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*Chapter 6:* PERSONAL INTELLIGENCE  
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# Chapter 6

## Personal Intelligence

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*Personal intelligence* refers to information-processing capacities about psychological characteristics of self and others. Gardner (1983) described two kinds of personal intelligence. *Intrapersonal intelligence* is defined as a capacity for "access to one's own feeling life— one's range of affects or emotions: the capacity instantly to effect discriminations among these feelings and, eventually, to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one's behavior" (p. 239). More recently Gardner (1993a, 1993b) stated that having an accurate model of oneself, which is necessary for effective decision making, is also an essential element of intrapersonal intelligence. *Interpersonal intelligence* is defined as "the ability to notice and make distinctions among other individuals and, in particular, among their moods, temperaments, motivations, and intentions" (1983, p. 239). This intelligence includes the "capacity to place one's self into the skin of specific other individuals" (p. 250). Such capacity can involve the ability to understand and predict the behaviors of others, to work appropriately and cooperatively with others, as well as to empathize—that is, to accurately experience the feelings and motivations of another person from the perspective of that other person (1983, 1993b).

Gardner first identified personal intelligence in his landmark book, *Frames of Mind: The Theory of Multiple Intelligences* (1983). He defined human intelligence as: "The ability to solve problems, or to fashion products that are valued in one or more cultural or community settings." (1993b, pp. 7, 15-16). Gardner provided detailed evidence that there are at least six relatively independent or modular categories of intelligence: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and personal. He identified these intelligence constructs using specific prerequisites and criteria including: (a) evidence for basic information-processing mechanisms that are activated by certain kinds of internally or exter-

nally presented information, (b) isolation of a function by brain damage, (c) the existence of exceptional individuals, (d) a distinctive developmental history; (e) evolutionary history and evolutionary plausibility, and (f) human and primate experimental evidence (Gardner 1983,1985,1993b). Gardner conjectured that there may be specific subunits of these intelligences as well as additional intelligences. Although personal intelligence, the ability to know oneself and others, is considered to be the most advanced of the intelligences, regulating the other categories of intelligence to some extent, researchers find it difficult to study. To our knowledge, only one rudimentary scale exists for measuring it in a clinical setting.

Gardner reasoned that the expression of personal intelligence, probably to a greater degree than other intelligences, is markedly vulnerable to cultural and caregiver influences, requiring appropriate life experiences for full and healthy development. It is probable, for instance, that a skill for consistent, accurate empathy in adulthood requires a history of healthy reinforcement and education during the developing years (Brothers, 1989; Damon, 1990; Hunt, 1990) regardless of an exceptional inborn talent for experiencing others.

The theory of multiple intelligences generated considerable interest and debate. In general, educators have been in favor of the theory because the concept of modularity is in alignment with their experience that each individual has his or her own unique combination of talents and liabilities, and can greatly benefit from identification of these characteristics (Chion-Kenney, 1994). In contrast, psychometricians emphasize the concept of a unitary general intelligence or g factor that can be measured for everyone using a standardized test such as the Wechsler Adult Intelligence Scale (WAIS; Fraser, 1995; Hermstein & Murray, 1994).

In the following sections, we provide an explanatory evolutionary history for personal intelligence, and argue that this form of intelligence is not simply a passive talent but involves very active information-gathering mental activities based on instinct. We discuss possible advantages and disadvantages of personal intelligence, and we provide examples of the molding, and at times perversion, of personal intelligence by interpersonal and cultural influences. Finally, we show how these concepts may apply to borderline personality disorder (BPD) and narcissistic personality disorder (NPD), including a discussion of our recent clinical study of BPD using an exploratory measure to estimate personal intelligence.

## **PERSONAL INTELLIGENCE: BIOLOGICAL ROOTS**

### **Evolution and Social Intelligence**

Gardner (1983, 1994) emphasized that a proposed intelligence becomes much more plausible if evolutionary antecedents can be identified. A hall-

mark of primate evolution is the capacity for a complex social life (Brothers, 1989; Cheney & Seyforth, 1990; Goodall, 1986; Lovejoy, 1981; Ristau, 1991). This faculty, termed social intelligence, involves impressive precursor characteristics of personal intelligence (Brothers, 1990). Small (1990) summarized studies demonstrating primate social intelligences as "a knack for functioning as a social group, day in and day out, a special kind of intelligence—a social acumen calling for a good memory, the ability to recognize and categorize others and the capacity to act on that knowledge" (p. 40).

In a fascinating example of research in this area, Cheney and Seyfarth (1990) demonstrated the ability of vervet monkeys to maintain and recognize complex social relationships involving kinship, friendship and dominance rank, to form social bonds, to work collaboratively, to remember many details about one another and about rules, and to act accordingly. For example, when a mother vervet monkey hears the recorded distress cry of her infant, she turns to look in the direction of the sound, but other females in the group look at the mother.

Evidence for the development of social intelligence in primates suggests that until the appearance of more recent hominoids, social intelligence was only a rudimentary form of personal intelligence, focused on behavioral information about others but not on examination of minds of either self or others. For instance, Cheney and Seyfarth (1990) demonstrated that vervets are able to acquire sophisticated social knowledge and to make use of limited abstract concepts, yet they do not show evidence of perceiving the mental states of others or of examining their own mental states.

The emergence of personal intelligence appears to be a recent development, probably coinciding with the enormous increase in size and complexity of the human brain during the Pleistocene epoch. Brain size doubled from 700 cc in early *Homo* two million years ago, to 1400 cc in *Homo sapiens*. This period was associated with the development of behaviors requiring increasingly sophisticated uses of social intelligence including bonding, food sharing, warning patterns for predator avoidance, group hunting and scavenging, and language development (Andrews & Stringer, 1993; Fisher, 1982; Leakey & Lewin, 1992; Lovejoy, 1981; Stanley, 1992). Perhaps most significant for personal intelligence were the developing patterns of physical and psychological bonding. Lovejoy (1981) proposed that a major characteristic of physical bonding was increasingly strong biological-sexual fidelity. The rationale for this development is that the bonded pair could more adequately provide for a family group that included extremely helpless offspring. Such bonding appears to have been a necessary precursor for intense personal relationships involving intimacy, empathy, and a sense of responsibility (Fisher, 1982). It was postulated that this was an aspect of an accelerated evolutionary brain-human environment feedback loop that promoted the capacity for differentiated feelings, for grasp of the individual differences of others, and for a developing sense of self (Villis, 1993). It was even suggested that such aspects of social intelligence may have been the

major factors contributing to the development of consciousness, giving evolutionary advantage to individuals who could thereby better grasp the intentions, thoughts, and feelings of others (Humphrey, 1976).

The prime function of speech and language is to communicate precise information from one individual to another; its development was closely tied to the unique expansion of social intelligence in our species (Andrews & Stringer, 1993; Pinker, 1994). Speech occurs at a rate of about 15 to 25 sounds per second, permitting a data transmission rate three to ten times faster than for any other primate (Lieberman, 1991). There is much evidence supporting Chomsky's theory (1975) that the brain has an inbuilt capacity for syntax and that we are uniquely programmed for language acquisition when raised in a language-using culture. The brain mechanisms that developed for language facilitated the development of other crucially important capacities such as planning ahead, skillfully influencing others, enhanced memory, potential for sophisticated abstract concepts, and the ability to examine our own mental processes (Lieberman, 1991). Language is a major vehicle for learning and using symbol systems, which is essential for effective expression of personal intelligence in one's culture.

Social intelligence was studied in humans prior to Gardner's introduction of the concept of personal intelligence (Stenberg & Smith, 1985; Taylor & Cadet, 1989; Walker & Foley, 1973; Wyer & Srull, 1989). The range of definitions is varied and includes (a) abilities to understand, to get along with, to deal with others; (b) abilities to make use of prior knowledge about people; and (c) abilities to accurately perceive the feelings and motivations of people (Hunt, 1928; Moss & Hunt, 1927; Strang, 1930; Thomdike, 1920; Wedeck, 1947). Stenberg and Smith (1985) described testing instruments developed to measure social intelligence in humans, including photographs of individuals and of couples who may or may not be emotionally involved with one another, self and observer ratings of interpersonal sensitivity, and tests for nonverbal sensitivity. None of these approaches were shown to reliably measure individual differences in social intelligence. Because of the complex factors involved in developing testing instruments and the subtleties involved in tuning into self and others, relatively intimate and longitudinal knowledge of a subject may be necessary for such characteristics to be studied effectively.

