Levels of Emotional Awareness: A Cognitive-Developmental Theory and Its Application to Psychopathology

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The authors present a cognitive-developmental theory of emotional awareness that creates a bridge between normal and abnormal emotional states. Their primary thesis is that emotional awareness is a type of cognitive processing which undergoes five levels of structural transformation along a cognitive-developmental sequence derived from an integration of the theories of Piaget and Werner. The five levels of structural transformation are awareness of 1) bodily sensations, 2) the body in action, 3) individual feelings, 4) blends of feelings, and 5) blends of blends of feelings. The authors suggest applications of this model to current unresolved problems in psychiatric theory, research, and practice.

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The importance of emotion to the field of psychiatry cannot be overemphasized. A disturbance of emotion may well occur in every diagnostic category: in addition to the affective disorders and anxiety disorders, disturbances in emotion are fundamental aspects of schizophrenia, organic mental disorders, psychosomatic disorders, and personality disorders. In fact, it could be argued that emotional disturbance is so fundamental to the concept of mental disorder that the absence of emotional disturbance as a major feature of a diagnostic category is evidence for the inadequacy of the conceptualization of the category itself, not the unimportance of emotion.

When we speak of a disturbance of emotion, however, we seem to imply that a coherent framework exists which one can use to understand the nature of normal as well as psychopathological emotional states. The fact of the matter is that emotion is a complex phenomenon which is only incompletely understood. Most theorists agree that emotion consists of a physiological or biological component, an experiential or psychological component, and an expressive or social component (1–3). At present, the relationship between these different components is not well understood (4). Although major deficits exist in our understanding of each of the three domains of emotion independent of the others, the experiential domain is the one we deal with most in clinical situations and may therefore be the one domain where improvements in our understanding are most needed.

The importance of the experiential domain in clinical work is immediately evident from the fact that most patients seek help because they experience distress: they don't feel well in an emotional sense, especially in their relationships with others. Medication is often prescribed to relieve excessive experiences of anxiety, depression, euphoria, or rage. Judgments about whether medication is necessary are based on issues such as how pervasive or disruptive the emotional experience in question is in relation to the rest of the patient's emotional life, as well as the patient's capacity to deal with the unpleasant feelings by psychological or behavioral means. Similar considerations apply to the use of behavioral techniques such as relaxation training and systematic desensitization. Our tools for making explicit, rational judgments of this sort are limited and are usually considered part of the "art" of good clinical care. A new theory of emotional experience could provide a framework for making such judgments on a more objective basis.

An alternative or adjunct to medication or behavioral therapy is psychotherapy. Much of psychotherapy consists of helping patients to clarify what they are feeling, understand the origins of their feelings, and tolerate their intense emotional states better while minimizing the tendency to exclude these states from conscious awareness. However, the conceptual framework we have at present for understanding individual differences in the emotional lives of patients and the changes that occur in the experience of emotion during the course of treatment is quite limited. Without a conceptual framework of this sort, we lack a rational basis for deciding how to tailor psychotherapeutic technique to the needs of a particular patient or how to make adjustments in technique during the course of psychotherapy.

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Nevertheless, it would be inaccurate to imply that we are devoid of any conceptual tools to guide us in the conduct of our clinical work in these areas. Since Freud, ego psychologists and object relations theorists (5–8) have demonstrated the usefulness of a cognitive-developmental approach in understanding the nature of the differences in the mental experiences of patients with different degrees of psychopathology and how the process of psychotherapy leads to clinical change. A central organizing concept in these formulations is that of psychic structure. From a clinical rather than a metapsychological standpoint, psychic structure refers to the degree of differentiation and integration of the contents of mental activity (9). The concept has achieved its greatest clarity and clinical applicability as it is applied to self and object representations (9). Although object relations theorists have for a long time recognized an association between object representation and emotion or affect, the discussion of emotion from a cognitive-developmental perspective has not yet been clearly differentiated from object relations theory.

