the Capacity for Emotional Investment scale showed that borderlines emotional investment in others is ruled by their own needs and preoccupations. Moral standards are immature or adhered to so as to avoid punishment. Given these findings, the results of both studies (Levine, 1992; Westen et al., 1990) might be understood as showing that borderline patients' views of others' emotions are inaccurate or negatively skewed because their judgments are very much colored by their own cognitive-emotional states. Psychodynamic hypotheses would suggest that a primitive defensive structure (projection, splitting, denial) developed in response to unresolved early childhood conflicts or deficits prevents adaptive processing

of emotions, especially negatively valenced affects. But, what is less clear is the interaction between the processing of emotions and of other sectors of information about self in relation to others. There is an obvious connection between these two components of identity formation and psychological functioning, but its exact nature is not fully understood.

Summary

Recent and current research studies point to a multidimensional model for explaining the etiology of borderline pathology. The important elements under study include assessments of the interactions between genetic, biological, and environmental factors that converge, perge, and evolve over time to yield significant variations in the development of the adult personality. Infant studies that have postdated the work of Mahler and colleagues (1975) observational studies fail to confirm her conclusions about the phases of separation-inpiduation and identity formation. For every patient who reconstructs a history that confirms the problematic separation-inpiduation hypothesis, there is a patient or individual with a comparable early history who did not develop the disorder. Chess and Thomas's (1984) longitudinal study of childhood temperament, Werner and Smith's (1982) longitudinal study of children in Hawaii, Rutter's (1980) epidemiological studies of children and their families, and the Harvard Grant longitudinal study (Vaillant, 1977) all have shown that although some children and

adolescents experienced highly conflicted interactions with their caregivers, they did not develop behavior disorders as adults. Thus, a clear linear association between phase-specific developmental “deficits" or “conflicts" and the onset of borderline personality disorder in adults cannot be supported.

The developmental etiologic hypotheses that arise from early childhood studies and studies of adult borderline patients suggest alternate paradigms for understanding borderline pathology. It may be useful to think of the development of BPD in the context of factors that predispose to the disorder; that is, which factors sustain or alleviate the possibility for developing the disorder. The results of the neurological studies of borderline behavior suggest that there may be a subset of borderlines who share diagnoses with attention deficit disorders and other disorders of the CNS. The studies of bonding, attachment, and object relations are congruent in showing that borderline patients form and perpetuate anxious avoidant or dismissing attachments. The reason for this persistent and debilitating form of interpersonal relating may be linked to the existence of mental representations of self in relation to others that are governed by expectations of malevolent, rejecting responses from others. As West, Keller, Links, & Patrick (1993) suggest the behavioral consequences of the constant fear of rejection and loss may reflect lifelong attachment patterns that oscillate between care seeking, disappointment, and angry withdrawal.

The borderline patient's difficulty with perceiving and processing emotions can be understood only in the context of the meanings emotions carry in important relationships. In other words, the borderline patient's attempts to understand others' motivations are much influenced by experienced emotions, especially anxiety and rage. From a social-cognitive perspective, borderline patients may be restricted in their capacity to process information about emotions in an interpersonal context because of self-schemas that persevere despite inherent inaccuracies and distortions. As stated, borderline patients' difficulties with the regulation of affect are readily observable in clinical situations. However, etiologic explanations of which early or later life fa:- tors contributed to this incapacity are not well studied or understood.

Self-object schemas that contain cognitive-emotional elements connected to early life trauma with caregivers are reflected in the way information and emotions are acknowledged and processed in the treatment relationship. It may be that the most therapeutic factor in any treatment encounter with a borderline patient is the therapist's understanding of the affective components of the patient's self-object schemas. When these are understood in the context of the treatment relationship, the therapist is better equipped to avoid therapeutic error and disruption of the treatment—a frequent outcome with borderline patients. For example, when confronted with a "yes but" patient, one of the study therapists failed to understand the

meanings of these qualifying statements when the patient described a series of conflicted relationships with previous therapists. She described therapeutic relationships that she had found initially helpful but that inevitably disappointed her. When the therapist focused on the positive aspects of these previous therapeutic encounters the patient would inevitably answer angrily, "yes but." The therapy had not been good enough long enough, and so on. The therapist had been unable to identify with the patient's anger and frustration at losing her previous therapists regardless of the reasons for the loss and had failed to understand the patient's enormous anxiety about engaging in yet another therapeutic encounter that might end badly. The patient dropped out of therapy. What was needed was a response that showed the therapist's capacity for identifying with these negative affective states and tolerating the patient's loss of control over strong feelings of anxiety and rage. In this way the therapist models for the patient appropriate regulation of powerful affects and is able to promote more effectively the curative function of the therapeutic interaction.

Among the etiologic hypotheses about the development of BPD in adult patients the developmental antecedents of the capacity in adults to regulate affects may have the greatest importance for designing effective models of treatment. For example, if, during early development, adaptive models for recognizing and processing emotions are not portrayed by adults in the child's social environment, then problems in regulating intense emotion may

be the outcome. If the treatment model, including the training of therapists, fails to include theoretical and technical responses to borderline patients' problems with the management of intensely experienced emotions, especially in the context of interpersonal relationships, the therapy could be in jeopardy from the onset. It may be that the documented high dropout rate from psychotherapy typical of borderline patients is associated with the failure of the treatment model to address adequately the patients' ubiquitous problems with regulating affects, especially as they emerge in new interpersonal encounters. This hypothesis underlies the development and testing of an interpersonal group psychotherapy for BPD.