## **Instinctual Underpinnings of Personal Intelligence**

There are strong indications that personal intelligence is based on instinct and, further, that it evolved by natural selection as an aspect of built-in reasoning processes for solving specific adaptive problems. An instinct involves both competence for a behavior and the urge to carry it out. For example, a spider is both able to spin a web and is compelled to do so

(Pinker/1994). Primate studies demonstrated that social intelligence is inextricably linked with the urge to collect and respond to pertinent information, (e.g., Goodall, 1986). The gathering, emotional coloration, and interpretation of social information were of such compelling significance for the evolution of primates that there must be instinctual underpinnings to these processes (Brothers, 1990; Damasio, 1994). The human urge to employ personal intelligence is easily observed in the urge to gossip, to follow soap operas, to read self-help books and so forth (Barkow, Cosmides, & Tooby, 1992). We further postulate that the greater the personal intelligence of an individual, the stronger is the associated urge to utilize it.

Barkow, Cosmides, and Tooby (1992) argued that along with competence for and urge to engage in social exchange (their term for characteristics of social intelligence), the urge is channeled in circumscribed ways as *reasoning instincts* targeted to resolve specific adaptive problems such as recognizing emotions, interpreting social situations correctly, choosing to act altruistically, preventing danger, bonding, selecting a mate, competing, maintaining status, and deceiving (Buss, 1995; Edgar, 1993; Wright, 1995). For each type of problem there is an innate "special purpose" and "domain-specific" neural reasoning module with an algorithm for solving that particular problem. Premack and Premack (1995) even described a possible "theory of mind" reasoning module, apparently unique to humans. It programs us, beginning in infancy, to have the perception that there must be a cause for movement existing within an object if that object seems to move spontaneously, and that this cause has perception, intent, and goals.

Cosmides and Tooby (1992) wrote that the human "adapted mind" probably operates with hundreds or even thousands of such programs or reasoning modules, almost all of them unidentified and unstudied. They challenge the "Standard Social Science Model," that the reasoning capacities of the human mind are essentially general-purpose and content-independent. When considered along with Gardner's proposals, doubts are raised about the extent of general-purpose intelligence and general-purpose reasoning abilities, two characteristics traditionally valued as particularly human (Barrow, 1995; Pinker, 1994).

Cosmides and Tooby (1992) are pioneers in the new field of evolutionary psychology, which holds that to understand our reasoning instincts, we must study the conditions during the 2 million year Pleistocene epoch when members of our genus were hunter-gatherers. Apparently the operation of the human brain has not changed measurably since this period during which behaviors associated with sophisticated personal intelligence emerged. Only 10,000 years ago humans were still hunter-gatherers, and the dramatic development of civilization since then was based on the same brain. That is, there is fossil and other evidence for cultural, but not biological, evolution (Gould, 1994). For instance, consider the development of mathematics, written language, and pottery. Schmandt-Besserat (1992) and others compiled strong evidence that these skills developed from the

simple use of clay tokens as counters for items of trade, such as animals and grain. Once these tokens were "invented," it took a few thousand years before humans grasped the symbolic potential of tokens, with their various shapes and marks, and developed mathematical concepts and written language. There is no need to postulate any physical evolution in these developments. To illustrate, if a newborn Cro-Magnon infant of 40,000 years ago could be placed in a modern environment, he or she would demonstrate no distinguishable psychological or developmental characteristics from a newborn infant of today. An important implication is that primitive reasoning patterns are still quite active in modern *Homo sapiens*, although they may often be hidden from us by explanatory rationalizations.

Other possible reasoning modules for solving social problems in a hunter-gatherer environment could include loyalty to the group, follow-the-leader, herd or clannish characteristics, dominance, control, appropriation, aggression, and us versus them characteristics (Calvin, 1991; Premack & Premack, 1995). In some situations, two or more such mechanisms activated in an individual could work at cross-purposes (Pinker, 1994). In addition, such biologically based constraints or imperatives could overwhelm rational thinking (Barkow et al., 1992). The power of built-in mental programs over otherwise good reasoning capabilities is suggested by a recent study of chimpanzees taught to recognize Arabic numerals (Boysen & Bemtson, 1995). Chimp A was presented with two plastic numerals representing the amount of candy to be received by herself and by Chimp B, and she was to point to the number that was for Chimp B. Chimp A was able to reliably select the lower number. However, if the plastic numbers were replaced with pieces of candy. Chimp A would reliably select the plate with the most candy and then become quite upset when that plate was given to Chimp B. If the candy were replaced again with plastic numbers, Chimp A could again make the correct decisions. It appears that Chimp A could make reasoned decisions, but that a more basic neural module for taking food overruled the understanding of the game when actual food was involved. Analogously, LeDoux (1993) argued that some humans may have dominant subcortical pathways that react quickly to perceived danger, overruling any cortex-based insights or decisions.

Many inexplicable situations in historical and modern times can suddenly make sense if we consider this "adapted mind" approach (Drozdiak, 1995; Premack & Premack, 1995; Tuchman, 1984; Wright, 1995). For instance, humans seem to have a powerful urge to find a leader and then to cooperate and follow. In Bosnia and Rwanda, follow-the-leader, herd and us-versus-them patterns frequently overwhelmed rational self-interest and humane concerns for others, including children, even in intermarried families who had recently lived peacefully side by side.

As we discuss later, these issues are very relevant to our studies of borderline patients. Patients and their parents vary in definite ways regarding perceptive talents, the urge to gain access to these talents, and the degree



to which they may be governed by rigid inborn algorithms or instead are potentially able to experience themselves and their human environment in a flexible and rational manner.

## PERSONAL INTELLIGENCE: INTERACTIONS OF NATURE AND ENVIRONMENT

### The Development of Personal Intelligence: Pros and Cons

The significance of social intelligence for the evolutionary success of primates is clear. However, some of the unique characteristics of personal intelligence in humans may have developed as chance products of rapid brain evolution, raising the possibility that there could be characteristics that are potentially maladaptive. Wills (1993) argued that the very mechanisms involved in rapid evolution could also permit maladaptive changes, that is, the substantial brain growth after birth has allowed for major caregiver and other environmental effects on brain development, creating an increasingly complex gene-culture feedback loop (Huttenlocher, 1979; Wolpaw, Schmidt, & Vaughan, 1991). Gould (1986) also cautioned against assuming that evolutionary changes always occur as benefits and states that many human behaviors are "side consequences of the building of the human brain" (p. 9).

The pros and cons of personal intelligence can be reviewed by considering the capacity for empathy, a particularly human characteristic that can require exceptional integration of both intra- and interpersonal intelligence. Empathy and altruism are proposed to be interrelated, instinct-based aspects of human nature. The *empathy-altruism hypothesis* holds that when a human accurately experiences distress or need in another person from the perspective of that other person, there is a built-in urge to reduce that distress, an urge paralleling the magnitude of the empathic emotion (Batson & Shaw, 1991). Although the theory of multiple intelligences defines capabilities that are neither prosocial nor antisocial, a genetic basis for empathy-altruism could provide humans with an intelligence including benevolent intuitiveness and helpfulness to others. Oliner and Oliner (1988) examined characteristics of individuals who risked their lives to save Jews from the Holocaust. They found it was not circumstances, religiosity, or even attitudes about Nazis, that best distinguished rescuers from nonrescuers but rather a characteristic he termed *extensivity*, that is, the recognition of and caring for the state of others when this extends beyond one's own group, along with associated altruistic behaviors involving risk and cost without expectation of external rewards. This example provides a clue to a

potential evolutionary benefit of such integration of self- and other-awareness; that is, the ability to evaluate social situations becomes increasingly independent of algorithms for us-versus-them, follow-the-leader, and so forth. The highest personal intelligence could be seen as the relative capacity to surmount more primitive and instinctive programs, affects, and biases and to view ourselves and others with a unique degree of observational accuracy and rational reasoning (Gardner, 1983; Salovey & Mayer, 1990).

Did these particular characteristics have evolutionary advantage, particularly in dangerous Pleistocene times, or did they simply appear when the mind became sufficiently complex? As Shakespeare demonstrated in *Hamlet*, consciousness, self-reflection, and preoccupation about others can breed self-doubt and hesitation when action would save the day. Competitive and predatory individuals responding to a situation on a more programmed basis would have the advantage of speed of reaction as well as being able to act in more immediate self-interest.