For example, Novey (5) hypothesized that internal representations of objects are affective experiences which are only secondarily perceived to have ideational content. Schmale (6) proposed that affective experiences and object representations originate from a common matrix and discussed how emotional experience becomes more differentiated with development by virtue of interaction with significant others. Mahler et al. (7) discussed how the development of a basic mood depends on the child's affective experience during the practicing and rapprochement subphases of the separation-individuation process and how the establishment of an easily recallable mental representation of the mother (i.e., object constancy) is a prerequisite for the capacity to maintain an awareness of a variety of feelings for the mother despite the immediate circumstances. Blatt (8) proposed that two types of depression, an anaclitic and an introjective type, may be distinguished on the basis of the degree of differentiation and integration of the object representations which accompany the two different types of depressive experience. These contributions suggest that a specifiable relationship may exist between emotional experience and object representation on the basis of a cognitive-developmental perspective. However, a comprehensive framework for thinking about changes in the experience of emotion from a cognitive-developmental perspective distinct from object representations has been lacking.

The purpose of the present paper is to fill this gap in the clinical literature. Our primary thesis is that emotional awareness is a type of cognitive processing which undergoes five levels of structural transformation along a cognitive-developmental sequence derived from an integration of the theories of Piaget and Werner. The theoretical basis for this new formulation will be discussed first, followed by a description of five levels of emotional awareness. We conclude with a discussion of the implications of this new model for psychiatric theory, research, and practice.

INFLUENCE OF COGNITION IN STRUCTURING INTERNAL REALITY

Ever since Einstein and Heisenberg, our conception of reality has undergone a radical transformation (10). Their work and that of other modern physicists has led to the conclusion that there is no such thing as a tangible (i.e., completely measurable) objective reality. Rather, our conception of external reality is observer-dependent in the sense that no absolute standard exists against which the accuracy of one's perception of reality can be judged correct or incorrect. This view is supported by a long tradition of work in experimental psychology demonstrating that past experience and mental set contribute significantly to what is perceived in the external world (11). The best that one can hope to do is account for as much information as one can in one's description of the external world until another perspective comes along which can account for more information. The prevailing view at the time is what we refer to as consensual reality.

For the present state of our knowledge about emotion, there is no consensus. Perhaps one important reason for this lack of consensus is the assumption by some that emotion is a phenomenon which has a tangible reality. This perspective is best exemplified by researchers who view the objective measurement of physiological arousal (biological domain) and/or the objective measurement of behavioral expression (social domain) to be adequate measures of emotion. Such a perspective avoids the vagaries associated with the objective assessment of emotional experience because there is no possible way to get inside a person and determine with certainty what it is that a person experiences. But if emotional experience does not have a tangible, objectively verifiable reality, what sort of reality does it have?

The answer, of course, is an observer-dependent reality. Although, in agreement with Lazarus (12), we adopt the position that emotion is preceded by a cognitive appraisal of the environment, which in turn leads to the activation of emotion, we do not mean that emotional experience is observer-dependent in this sense. Rather, our focus is on the structure of experience once an emotional response has been activated. Our central thesis is that what is experienced as emotion is the consequence of a subsequent cognitive processing of emotional arousal and that the cognitive process itself undergoes a sequence of structural transformations during development which, in turn, determines the structure of subsequent emotional experience. Thus, emotional experience is observer-dependent in the sense that it is the structural organization of cognitive processing which determines the structure of the individual's experience. Although we use the terms "emotional experience" and "emotional

awareness" interchangeably, we use the latter term to highlight the important role that conscious cognition plays in experience.

This perspective on emotional experience can be illustrated with an analogy regarding the influence of cognitive processes on the perception of external reality. The Eskimos are known to have at least 30 different words for snow of different varieties (13). Eskimo children learn the concepts captured by the words and become able to perceive the 30 or so different varieties of snow. In contrast, children growing up in Florida never learn these words, do not develop the concepts, and do not perceive these distinctions in the environment. Although faced with "the same" external reality, the children from Florida would perceive a snowy landscape as undifferentiated, compared with the more differentiated view of the Eskimo children. One could say that the "snow awareness" of the Eskimo children was stucturally transformed during development, which in turn determined the structure of their experience of the external world. Although one might claim (correctly) that the Eskimos are better able to perceive what is "really there," this does not by any means imply that these 30 or so words capture all of the useful distinctions which could potentially be made between different types of snow.

In a similar way, emotional arousal constitutes an internal world about which one has knowledge, and it is the structural organization of this knowledge that determines how the internal world of emotion is experienced. In a manner analogous to the example of snow, the internal world of emotional arousal has the potential to be perceived or introspected in an infinite number of ways, limited only by the knowledge one has beforehand of one's own emotional life. Each addition to this structure is added to what has already been acquired. These additions to knowledge can thus be thought of as hierarchical, which in turn can be viewed as generating a hierarchical layering of levels of awareness of one's internal world.

This example suggests that individuals differ from one another in the structural organization with which they possess emotional arousal. It also suggests that this structural organization is reflected in the verbal representations used to describe the content of what is perceived. However, this perspective is not reflected at present in the design of instruments currently in use to assess emotional experience. For example, instruments such as the Taylor Manifest Anxiety Scale (14), the Hamilton Rating Scale for Depression (15), the Profile of Mood States (16), the State-Trait Anxiety Inventory (17), and the Differential Emotion Scale (18) specify the emotion or mood and ask the respondent to quantify the intensity or frequency of that experience on a categorical or ordinal scale. The structure of the experience in question—its degree of differentiation and integration—is thus determined by the instrument. This raises the question of whether individuals who achieve identical scores on such self-report instruments might report very different experiences if they were allowed to determine the structure of the verbal representations themselves.

A report by Sommers (19) suggested that individual differences do exist in the structure of representations used to depict emotion and that such structural characteristics can be objectively assessed. The main finding in Sommers's report was that the range of emotions experienced, as determined by the numerical variety of emotional responses spontaneously reported by a person in response to standard stimuli, correlated positively with the cognitive complexity with which other people were described and the presence of the relatively advanced cognitive capacity to assume the role of different participants in an interpersonal interaction. In contrast to the traditionally dominant view of cognition as standing in opposition to emotion, this study suggested that an advanced cognitive organization can be associated with a greater rather than a lesser degree of emotional organization. It also provides empirical support for the notion that the cognitive complexity of object representation corresponds to the cognitive complexity of emotional experience.

TRANSFORMATIONS DERIVED FROM DEVELOPMENTAL THEORY

The view that symbolic processes determine the nature of experience has been elaborated in great detail by Werner and Kaplan (20). These authors argued that acts of depiction serve the function of constructing a world which becomes known in the process of such an act, not simply reproducing previously formed conceptions, as Piaget believed (21). Through acts of depiction, a person can make explicit, can formulate, features of experience that would otherwise remain fluid, embedded, and inaccessible to self and others. Werner and Kaplan (20) referred to symbolization as a structure-building, schematizing activity. Their argument is consistent with the notion that to depict an emotion, either representationally or symbolically, is not only a way of coming to know it but also a mechanism for developing a cognitive structure of it. This idea, that language is a means not only for representing experience (and, implicitly, its structure) but also for transforming experience, has been discussed by linguists and philosophers since it was first proposed by Herder more than 200 years ago (22). This thesis has received empirical support in recent years from ethnolinguistic research (23) on the Sapir-Whorf hypothesis (24), which states that the language of a culture determines the world view of people in that culture.

This perspective is taken a step farther, however, with the hypothesis that over time such symbolic activity generates a specifiable process of cognitive development. The general course of this developmental process was addressed in Werner's "orthogenetic principle of development" (25), which states that wherever development occurs it proceeds from a state of relative globality and lack of differentiation to a state of

increasing differentiation, articulation, and hierarchic integration (again, by implication, its structure). Although this perspective applies to cognitive development in the ontogenetic sense, cognitive activity at a given moment can be viewed as a construction that recapitulates the sequence of ontogenetic development. The phenomenon, called "microgenesis" or "aktualgenese," has been described by Werner (26, 27) and Draguns (28). This theoretical framework has been supported by empirical studies such as those using a tachistoscope, which have revealed that as the time of exposure increases the perception of a stimulus changes from being global and diffuse to being more differentiated and more integrated. Thus, our application of this point of view to the inner world of emotion suggests that emotional experience is constructed over time in both the ontogenetic and the microgenetic sense and that one's inner world can and does become known in the same way that the external world becomes known.

The next question to consider is the specific nature of this developmental process. Although much of the specific content of one's inner world must be assumed to be unique, the same holds true for the knowledge one has of the external world. This raises the question of whether the structural development of the knowledge one has of one's inner world might follow the sequence described by Piaget for cognitive development in general.