Farber (1989) has reviewed the literature concerning potential disadvantages of psychological mindedness, which he defined (1985) as "the disposition and ability to reflect on the meaning and motivation of behavior, thoughts, and feelings in oneself and others" (p. 170), a definition similar to Gardner's definition of personal intelligence. The possible negative consequences of psychological mindedness reviewed by Farber include inhibition of spontaneity and action, self-doubt, guilt, emotional detachment, distress, anxiety, depression, and somatic symptoms. Farber found that high psychological mindedness can contribute to lower self-esteem and to others perceiving such individuals as withholding their feelings. He suggests that psychological mindedness brings a heightened awareness of the painful aspects of existence. In line with this, there are some data supportive of "depressive realism/" the proposal that depressed individuals can assess reality more accurately than can nondepressed individuals (Ackerman & DeRubeis, 1991). (There are additional data suggesting that depressed subjects tend to have more accurate judgments only about others and not about themselves.) Nesse (1991) argued that suffering can be an important natural aspect of recognizing and responding successfully to environmental problems. In contrast, Gould (1989) provided an argument for rejoicing in self-awareness, even of knowledge that there may be no apparent meaning or purpose for our existence.

We suspect that the negative consequences of high personal intelligence or psychological mindedness may involve aspects of parenting. Historically, parenting involved indoctrination along with discouragement of autonomy, as discussed by Alice Miller (1983) and illustrated by the Ten Commandments, which speak only to respecting parents and not at all to respecting children. The higher the personal intelligence of a child, the more likely the child will be rejected or punished for having independent, perceptive observations and questions. This, in turn, could lead to a sense

of badness for having core mental processes that cannot be stifled. If this is a common occurrence in the general population, then it is likely that any group of individuals with high psychological mindedness and with talents for assessing interpersonal reality will also tend to show higher average scores on measures of depression and low self-esteem.

Parenting is a prime example for considering the difficulty evaluating pros and cons of high personal intelligence in view of the likelihood that quality of parenting significantly affects expression of this intelligence. The higher an infant's capacity for perceptivity of self and others, the more essential could be a good caregiver environment for development of this talent. This concept is compatible with some of Suomi's research (1991). He selectively bred Rhesus monkeys to be "high reactive," that is, very fearful and anxious in new and challenging situations. These monkeys are also highly aware of their environment from birth (S.J. Suomi, personal communication, July 19, 1991), which may be analogous to a human capacity for high interpersonal intelligence. Such monkeys tend to maintain an anxious pattern and reach a relatively marginal adult adjustment. However, when raised by exceptionally nurturing foster mothers, such monkeys become the most socially skilled and dominant members of their peer groups. This finding is an indication that these monkeys are not inherently defective, but have an acute sensitivity to their environment resulting in their becoming defective or exceptional adults depending on whether they are raised with the special care that nurtures their unusual talent.

"High reactive" easily distressed infants made up about 20% of the 4-month-old infant population studied by Kagan (1994). The majority of these children develop an inhibited temperament and as adults may be at higher risk for anxiety disorders and depression. Might a significant number of these children be born highly perceptive and aware of their environment, comparable to Suomi's subjects, requiring a special caregiver environment for healthy development of their perceptive gifts (Davis, Luce/ & Kraus, 1994)? Analogously, Boyce et al. (1995) suggested there may be a subset of children with "heightened sensitivity to the character of the social world" who have exceptional vulnerability in high stress, unsupportive interpersonal environments but who develop exceptional resilience in low stress, nurturing environments.

### **Defective and Perverse Manifestations of Personal Intelligence**

In this section, we discuss defective aspects of personal intelligence that could be either inborn or environmentally induced. Two clinically defined personality disorders that appear to be directly linked to defective aspects of personal intelligence are narcissistic personality disorder (NPD) and

borderline personality disorder (BPD). The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) includes the following characteristics for NPD: (a) a grandiose sense of self-importance, (b) a belief that they are special in a very superior way, and (c) a sense of entitlement. All of these indicate an inaccurate sense of self, that is, a defective intrapersonal intelligence. In addition, these individuals (a) lack empathy, (b) have a penchant for envy, and (c) are interpersonally exploitative, indicating a defective interpersonal intelligence.

DSM-IV includes the following characteristics for BPD: (a) severe identity disturbance, (b) a markedly unstable self-image or sense of self, and (c) chronic feelings of emptiness, indicating a defective intrapersonal intelligence. These individuals also exhibit (a) frantic efforts to avoid real or imagined abandonment and (b) a pattern of unstable and intense interpersonal relationships characterized by alternation between extremes of idealization and devaluation, indicating defective interpersonal intelligence.

There are a number of possible causes of defective personal intelligence. First, it is likely that considerable variability can exist from individual to individual in degrees of inborn personal intelligence considering that evolutionary development of such uniquely human characteristics was rapid and recent (Simons, 1989; Wills, 1993). Such genetic variability would allow for some newborns to have much less and others much more than the usual capacity for perceptiveness about self and others. In addition, atavistic genes that were silenced during evolution of personal intelligence could become activated in some individuals (Cantu & Ruiz, 1985).

Second, it is likely that personal intelligence is made up of multiple modular subunits that work together, with the potential that there could be defective or missing subunits as well as poor coordination between such elements. Certainly, modularity is the case in other perceptual systems such as the visual system where many different brain subsystems analyze features such as color, movement, form, and depth (Gazzaniga, 1989; Kosslyn & Koenig, 1992). Characteristics of intrapersonal intelligence that could have modular representations in the brain and vary from individual to individual include abilities to access a range of emotions, to discriminate among emotions, to use emotions to understand oneself, and to have a model of oneself that facilitates decision making. Characteristics of interpersonal intelligence could include abilities to distinguish moods, temperaments, motivations, and intentions of others, as well as capacity for warmth and empathy. In addition, there could be variations in other kinds of reasoning modules suggested by Cosmides and Tooby (1992) and by Premack and Premack (1995). For instance, autistic individuals may have a defective theory of mind mechanism, whereas retarded individuals with Williams Syndrome demonstrate abilities suggesting that such a mechanism is selectively spared (Brothers, 1990; Frith, 1993; Karmiloff-Smith, Klima, Bellugi, Grant, & Baron-Cohen, 1995).

A third major cause of defective personal intelligence may be its high vulnerability to interpersonal and cultural influences during the developing years. Pathological manifestations of personal intelligence resulting from such influences can be considered "perversions" of the instinctual urge to express this intelligence, as with perversions of other instincts such as sex and hunger (eg., bulimia and anorexia) (Wellson, 1988). Factors involved include (a) attachment and phase requirements (Bowlby, 1988; Kohut, 1971), (b) "goodness of fit" between a child's temperament and his or her human environment (Thomas & Chess, 1984), (c) constitutional and maturational irregularities (Greenspan, 1992), and (d) outright abuse and neglect (Cicchetti & Carlson, 1989; Storr, 1990). Because of the unique brain development after birth in humans, it is extremely difficult to differentiate inborn defects from those hardwired after harmful environmental events during the early months and years of life (Teicher, Ito, Clod, Schiffer, & Gelbard, 1994).

With these three types of influence in mind, we speculated about sources of defective personal intelligence in NPD and BPD. It is our impression that patients diagnosed as having NPD frequently have inborn deficiencies in personal intelligence, in particular in the capacity for empathy. Some NPD patients also seem to be strongly motivated by fixed, exploitative frames of mind suggesting the possibility of dominating inborn reasoning algorithms. In addition, many have had childhood experiences that seem to have imperilled the healthy use of the positive capabilities they did have.

Borderline individuals, on the other hand, frequently exhibit characteristics suggesting they have a high inborn personal intelligence, with clear childhood experiences accounting for perverse manifestations such as persuasive, complex projective identification (described below). Finally, individuals with these disorders can have overlapping characteristics. For instance, Kernberg (1975) described "narcissistic personalities functioning on a borderline level," individuals who may have been born with high overall personal intelligence but who may also have specific defects in their personal intelligence (e.g., exceptional ability to detect intentions and vulnerabilities of others but without empathy), and/or extremely chaotic backgrounds, and/or who may have introjected characteristics of very intrusive, cold parents. Such individuals, who lack or suppress empathy, can be very powerful, and/or dangerous, such as Adolf Hitler and Charles Manson (Hartmann, 1991).