Piaget's theory of cognitive development is an attempt to describe the structural changes that take place over time in the organization of a child's knowledge of the external world. For Piaget, organization, structure, and schema are interchangeable terms (29). Schemata are the elements of cognitive structure that determine the nature of observable behavior, and schemata change during the course of cognitive development. Piaget described four major periods of cognitive development—the sensorimotor, preoperational, concrete operational, and formal operational periods. In general, these periods are characterized by a progressive trend toward abstraction and increasing coordination of the individual's schemata (30). Piaget focused on the organization or structure of knowledge rather than the specific content of the child's knowledge. Furthermore, he was not concerned with the emotional, social, and motivational factors that accounted for why a cognitive event occurred as it did at a particular time in a child's life, a concern which led Werner and Kaplan (20) to formulate their organismic-developmental viewpoint.

Empirical tests of Piaget's theory have produced mixed results. The concept that all of a child's cognitive functioning resides en bloc at a given stage appears to be incorrect (31). Numerous instances of a phenomenon known as horizontal decalage—the finding that cognitive skills in different task domains are organized at different levels of complexity in a given child—have been documented (32). The concept that cognitive skills develop in an invariant stepwise sequence has also been challenged by the finding that more advanced skills in a given domain may appear before skills acquired earlier have been maximally developed (30). Furthermore, Piaget studied cognitive development only into late adolescence, although several theorists have proposed that a stage beyond the formal operational period may exist (33, 34). However, the levels of organization that Piaget described do appear to exist, and the sequence of development that he described does appear to apply to many specific domains of cognitive activity. Therefore, the structural transformations that Piaget described for knowledge about the external world may apply as well to the knowledge about the internal world of emotion.

Since Piaget himself did not view emotion as having structure, however, he did not address the topic very extensively: most of his thoughts about emotion are incidental comments in many of his writings, and his only extensive discussion of the topic was in a series of lectures at the Sorbonne in 1953–1954 (30). In general, Piaget viewed emotion as supplying the energetics of thought, while cognition provided the structure of thought. His view was that emotion in itself did not have structure but became structurally organized through intellectualization (35). However, Piaget was not particularly interested in how emotion influenced cognitive development, let alone in understanding emotion in its own right. His views on emotion were largely borrowed from the field of psychoanalysis, which itself has not proposed a unified theory of emotion (36, 37) or subjected its own concept of emotion as energy to rigorous empirical testing.

Greenspan (38) and Cowan (30) proposed that there are changes in the structure of emotional experience which occur in relation to Piaget's stages of cognitive development. These parallels were drawn in the context of attempts to integrate Piaget's theory with other aspects of personality development in childhood. Although these contributions have been extremely useful, they did not take into account the limitations of a purely Piagetian approach to cognitive development. Furthermore, a specific model of developmental changes in emotional experience independent of other realms of cognitive development was not presented. The latter is particularly important in the light of the clinical observation that highly intelligent individuals may be quite unsophisticated in their awareness of their own emotional reactions or those of others.

Nevertheless, there is one domain of cognitive activity directed toward the external world that is closely related to awareness of one's own inner emotional experience, namely, empathy. The link between the two domains derives from the hypothesis that the capacity to empathize with the emotional experience of others is thought to be based on the capacity first to imagine oneself in the other's situation and then to experience the emotional reaction one would have if one were in the position of the other in that situation (39, 40). Thus, empathy is an advanced cognitive skill that is based on the knowledge one has of one's own

TABLE 1. Five Levels of Structural Transformation of Knowledge About the External World and the Internal World

Level of Structural Transformation	External World	Internal World
Formal operational	Able to reason abstractly using hypotheticodeductive reasoning; able to consider all possibilities in a situation	Able to experience many nuances of emotion; own experience does not limit empathic awareness of other's experience
Concrete operational	Several attributes of an object integrated into unified concepts (e.g., conservation of volume), but reasoning based on immediate experience	Multifaceted emotional experience includes experiencing opposite feelings and blends of emotion as part of a single reaction
Preoperational	Has concept of individual attributes of objects that may be used idiosyncratically to represent the object as a whole	Has unidimensional, pervasive emotional reactions; emotional experience has an either/or quality
Sensorimotor (substages 2–6)	Learns about objects through handling and perceiving them	Able to induce a change in undifferentiated emotional state through actions on the environment
Sensorimotor (substage 1)	Has reflexive (involuntary motor) responses at interface with external world (e.g., sucking)	Has reflexive (involuntary motor) responses, both internally (autonomic, neuroendocrine) and at interface with environment (e.g., facial expression)

inner world. In view of the fact that behavior resembling adult empathy can be observed in young children and even infants (41), it is reasonable to consider that accurate empathy may represent the culmination of a continuum of ever-increasing awareness of another person's emotional experience. To the extent that this developmental process is an advanced application of the knowledge one has of one's own experience, the developing capacity for empathy may be a corollary of the developmental process described here.

FIVE LEVELS OF EMOTIONAL AWARENESS

The parallels between the structure of knowledge about the external world and the structure of knowledge about the internal world are illustated in table 1. What defines the transition from one period to the next are transformations in the schemata for processing the incoming information: sensory data from the external world and emotional arousal from the internal world. Since these are different domains of knowledge, they may not be organized at the same level in a given individual.

Although Piaget focused on the course of ontogenetic development, Werner and Kaplan suggested that the different levels of organization may be used to describe momentary states as well as traits which characterize an individual's usual level of functioning. The term "stage," which Piaget used, is not as well suited to this dual interpretation as the term "level"; therefore, we have adopted the latter term. However, the concept that each level represents a hierarchical increase in differentiation and integration from the previous level incorporates both perspectives.

Piaget proposed that schemata are progressively revised through the twin processes of assimilation and accommodation. Assimilation means revising what is taken in to fit the schema, while accommodation refers to the adjustment of the schema to what is taken in (29). At early levels of organization the capacity for assimilation is quite limited. Emotional information is primarily given out into the environment. Interventions from caretakers are needed to add new information that modifies the emotional experience and the schema for that experience. Over time the schemata that assimilate emotional arousal become more differentiated and integrated, so that more emotional information is processed internally. The individual gradually develops new ways of representing experience that are more flexible and can capture more of the information contained in the arousal. In this way the capacity to contain more of the arousal increases and the individual becomes more capable of regulating his or her own state without needing to rely so much on outside caretakers. Eventually the amount of information assimilated internally exceeds that conveyed to the environment, and the individual has much greater flexibility in determining the content of what will be shared with others and the circumstances in which this sharing will occur. The greater degree of organization of the inner world of emotion will be reflected in the structure of the verbal descriptions of emotion, however. As the capacity for self-regulation increases, the capacity to adapt successfully to a variety of environments improves.

An overview of the characteristics of the different levels of organization that characterize this process is presented in table 2. The first level of emotional awareness is sensorimotor reflexive (i.e., awareness of bodily sensations). At this level the involuntary motor phenomena that accompany emotional arousal are activated. These include autonomic and neuroendocrine changes as well as automatic facial expression. If there is conscious experience of emotion at this level, it is global arousal embodying the whole person and consists of bodily sensation only. The individual will report nothing or bodily sensation only. However, an outside observer could observe the individual's facial expression and begin to identify the quality of the emotion activated; i.e., emotional information is conveyed outward. Awareness of the separate existence of

TABLE 2. Characteristics of Five Levels of Emotional Awareness

Level of Emotional Awareness	Subjective Quality of Emotional Experience	Differentiation of Emotion	Ability to Describe Emotion
5. Formal operational	Peak differentiation and blending	Richer differentiations of quality and intensity	Description of more complex and differentiated states
4. Concrete operational	Differentiated, attenuated emotion	Blends of emotion, concurrence of opposing emotions	Description of differentiated emotions
3. Preoperational	Pervasive emotion	Either/or experience of emotional extremes (limited repertoire)	Description of unidimensional emotion
2. Sensorimotor enactive	Action tendency and/or global arousal	Action tendency or global hedonic state	Description of action tendencies or global hedonic states
1. Senorimotor reflexive	Bodily sensation	Global undifferentiation of arousal	No description or description of bodily sensation

the other is minimal or nonexistent, and the awareness of the other's experience is itself reflexive.

The second level of emotional awareness is sensorimotor enactive (i.e., awareness of the body in action). At this level of structural transformation, emotion is experienced as both a bodily sensation and an action tendency, but the ability to experience emotion as a conscious feeling state has not yet developed. Action tendencies are based on global and all-consuming states of pleasure or unpleasure that are aimed at maximizing pleasure and minimizing distress. The individual would describe action tendencies or global hedonic states, but the words used to convey the hedonic tone of the experience typically would not refer to emotion alone, e.g., "I feel bad." An outside observer could begin to identify the nature of emotional experience on the basis of voluntary and involuntary motor behavior. The awareness of the other as a separate individual is minimal, and the experience of the other is represented enactively through motor mimicry or the tendency to do things the way the other is doing them without being consciously aware that this is occurring.