Projective identification, a uniquely human phenomenon, is of particular relevance for personal intelligence (Gabbard & Wilkinson, 1994; Kernberg, 1986; Ogden, 1982). Definitions of projective identification vary somewhat, but in general they include the view that it involves an interpersonal transaction in which one person induces specific feelings in a second person, with the second person unaware that feelings are being coerced, that is, believing that he or she "owns" the feelings. Such feelings are not

generated *de novo*, rather a receptive potential must already be present in the second person that has been perceived (out of awareness) by the initiator. Projective identification probably occurs frequently in everyone and can be a positive way of revising attitudes when we can allow others to contain and alter or "launder" our projections, and then reintroject such modified states back to us (Ogden, 1994; C.G., Schulz, personal communication. May 5, 1995).

Projective identification has been a particular topic of interest in the treatment of borderline patients because this process can often persuade therapists, even experienced therapists, to become enmeshed in distressing anxiety, guilt, and anger, and even to feel overwhelmed by feelings of passionate attachment to patients. An exceptional degree of personal intelligence appears to be involved because at times such patients accurately perceive subtle or hidden feelings of the therapist and then facilitate intensification of these feelings until the therapist behaves in a specific fashion that can even be irrational, all usually occurring without the therapist (or the patient) aware of the coercive dynamics.

There are various theories to explain projective identification. One holds that it reflects an inborn mechanism or a faculty to promote attachment, in line with theories of Bowlby (1988) and Kohut (1971). For instance, the infant cries not just from distress or to simply generate a response, but, at a much more powerful level, to directly coerce caring feelings and behaviors from caregivers that the latter experience as originating from within themselves. Some of the literature suggests that the coercive projective identification of borderline patients reflects an inherent pathology of such a characteristic. This view would require careful research to evaluate inborn defects versus caregiver effects (Dunn & Plomin, 1990).

It seems unlikely that an infant has an inborn capacity for more than rudimentary projective identification. For example, the "distress cry" can have an impact without the detection of specific emotions in a given individual by the infant (MacLean, 1985; Morgan, 1995; van der Kolk, 1987a). Projective identification as manifested by borderline patients appears to reflect a remarkable, albeit pathological, skill that must have been learned through a great deal of interactive experience with caretakers exhibiting certain characteristics and behaviors, as we discuss later.

An important issue to study is the occurrence of defective personal intelligence in the care of offspring. Did personal intelligence and the intrusive power of language develop primarily through social interactions of adults and, if so, what does this say about childrearing? There is not good evidence that personal intelligence involves a particular knack for knowing how to understand and care for infants. Miller (1983) discussed *poisonous pedagogy*, the history of severely harmful childrearing practices that encouraged stamping out a child's individuality and sense of self. Traditional religions have tended to promote adult power and control over children. Books on how to raise children are purchased in great numbers by insecure

parents who will believe the popular fad of the day, from very strict schedules to almost complete abdication of structure. None of this suggests that personal intelligence involves special inborn directedness for knowing how to be or what to do.

There has been a general assumption that humans have a basic instinct, characteristic of all primates, for the care of offspring that existed long before the development of personal intelligence. Welldon (1988) found that parenting was not studied with appropriate objectivity because of a deep bias to believe in this maternal instinct and to idealize motherhood (Hrdy, 1995). This bias has inhibited the consideration that instincts can be attenuated in primates as well as become perverted in expression (Bard, 1995; Harlow, 1964). Drawing on extensive clinical experience, Welldon argued that perverted parenting is the product of defective and abusive experiences in the childhood of the parent. These experiences fashion a perverted parental personal intelligence that may suppress or misdirect any primal parenting instinct to serve private purposes damaging to the child (Fonagy et al., 1995). Miller (1981) also wrote about perverted parenting, including parents who try to make their children care for them as their own parents did not, a complete reversal of the appropriate parental role. In addition, some parents try so hard to be different from their own self-centered parents that they are hopelessly unable to set any limits, thereby fostering self-centered children (Sherman, 1994). As we discuss later, the very capacities we have for observing and perceiving our peers and for infiltrating psychological boundaries by gesture and speech, can be used with enormous destructiveness to the minds of children.

Finally, some ethological theories emphasize the negative manifestations of human social intelligence in deeply rooted patterns of aggression, manipulation and deception. One view is that these behaviors reflect instinct-based, essential characteristics of human nature (Alexander, 1989; Byrne, 1991; Davies, 1981; Lorenz, 1966; Storr, 1972). The more prevalent view is that these behaviors, are not usually the result of instincts specifically for such behaviors but reflect the enormous developmental plasticity of humans, who are "polymorphously educable" (Montagu, 1978), and whose follow-the-leader and us-versus-them mental programs can be bent or perverted to align with cultural belief systems and the goals of charismatic leaders (Benedict, 1934; Gould, 1988; Leakey & Lewin, 1992). Dramatic illustrations of submission to a charismatic leader are the mass murders and suicides of fanatical religious groups and Nazi Germany. Examples of extreme culturally enforced patterns include: (a) children who participate in robbery and brutal murder of strangers without the slightest distress and yet seem otherwise perfectly normal psychologically (Bruce, 1968); (b) brutal warriors who can be cultured, sensitive, and artistic (Forgey, 1988); (c) grotesquely deformed feet as highly erotic objects (Levy, 1992); (d) marriage as a very hostile struggle for dominance (Undholm & Lindholm, 1979); and (e) cul-

turally designated group homosexuality in adolescence to be followed by heterosexuality in adulthood (Herdt, 1981).

## **PERSONAL INTELLIGENCE IN BORDERLINE PERSONALITY DISORDER**

Our interest in personal intelligence developed in the course of work with patients diagnosed with BPD (Park, Imboden, Park, Hulse, & Unger, 1992). Subsequent consideration of personal intelligence in patients diagnosed with narcissistic personality disorder occurred secondarily as a result of findings from our BPD research. Accordingly, the remaining sections of this chapter focus mainly on BPD and on our study of personal intelligence in borderline patients.

In this section, we discuss the clinical picture of BPD, the evolution of concepts about this syndrome, and our rationale for examining personal intelligence in these patients. BPD has been of considerable research interest in recent decades because of the frequency of the condition in clinical populations, its severity, its etiologic mystery, and the power of the patients to elicit emotional involvement of therapists and hospital staffs. With regard to severity, approximately 10% of patients commit suicide, usually relatively early in the illness (Stone, 1990b). Until recently it was thought the condition was essentially incurable, but several long-term studies demonstrated that by 15 years after initial clinical contact, two thirds of surviving patients are no longer borderline and are functioning normally or with only minimal symptoms (Frances, 1990; Stone, 1990b).

An epidemiological study found that BPD occurred in approximately 2% of a sample of the general population, with 73% being women (Schwartz, Blazer, George, & Winfield, 1990). Fifty percent of borderline respondents had used some form of outpatient mental health service in the prior 6 months and 19.5% had an inpatient hospitalization in the prior year. Furthermore, BPD is reported to occur in over 10% of psychiatric outpatients, in about 20% of inpatients, and in more than 60% of inpatients in settings with a predominance of personality disorders (Kass, Skodol, Charles, Spitzer, & Williams, 1985; Widiger & Frances, 1989; Zanarini, Frankenberg, Chaucey, & Gunderson, 1987).

It is probable that the enormous suffering of these patients drives such a high percentage to seek professional help. The great majority of BPD patients are chronically depressed and one third experience posttraumatic stress disorder (Gunderson & Sabo, 1993). Other frequent comorbid diagnoses are anxiety, phobic, substance abuse, and eating and panic disorders. Severe symptomatology can pervade multiple areas of functioning, including relationships, sense of self, mood, and behavior. Patients can live in almost constant psychic pain, burdened by self-hate, intense and painful



relationships, potentially damaging impulsiveness, and chronic dysphoria that can progress quickly to severe and suicidal depression. Their severely damaged sense of self can be manifested in burdensome confusion about who they are, what they value, what they want in life, and sometimes even about their sexual orientation. At times they experience dissociative states (Shearer, 1994; Spiegel, 1994). They tend to long desperately for intimacy with others and yet experience great interpersonal distrust. They often make commitments to emotionally unreliable people (Celani, 1994). When interpersonally stressed, they easily become confused and enraged, thereby distancing others while simultaneously experiencing extreme feelings of emptiness and abandonment.

Many borderline patients appear to have a heightened perceptivity of the feelings and motives of others. This ability is frequently manifested in the manipulative induction of feelings like those the patients themselves experience, that is, projective identification. For clinicians who treat these patients psychotherapeutically, the most striking personality feature is this flavor of the therapist-patient relationship. The ability of these patients to access and then strongly influence private emotions engenders the classical, perhaps pathognomonic, countertransference problems and special treatment relationships (Zanarini, Gunderson, Frankenburg, & Chauncey, 1990).

We are particularly interested in elucidating the nature of this perceptive talent, which has not been the subject of indepth investigation. The psychological powers and intuitive perceptions of borderline patients are briefly explained in the literature as manifestations of pathology, a skill that is peculiar in some way, or a learned response to certain kinds of childhood stress.

We reviewed the clinical literature for examples of intuitive capabilities and interpersonal powers of these patients, including a review of the countertransference literature for evidence of therapist reactions to patients who detect private or hidden emotions. Adier (1985) and Gunderson (1989) discussed the frequency with which hospitalized borderline patients evoke seriously disruptive staff conflicts in which one or more staff members passionately protect the patient as a "helpless waif" requiring nurturance, and who are quite hostile to other staff members who feel helplessly enraged at the same patient as an "angry manipulator" requiring severe limits (Gunderson, 1989, p. 2757). The capabilities of borderline patients in catalyzing such psychological firestorms is remarkable considering they are in institutions managed by experienced professionals who know and make the rules.

Masterson (1976) describes borderline patients as "exquisitely sensitive to the daily emotional state of the therapist, to his tone of voice and nonverbal messages conveyed by gestures and body posture" (p. 104). Carter and Rinsley (1977), KBahn (1974), and Shapiro (1978) describe borderline patients as having a peculiar perceptiveness for subtle and unconscious feelings, impulses, and thoughts of other people. Krohn (1974) gave

an example of a borderline patient who had the "uncanny capacity to recognize some very private impulses and judgments within other people" (p. 145). "He would regularly put into words private associations of the therapist just as the therapist was having them" (p. 146). Another patient manifested an "uncanny responsiveness to the most subtle, unconscious content in others" (p. 154). "The therapist of the borderline is often suddenly surprised to hear the patient voice what the therapist comes to recognize as very private conflicts. It is as if the therapist has suddenly been dealt a very deep, confronting interpretation by the patient" (p. 161). Krohn referred to this intuitive capacity as borderline empathy. Stone (1985) found that borderline patients can have the ability to sense and to respond empathically to hidden feeling of individuals for whom they care.

Discussing countertransference, Kemberg, Selzer, Koenigsberg, Carr, and Applebaum (1989) stated: "Uncannily, borderline patients seem to sense the therapist's vulnerability and may choose the exact moment when the therapist wishes the patient dead to announce a suicide plan" (p. 75). Gabbard and Wilkinson (1994) stated that borderline patients "possess an uncanny ability to tune into the therapist's vulnerabilities and to exploit them" (p. 5) to produce guilt. The problem of boundary violations in the treatment of BPD, particularly patient-therapist sexual contact, was addressed by Gutheil (1989): "What may be less universally acknowledged is that patients with borderline personality disorder possess the ability, as it were, to seduce, provoke, or invite therapists into boundary violations of their own in the countertransference" (p. 600). Averill et al. (1989) proposed that borderline patients vulnerable to such abuse may have particular "projective or sending power" (p. 391) which transmits unconscious fantasies and neediness with special impact.

Two published controlled studies found evidence of perceptiveness in borderline patients. In the first, Ladisich and Fell (1988) assessed empathy in 20 borderline patients, 20 neurotic patients, and 19 patients who had a history of schizophrenia. These were inpatients in 11 therapy groups of 4 months duration, each group having six members and a therapist. Empathy was defined as an accurate sensing or perceiving of other peoples' feelings or qualities, and was measured using the 139-item Lazare-Klerman Trait Scale (LKTS; Lazare, Klerman, & Armor, 1966), the 40 item Giessen Test (GT; Beckmann & Richter, 1972), and a 21 item Unpleasant Person Hierarchy Test (UPHT) based on the Empathy Test by Kerr (1965). Patients rated themselves and other group members both at the beginning and termination of the group therapy program. The group therapists also rated the patients. Empathy was assessed by calculating how accurately a person could rate others' ratings of themselves. The borderline patients scored significantly higher than did the neurotic and schizophrenic groups and were as good as the therapists, who presumably had more knowledge of the patients. These results apparently were unexpected, and the authors proposed a possible relationship of high empathy in BPD to vulnerability for psychosis.

In the second study, Frank and Hoffman (1986) compared two groups of patients, 10 borderline and 14 neurotic, using the Profile of Nonverbal Sensitivity (brief exposure PONS; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979). They demonstrated significantly higher nonverbal sensitivity in the borderline group, which they felt provided empirical evidence for the concept of borderline empathy, the apparent ability of borderlines to accurately tune in to the internal state of others. They therefore suggested an empathic ability in BPD, but they also proposed that the empathy is a "borderline" or pathology-based type that developed as a way of contending with maternal emotional neglect. In a subsequent paper, Hoffman and Frank (1987) presented some correlations from the same study that were consistent with the additional possibility of a constitutional vulnerability contributing to the nonverbal sensitivity. However, the literature indicates that the capacity for empathy and perceptiveness involves an inborn talent (Brothers, 1989; Davis et al., 1994; Neubauer & Neubauer, 1990; Rushton, Fulker, Neale, Nias, & Eysenck, 1986), rather than being an inborn weakness, a vulnerability to psychosis, or a manifestation of childhood stress per se.

The findings and observations discussed have only recently led to studies designed to evaluate their possible etiologic significance. A review of the history of BPD research reveals why such studies were so late in coming (Park, 1994). The condition was not identified until fairly recently and was originally thought to be a variant of or "borderline" to schizophrenia, hence the name. Seminal research by Gunderson in the 1970s identified objective diagnostic criteria that engendered many studies involving large populations of borderline patients (Gunderson, 1982). These studies revealed that BPD was not a variant of psychotic illness, leading to labeling of the condition as a personality disorder of unknown etiology. Once it became clear that the etiology of BPD could not be understood from findings about schizophrenia, numerous etiologic theories were advanced including proposals that BPD is a variant of depressive illness, that there are various neurobiological vulnerabilities, and that BPD is engendered by factors in childhood such as parental separations and loss, family conflict, and parental psychopathological behaviors toward offspring including neglect, overinvolvement, and overprotection (Gunderson & Zanarini, 1989; Zanarini, Gunderson, Marino, Schwartz, & Frankenburg, 1989). A complicating issue has been clinicians' reactions to the personal discomfort these patients evoke. With their perceptive talent imbedded in the service of self-protection, neediness, control, and rage, borderline patients have been negatively viewed by many clinicians as deliberate manipulators who are unreliable, will not respond to treatment, are unpredictably suicidal, and who are troublemakers to be avoided if possible. "Borderline" became a pejorative word that labeled disliked patients, leading to misdiagnoses that further delayed an understanding of the syndrome (Frances, First, & Pincus, 1995).

Although there were clinical reports of serious abuse during the childhoods of borderline patients, the first controlled studies of abuse histories did not reach print until the late 1980s (Herman, Perry, & van der Kolk, 1989; Links, Steiner, Offord, & Eppel, 1988; Zanarini et al., 1989). These and many subsequent studies revealed an enormous amount of physical and sexual abuse reported by a majority of borderline patients. The patients did not seem to recognize their experiences as abusive or to report them spontaneously (Shengold, 1989). Zanarini et al. (1989) investigated the occurrence of caregiver verbal or psychological abuse, defined as chronically devaluative or blaming statements and found that it was by far the most common form of abuse (other than neglect, which they did not categorize as abuse), occurring in 72% of 50 borderline patients. Psychological abuse was the only form of abuse distinguishing the BPD group from each of the control groups with a probability of error of less than 5%. Similarly, Stone (1990a) found that 73% of 15 BPD patients reported a history of intense verbal abuse with physical and sexual abuse occurring at a lesser frequency. In spite of its prevalence among borderline patients, researchers did not focus on the verbal abuse, targeting instead the less frequent histories of physical and sexual abuse. However, we proposed that the critical etiological finding was the psychological abuse, and we expected an even higher frequency would be found if more categories of psychological abuse were examined (Park et al., 1992). Further, the enduring damage from physical and sexual abuse to the body stems from the accompanying abuse of the mind (Garbarino, Guttman, & Seeley, 1986; Hart & Brassard, 1987). Subsequent to completion of our study, Gallagher, Flye, Hurt, Stone, and Hull (1992) reported on the recollected histories of various degrees of verbal abuse in a sample of 22 borderline women, with 86% acknowledging significant degrees of such abuse.