The third level of emotional awareness is preoperational (i.e., awareness of individual feelings). At this level of structural transformation, representation of emotion is possible for the first time, and the quality of emotion changes such that it becomes a psychological as well as a somatic experience. Emotional states tend to be pervasive and have an "either/or" quality (e.g., either one is happy or one is sad), but the capacity to experience multiple emotions as part of a single emotional reaction has not yet developed. The range of emotions experienced is limited, and verbal descriptions of emotion are often stereotyped. The individual's capacity to experience emotion and yet modulate the amount of emotional information conveyed to the outside world is still quite limited. Other people are seen as different primarily on the basis of external characteristics such as height, race, gender, and age rather than internal characteristics such as feelings, values, and beliefs. The awareness of another person's experience is idiosyncratic or inconsistent and is based on responding to a particular aspect of the other's behavior rather than multiple aspects of the behavior.

The fourth level of emotional awareness is concrete operational (i.e., awareness of blends of feelings). The range of emotional experience expands and now has more coherence, manifested by a greater appreciation of how emotional experiences can change over time and can supplement rather supplant one another. At this level of structural transformation, emotional reactions become more complex in that they are composed of blends of emotions that are opposed to one another or closely differentiated from one another qualitatively or quantitatively. This capacity for more complex reactions is exemplified by a capacity to modulate emotional extremes, to experience hope when a situation may seem hopeless at a given moment, or to maintain an awareness of a variety of feelings for a person despite the immediate circumstances. The individual is able to describe complex and differentiated emotional states that capture his or her subjective experience. Representation in the enactive mode is much more selective because the individual can now anticipate how others may respond to a given course of action. Although others are now recognized as different on the basis of internal as well as external attributes, the appreciation of the other's emotional experience is unidimensional; i.e., it is relatively undifferentiated compared with one's awareness of one's own experience.

The fifth level of emotional awareness is formal operational (i.e., awareness of blends of blends of feelings). The major advance at this level of structural transformation is greater differentiation and integration in one's appreciation of the experience of others in the context of an ongoing differentiated awareness of one's own experience. There is now the capacity to mix or blend feelings of varying qualities and intensities into new patterns, even though such patterns have never been modeled or described by others. There is also the capacity to make subtle distinctions between nuances of emotion, and descriptions of such emotions

Acquisitions in Representation	Emotion Conveyed as Information	Self-Other Differentiation	Empathy
Novel representations (including metaphors)	Inward much more than outward	Advanced: recognition of integrated, separate identifies	Multifaceted awareness of other's state based on ability to imagine self in other's context
Advanced lexical	Inward more than outward	Recognition of many external and some internal differences	Attribution of experience based only on own perceptions and own experience
Imagistic and early lexical (stereotyped)	Outward more than inward	Recognition of differences mainly in external characteristics	Idiosyncratic or inconsistent awareness of other's experience
Enactive	Outward	Minimal	Motor mimicry, identification through behavior
Reflexive	Outward	Minimal or symbiotic	Reflexive empathy (e.g., crying when other cries)

may be novel or unique and include metaphors. It is now possible to perceive the differentiated, multidimensional experience of others unbiased by one's own emotional state, which includes the capacity to see a situation involving oneself through the eyes of others. The capacity to fully experience how one will feel at some future time under certain circumstances increases the likelihood that the decisions one makes in one's occupational or personal life will bring the satisfaction one is seeking. By anticipating the needs and reactions of others, one is better able to find courses of action that meet the needs of all involved. Self-other differentiation has reached its peak so that self and other are both recognized as unique as well as sharing universal characteristics.

IMPLICATIONS FOR THEORY, RESEARCH, AND PRACTICE

The cognitive-developmental model outlined here shifts the focus in the psychological domain from the quality and intensity of emotion to a more macroscopic perspective focusing on the organizational structure of emotional experience. These structural features include whether emotion is experienced as primarily a somatic state, a somatopsychic state (as in an action tendency), or a psychic state, as well as the degree of differentiation and integration of that experience. One major dividend of this theory is that is suggests new techniques for improving the assessment of conscious emotional experience. Since both the representation of the experience and the experience itself are hypothesized to arise from the same schemata, the structure of the representation should reflect the structure of the experience. The level of emotional awareness that an individual has reached can be assessed by presenting standardized emotion-evoking situations, asking the person how he or she would feel in each situation, and assigning a score to the responses based on the structural characteristics of the levels outlined in table 2 (unpublished paper of Lane et al.). The structural assessment of conscious experience may provide an alternative to the clinical concepts of repression and other unconscious defense mechanisms that are extremely difficult to quantify. This approach may also make it possible to reappraise the longstanding findings that no consistent relationships can be found either between self-reported emotion and the biological indexes of emotional arousal or between social behavior and emotional experience (42).