Mental health experts and participants in the child abuse and neglect movement have focused increasingly on psychological or emotional abuse and neglect, as it may be the most insidious, prevalent, and destructive form of childhood abuse (Garbarino et al., 1986; Hart & Brassard, 1987; McGee & Wolfe, 1991). For instance, one can imagine a physically abused child still experiencing inner psychological freedom to have his or her own thoughts and feelings, but psychological freedom could be largely eliminated if the assault is directed to the thoughts and feelings themselves (Stolorow & Brandchaft, 1987). Such head-on confrontation is actually an attack on the core machinery of a child's personal intelligence, because it obstructs and damages the capacity to know and understand oneself and others, including even the capacity to know that one has been abused (Fonagy et al., 1995; Hart & Brassard, 1987; Shengold, 1989). Interference with, as well as neglect of, this developmental requirement may be a necessary condition for most adolescent and adult psychopathology (Park, 1992). Developmental literature and longitudinal studies, as well as primate research, provide convinc-

ing evidence that it is not the characteristics of children, such as defects and vulnerabilities, that should be considered as the predominant factors actively engendering adult psychopathology, but rather a defective caregiver or cultural environment that is misaligned with the child's psychological characteristics and requirements (Bowlby, 1988; Byne & Parsons, 1993; Greenspan, 1992; Lidz, 1990; Tienari et al., 1991; Rorty, Yager, & Rossotto, 1994; Vaillant, 1977; Wemer, 1989).

We summarized salient features of BPD and searched for a pattern. Those features are:

1. The extreme suffering, self-hate, anger, identity disturbance, emptiness, and fear of abandonment.
2. Frequent co-occurrence of chronic depression and posttraumatic stress disorder, as well as dissociative experiences suggesting possible relationship to dissociative identity disorder.
3. General history of severe, pervasive psychological abuse as well as frequent history of physical and sexual abuse.
4. The chronic, intense, failed search for intimacy, along with great distrust.
5. Evidence of perceptive talents, a capacity for empathic response, and the perversion of these characteristics.

It seemed likely, based on the aforementioned characteristics, that chronic and severe assault throughout childhood on self-esteem and on detected autonomous mental processes of the child must be the essential source of the syndrome. This could provide an explanation for items 1-3 but would not fully account for items 4 or 5.

The perceptive talents and the enduring search for intimacy are perplexing. Childhood rejection, abuse, and invalidation frequently result in an impoverished mental life, in diminished perceptivity, empathy, and introspection, in abusive behaviors, and probably in diminished psychological mindedness (Alvarez, Schonbar, & Farber, 1993; Bowlby, 1984; Cichetti & Carlson, 1989; Goleman, 1995; Hunt, 1990; Montagu, 1978; Ressler & Shachtman, 1992; Shengold, 1989; van der Kolk, 1987b). We asked ourselves why borderlines characteristically persist in a lifelong search for self-understanding and love, why they retain the capacity for caring about others, why they are so psychologically minded that they return again and again for psychotherapeutic help despite prior failed treatment, why borderline mothers are so often intensely preoccupied with being good mothers, and why most borderline patients recover after years of troubled self-examination. We concluded that there must be an inborn cognitive characteristic at work here, because nothing in their deprived childhood could account for this staying power (Park et al., 1992; Shengold, 1989).

Miller's book (1981) about abused, gifted children also alerted us to the possibility of an inborn characteristic. By "gifted" she referred to: "an amazing ability to perceive and respond intuitively" (p. 8); "lively people who are especially capable of differentiated feelings" (p. 9); "attentive,

lively, sensitive" (p. 10); "great intensity of feelings, depth of experience, curiosity, intelligence, quickness, and ability to be critical" (p. 97). She described examples of extreme suffering of people who were apparently gifted and also psychologically abused by caregivers, the same pattern we found in our borderline patients.

## DEVELOPMENT OF A SCALE FOR ESTIMATING PERSONAL INTELLIGENCE

Gardner's (1983) theory and description of personal intelligence provided us with a conceptual framework for the study of individual differences in perceptive talents. He argued that, as with other forms of intelligence, personal intelligence varies and includes exceptional individuals. Our first hypothesis was that BPD patients have high personal intelligence, albeit expressed in perverse ways. Our second hypothesis was that childhood psychological abuse engendered this perversion. There was also a third hypothesis that high personal intelligence in borderline patients is biologically based.

We did not find a suitable instrument for directly assessing personal intelligence (Costa & McCrae, 1990; Park et al., 1992; Salovey & Mayer, 1990). Gardner (1983) pointed out that there has been a lack of studies of personal intelligence, perhaps due to the difficulty of study and to the high degree of personal involvement required. Therefore, the first task of our study was to develop a scale to estimate personal intelligence in a clinical setting, which in our case was office-based private practice. Research in this area is in its infancy, and we want to emphasize that our scale is a very preliminary attempt to assess personal intelligence.

The first two items of our four-item personal intelligence scale **were** designed to detect perceptual competence or an urge to access and use it, the latter in line with the concept that personal intelligence is instinct based. The two items are: (1) Intense preoccupation with and/or talented access to one's feelings; and (2) Intense preoccupation with and/or sense of the feelings of others. According to our hypotheses, borderline patients can have high personal intelligence that is expressed in perverse ways. We think that one of the reasons for such perversion was the need to conceal and disguise their perceptive abilities from dangerous caregivers, who would become extremely threatening when intuitive responses made them uneasy or angry. The children would then learn to feel profoundly bad for experiencing their own natural feelings and perceptions and try to prevent them from occurring, thereby perverting their intrapersonal intelligence. In addition, Fonagy et al. (1995) proposed that borderline individuals actively refused to develop a competent theory of mind about self and others in order to obstruct accurate perceptions about the minds of uncaring, hostile,

and malevolent caregivers, which allowed them to maintain a sense of empathic, caring qualities in them. This would be very damaging for the development of skills involving interpersonal intelligence. Inhibitions and distortions of both intra- and interpersonal intelligence could be expected to limit the frequency of easily observed incidents of talented access to self and others in a clinical setting. Therefore, we additionally rated "intense preoccupation" on assumptions that in spite of such major interferences with natural perceptions, a strong instinctual urge to understand self and others would remain quite discernable in the form of intense preoccupation with these themes, with high intensity reflecting high personal intelligence (see prior discussion of instinctual underpinnings of personal intelligence). Because we were looking for serious efforts to gain understanding, we attempted to exclude observable indications of other kinds of preoccupation, such as hypervigilance focused primarily on detecting signals of potential danger from others without significant interest in understanding them, inquisitiveness, competitive efforts to gain attention, or a burden of symptomatic distress and strong affects. We did not develop specific guidelines for such differentiation in this study, relying instead on clinical impressions. We believe that serious effort to understand something typically has a very different flavor from defensive hypervigilance, prying, attention-gaining behaviors, or simply preoccupation with symptoms and distressing feelings. We hope to develop a more standardized way of evaluating these characteristics.

Examples of preoccupation about self include patients who were besieged by and obsessed about feelings that they were bad or evil. Such individuals could not experience inner permission to enjoy themselves, such as the patient who eagerly bought a fish tank and then obsessed for several months about why he could not bring himself to put fish in it. Examples of talented access to one's feeling were rather infrequent early in therapy but tended to become more common in later stages. One example was a librarian who began therapy enraged, hating herself, suicidal, and obsessing about her incompetence in both her personal and work environments. After several years of therapy, and while caring for chronically ill babies and small children in a volunteer job, she validated for herself that she could experience deep, varied, and empathically accurate emotions of concern, tenderness, and love, feelings that had a very positive effect on the children and their caregivers (in sharp contradiction to her mother's malicious attacks on such characteristics). This development was accompanied by a dramatic transformation at work from an odd, ostracized workhorse to an administrative leader.

With regard to preoccupation about others, an extreme example was the patient who spent a great deal of time lying in bed, intensely ruminating over the most minimal interactions with others, often developing paranoid-themed themes about their meanings. There were many examples of patients showing a sense of the feelings of others. One patient sensed her therapist's

unexpressed feelings of pessimism, acknowledging later that she used this perception to make him feel as hopeless as possible. A male patient brought a gun to a therapy session following a meeting during which the therapist privately decided it was time to explicitly discuss the mother's extreme malevolence. Two female patients would invariably know surprisingly early in relationships when males were in their sexual power.

The third item (3) of our scale required at least three perceptive intuitions or insights about others expressed during therapy. These were especially noted at times when patients were relatively calm and if they demonstrated a knack for reading the therapist's private emotions or thoughts. Such examples had to be clear and understandable to at least two members of the research team. One patient helped her therapist to correct his approach by saying, seemingly out of the blue, "It doesn't help me if you feel sorry for me. It throws me off and I can't help trying to make you feel that way even more. It's like an addiction, to make you have a feeling for me."

The fourth item (4) consisted of two parts: capacity for empathic concern for important others is clearly evident at times, and grandiosity, devaluation, and envy are not pervasive. Item 4 was based on the assumption that high personal intelligence generally would be associated with high empathy and low grandiosity. Capacity for empathy was frequently manifested in our patients, including concern for the welfare of parents, children, spouses, and friends.

The second part of item 4 involved overall clinical impressions as well as specific examples. Grandiosity, devaluation, and envy were judged to be pervasive if they were detected frequently and in many contexts, and were highly resistant to change or insight. One patient presented interactions with her teenage son in which she enticed the autonomy-striving son into being vulnerable and would then make the perfect subtle confusing statement. She manifested such behaviors repeatedly, always "forgetting" discussions about their inappropriateness.

Our study patients were outpatients seen in private practice. Clinical records of 107 patients were reviewed, and in addition to being diagnosed according to DSM-III-R, patients were also classified according to the number of criteria they met for BPD (American Psychiatric Association, 1987; Frances, Clarkin, Gilmore, Hurt, & Brown, 1984). We identified 23 patients (18 females, 5 males) who met the DSM-III-R definition of BPD, that is, five to eight criteria. Twenty of these patients received concomitant Axis I, primarily affective, diagnoses. We identified 38 control patients (23 females and 15 males) who had personality disorders other than BPD and who met two or fewer DSM-III-R diagnostic criteria for BPD. Twenty-two of these patients had Axis I diagnoses. Of the 38 control patients, 4 (11%) were diagnosed with cluster A, 10 (26%) with cluster B, and 24 (63%) with cluster C personality disorders. (Seven patients were diagnosed as personality disorder not otherwise specified but were easily classified by cluster.) The average age was 32 years for the borderline group and 39 years for the



controls. The study patients were of above-average socioeconomic status. For instance, 21 of the borderline patients and 33 of the controls attended college at some point during therapy or were college graduates. All study patients were Caucasian except for one borderline patient (African American) and one control (Asian American). Diagnoses of study patients were made on a consensus basis by two psychiatrists without an additional reliability check.

All of the BPD patients and 36 of the controls received individual psychotherapy, primarily a combination of supportive and exploratory therapy, with the majority seen every 1 or 2 weeks. Six borderline and 3 control patients participated in group psychotherapy. Treatment duration of at least 6 months was specified because it was assumed brief contact would be unlikely to reveal some of the characteristics we were studying, particularly disguised personal intelligence and history of psychological abuse. It is possible that this requirement selected for a particular subtype of borderline patient. For instance, Hurt and Clarkin (1990) identified three subsets of DSM-III BPD criteria that characterize different groups of borderline patients: impulse, affective, and identity clusters. Rockland (1992) suggested that patients in the impulse cluster (including especially self-damaging acts and impulsive behaviors) and the affective cluster (including especially intense and unstable affects and relationships) would be much more likely to be treatment dropouts in longer term dynamic therapies, whereas patients in the identity cluster (including especially chronic feelings of emptiness, identity disturbance and intolerance of being alone) would more likely be introspective and psychologically minded, and therefore respond well to longer term dynamic therapy and stay in treatment. Also, 16 of the borderline patients met only five criteria for BPD and 17 had never been hospitalized, factors Rockland considers positive for dynamic therapy.

The four personal intelligence items were rated dichotomously by consensus for each of the 61 study patients. The three raters were psychiatrists, each with at least 20 years of postresidency psychotherapy experience. Two of the raters had prior extensive experience in clinical psychopharmacological or other clinical research. The raters were not blind to diagnoses because two of them had rated the diagnoses. Ratings were derived primarily from notes made during as well as immediately after therapy sessions. The notes were written before the study was designed, and before patients were reviewed by raters for DSM classification of personality disorders. A score of 0 to 4 was given to each patient according to how many of the four criteria were met, and we arbitrarily defined patients with scores of 3 (in any combination) or all 4 as having high personal intelligence, which we have termed "giftedness."

Applying our assignment of patients who scored 3 or 4 as gifted, 17 of the 23 BPD patients (74%) met at least three Criteria. A significantly smaller

proportion of the controls met at least three criteria (13/38:34%),  $\chi^2 = (1, N = 61) = 7.52, p < .01$ .

A comparison of borderlines and controls for each of the four checklist items revealed that Item 2 was the most discriminating (Table 6.1). Ninety-six percent (22/23) of borderlines versus 45% (17/38) of controls were judged as having intense preoccupation with and/or sense of the feelings of others. Clinically, the characteristics of Item 2 are prominently manifested in the powerful vicissitudes of projective identification as well as in the intense, repetitive search for empathy and intimacy in relationships, including those with therapists.

Item 1 was less discriminating, with 100% of borderlines versus 66% (25/38) of controls being judged as having intense preoccupation with and/or talented access to one's feelings. Item 1 could have been less discriminating because both borderlines and controls selected themselves as being self-preoccupied by seeking therapy.

Item 3 was also less discriminating than Item 2, with 61% (14/23) of borderlines versus 32% (12/38) of controls expressing at least three perceptive intuitions or insights about others. The long-term experience of the therapists with borderline patients may have made them particularly alert to boundaries and projective identification, such that manifestations of group differences were blunted regarding observations of therapists' vulnerabilities. Item 4 did not discriminate between the two groups: 65% (15/23) borderlines versus 66% (25/38) controls. It may have been inappropriate to combine empathy and grandiosity in one item.

Distinguishing a person's personal intelligence capacity versus inability to make use of it can be very difficult. One of the most difficult patients to evaluate met seven criteria for BPD but also met four criteria for NPD. Although she suffered greatly, she could also be quite insensitive and even cruel to her husband, her children, and others. She appeared to have a high capacity to intuitively grasp the vulnerabilities of others in order to play on them and dominate them, but she also appeared to have almost no capacity for empathy. We assumed that an extremely harsh childhood environment may have stifled some of her inborn intuitive capacities. This seemed to be born out after several years of intensive psychotherapy when the patient was finally willing and able to consider her harsh mental processes. She could see she was capable of being quite perceptive of how others felt and

**TABLE 6.1**  
**Patients' Scores on Items from Personal Intelligence Scale**

Patient group	Items			
	1	2	3	4
BPD (N = 23)	23 (100%)	22 (96%)	14 (61%)	15 (65%)
Control (N = 38)	25 (66%)	17 (45%)	12 (32%)	25 (66%)
Difference (%)	34%	51%	29%	1%

could even empathize, but then in a "nanosecond" she would immediately refuse to empathize so that she could feel superior and in control and could play with them like a "cat with a mouse." This patient's mother was described as extremely cold, envious, manipulative, and vengeful. The patient stated that her mother could react with "venomous rage" if the patient demonstrated perceptive insights about herself and others, particularly about the mother. In this setting the patient learned to be just as harsh as the mother, but with the added ability that for "nanoseconds" she could use her perceptive abilities to tune into the inner states of others with remarkable accuracy. This patient is still in therapy and is experiencing an ability to have "real feelings" with increasing frequency. However, she still does not know if the cruel part of her will give up the safety and harsh pleasures of being immune to empathy and caring.

We reviewed histories of both the borderline and control groups for evidence of childhood abuse. We found that 100% of borderline patients reported at least two of five types of chronic, severe psychological abuse, versus only 32% (12/38) of the controls [ $\chi^2 = (1, N=61) = 24.70, p < .001$ ]. (Borderline patients also reported physical and sexual abuse more frequently than did controls, but this difference was not statistically significant.) Perhaps the most important finding of the study was that 74% (17/23) of the BPD patients were rated as both gifted and psychologically abused versus 13% (5/38) of the controls [ $\chi^2 = (1, N=61) = 20.38, p < .001$ ].

We also investigated patients' perceptions of parental personality characteristics and found that 91% (21/23) of the BPD patients described a dominant, unempathic parent versus 37% (14/38) of the controls ( $\chi^2 = (1, N=61) = 15.22, p < .001$ ). This parent, usually the mother (18/21), tended to be extremely controlling, exploitive, unempathic, limited or lacking in expression of warmth, and frequently quite hostile towards detectible autonomous behaviors, observations and thoughts, even signs of pleasure, in the child, with the other parent usually neglectful or ineffective.

In summary, the study results were quite compatible with the first hypothesis that borderline patients frequently have high personal intelligence with a talent or gift for self- and other-perceptiveness. There was also strong evidence of severe psychological abuse, compatible with the second hypothesis that such abuse engenders the perversion of high personal intelligence in borderline patients. The study did not directly address the third hypothesis that high personal intelligence in borderline patients is biologically based. However, indirect evidence from the study may point by default to the likelihood of an inborn characteristic because the known environmental factors cannot account for our findings and actually work against them. In other words, it has been repeatedly reported that severe and chronic abuse characteristically dulls traits reflecting personal intelligence, yet paradoxically our study patients retained them to a high degree. As discussed earlier, such traits are also frequently revealed in the clinical BPD literature in descriptions of unusual interpersonal powers, perceptive-

ness about therapists' feelings and motives, intense preoccupation with emotions of self and others, very active mental life, capacity for empathy, intense search for intimacy, and indications of psychological mindedness. Nevertheless, although our personal intelligence scale's items seem to assess stable characteristics, full elucidation of biological components will require other kinds of investigations such as longitudinal and twin studies.

As a result of our preliminary findings, we plan to carry out more refined studies to examine our working hypothesis that the classical borderline syndrome can be engendered by the interaction of high personal intelligence (nature), and severe, chronic psychological abuse (nurture), without the necessity for any other etiological variables such as inborn defects. (We believe this to be a major but not the only possible developmental path to BPD.) We now believe that as children these patients learned to express their needs in a decentered, yet intuitive, way that could gain attention as a substitute for love or cause a disturbance as an expression of anger, in a manner that was not significantly dangerous because the parents (and the children) did not understand the perceptive level at which they were being coerced and provoked. Viewed as a learned capacity that perversely serves the urgent requirements of attachment, autonomy, rage, and pleasure in a dangerous environment, it makes sense why projective identification is a major characteristic of the borderline syndrome. The perversion of high personal intelligence can explain why borderlines appear to have characteristics suggestive of psychological mindedness, yet paradoxically have been considered poor candidates for dynamic psychotherapy or even for staying in treatment, and also can explain why these patients are frequently disturbing to therapists.

The highly controlling, exploitative, and unempathic characteristics of the dominant parents of our borderline patients led us to the posthoc conclusion that these parents had substantial characteristics of pathological narcissism, with many of them probably meeting the full criteria for NPD. Furthermore, these parents' harsh demands for unquestioned allegiance to self-centered, inflexible guidelines, and goals, their apparent inability to achieve meaningful new learning about self and others or even to tolerate alternative views, and the frequent absence of sufficiently explanatory childhood experiences of their own, suggested to us that the parents might have low inborn personal intelligence and be strongly governed by the kind of primitive algorithms proposed by Cosmides and Tooby (Barkow et al., 1992). The accuracy and intrusive power of language as a psychological weapon opened the door for these parents to directly abuse their children's perceptual mental machinery.

We will investigate the possibility that individuals who develop BPD and NPD tend to be at extremes of personal intelligence, with psychopathology frequently reflecting complex interactions of parents at one extreme and offspring at the other. A multidisciplinary approach to the study of social perceptivity and childrearing involving psychiatry, clinical psychology, and

cognitive, comparative, developmental, and social psychology, should provide valuable insights about child development, as well as about human nature and its vicissitudes.

There were a number of weaknesses in this study that can occur in long-term clinical research, including small sample size, limited testing instruments, raters who were not blind to diagnosis or to each others' ratings, and associations that cannot prove causal relationships (Frances, 1990). Data were retrospectively derived from subjective reports and were potentially biased by both observers and patients. However, some of the results were statistically strong.

We wish to reemphasize that personal intelligence is a rather new concept that has not been studied in patient populations except as it might be an element in other measures discussed in this volume. Our personal intelligence scale is a rudimentary exploratory measure that distinguished BPD patients from control patients, but we cannot be certain that we were actually measuring personal intelligence. The next step in the study of personal intelligence should be the development and subsequent reliability and validity testing of a more sophisticated scale.

## SUMMARY AND FUTURE DIRECTIONS

The concept of personal intelligence may lead to hypotheses for evolutionary, biological factors in psychological mindedness. Although definitions of psychological mindedness vary (Conte et al., 1990; Dollinger, Reader, Mamett, & Tyienda, 1983; Farber, 1985; Hall, 1992; McCallum & Piper, 1990), they are all quite compatible with the proposal that high psychological mindedness can be based on high personal intelligence.

It is important to integrate concepts and descriptions of personal intelligence and psychological mindedness, as well as to identify those elements that are particularly relevant to psychotherapy. A major task is to determine when limitations in personal intelligence are based on neglect, abuse, and faulty learning, and are therefore presumably changeable, and when limitations are based on inborn defects, and are therefore presumably unchangeable. If childhood environment stifles and distorts the development of aspects of this intelligence, is there permanent impairment or can there be degrees of improvement or recovery? Wames (1986) discussed such issues as they apply to alexithymic, or nonpsychologically minded individuals.

Developmental, sociological, and biological research have demonstrated the complex connectedness of nature and nurture (Bowlby, 1988; Moran, 1994; Plomin, 1994; Wemer, 1989; Wolpaw et al., 1991; Wright, 1995). Early stress and trauma can provoke disturbed gene expression and brain development, temperamental changes, and serious physical illness, including

even cancer, and can also severely impede long-term recovery from perinatal physical and behavioral problems (Bowlby, 1984,1988; Kotulak, 1993; Siegel, 1989; Teicher et al., 1994; Wemer, 1989). Such findings suggest a necessity for extreme caution in evaluating sources and changeability of apparently inborn or biological defects in humans.

The concept of personal intelligence has profound implications not only for psychotherapy and for parenting but also for the education of children. Children are born with various potentials and learn to make use of them selectively through childhood experiences, including formal education. Gardner (1993a) made clear, for instance, that personal intelligence is a capacity that does not include an inborn sense of right and wrong and can express itself in dramatically differing ways, such as the interpersonal intelligences of Ghandi or Mandela versus Stalin.

Learning how to know oneself and others may be one of the most important skills for a child to develop (Damon, 1990; Goleman, 1995), yet it is not effectively addressed by most educational systems, much less the consideration that there can be significant individual variation in the inherent capacity to know. Consider the child with low capacity for empathy but with a special capacity to perceive characteristics about others that can be manipulated for that child's own ends. What happens when such a child grows up without any help to understand about self and others? Would such a person have a better ability to be empathic if he or she had been helped in school to grasp concepts such as putting oneself in another's place or that emotionally based responses may have accompanying explanatory thought patterns that are not rational? On the other hand, what happens when a sensitive, perceptive child has not been helped to understand that others can disguise insensitivity as well as predatory intentions?

Gardner (1993b, 1994) is at the forefront of the development of a multiple intelligences approach for teaching children. The goal is to identify and work with each child's unique combination of abilities and liabilities, focusing on interactive learning programs incorporating hands-on characteristics such as apprenticeship and children's museums. Also, many schools are discovering the advantages of programs for emotional literacy and for conflict resolution such as peer counseling, in which students learn to evaluate, moderate, and dispense decisions about disruptive student behaviors such as fighting. In private and large public schools, the majority of students volunteer to participate in such programs and they tend to become very involved. The benefits of these programs include learning to question one's own feelings and impulses, thinking more perceptively about the feelings and motives of others, and a measurable decrease in serious student problems and conflicts. Additionally, such activities can provide important clues for identifying troubled children and dysfunctional home environments.

It is essential to further study the proposals that we are born with varying capacities for knowing ourselves and others, and that the skills for utilizing

such capacities must be learned. We need to continue exploring the dimensions of personal intelligence, develop reliable ways to measure them, and provide effective educational and therapeutic approaches for individuals whose life experiences have left such capacities neglected or damaged. The development of methods to assess and maximize a child's personal intelligence in both the home and school may be critical for mental health, for career success, for the health and strength of society, and possibly for the long-term survival of our species.

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