Another benefit of this theory is that it provides a new perspective on the relationship between the different theories of emotion. To the extent that previous theories address the phenomenological component of emotion, the structural level of experience addressed in each theory provides the basis for categorizing them from a developmental perspective. For example, the James-Lange theory of emotion (43) holds that what we experience as emotion is the somatic activation present during emotional arousal. This can be understood to be a theory of emotion that emphasizes level 1 emotional experience. Darwin's theory of emotion (44)—that behavioral expression of emotion served an adaptive function for the organism—can be understood as a level 2 theory to the extent that it focuses on enactive representations of emotion rather than the experience of emotion in the usual sense of a feeling state. Plutchik (45) and Tomkins (46) have generated theories postulating that a limited number of primary emotions form the basis of all emotional experience, which corresponds to level 3 in our formulation, and Izard (47) and Ekman and Friesen (48), among others, have focused on blends of emotion, or level 4 experience. The fact that each theory could be presented in a persuasive fashion speaks for the coherence of each level of structural organization. It is important to recognize that the theory presented in this paper encompasses concepts from each of these other theories, just as each of the latter theories incorporates concepts from theories focusing on phenomena at lower levels of structural organization. To the extent that our formulation is empirically validated, it may form the basis for a new theory of emotion comprising

all three domains of emotion operating at all five levels. One of the implications of our model for such a theory is that the biological and social dimensions of emotion may each have levels of organization of function corresponding to each of the levels of emotional awareness (our unpublished paper).

Turning to more clinical applications, our cognitive-developmental continuum may have implications for selecting treatment modalities on the basis of the nature of a patient's level of emotional awareness. For example, individuals who manifest somatic symptoms (level 1 experience) such as neurovegetative symptoms of depression or motor restlessness require somatic interventions such as antidepressant medication or progressive muscle relaxation, respectively. Behavioral interventions such as operant conditioning, social skills training, physical restraint, or other limit-setting techniques may be most effective when overt behavior (level 2 experience) is seriously maladaptive and the capacity of the individual to reflect on the accompanying emotional state is negligible. Techniques such as cognitive-behavioral therapies may be most useful in individuals who manifest pervasive, unidimensional emotional experiences (level 3 experience) and need assistance in discriminating between affects, such as sadness and anger. Finally, individuals who consciously experience conflicts in their emotional states (level 4 and level 5 experience) may benefit most from insight-oriented psychotherapies. Obviously, sound clinical judgment is needed to determine at what level the individual usually functions, and multiple modalities may be needed depending on the nature of the problem and the goals of the treatment.

With regard to psychotherapy, our focus on the structural organization and transformation of emotion may also provide a new outlook on the process of change in psychotherapy. Stern (49) suggested that much of the work of psychotherapy consists of formulating experience for the first time as opposed to altering defensive processes that conceal fully formed mental contents residing in the unconscious. The process he described for experience in general may apply to emotional experience in particular and may follow the developmental sequence of levels of structural transformation outlined here. Since an individual may manifest considerable heterogeneity in his or her level of awareness in different areas of his or her life, this framework may help to identify areas of experience that are relatively underdeveloped and are in need of construction for the first time. The therapist can facilitate the process by offering verbal representations that have structural characteristics corresponding to the patient's current experience as well as by providing new labels and identifying previously unrecognized triggers of emotion, which can facilitate further structural development of emotional schemata. Since the model specifies the patient's level of awareness, it helps to identify the next step to be reached in therapy. Although the act of verbalization by the patient may actually intensify the patient's experience temporarily, expansion of the schema through symbolic representation reduces the individual's vulnerability to future distress and disorganization, because future experience will be more differentiated, more attenuated, and more familiar by virtue of its being more integrated with the rest of one's emotional experience. This cognitive-developmental model may be used in the assessment of a patient during an initial evaluation, as a measure of outcome on the completion of treatment, and as a guide to trainees who are learning the skills necessary to become psychotherapists.

Perhaps the clinical entity that is addressed most directly by this theory is "alexithymia," a term coined in 1972 meaning "lacking words to express feeling" (50). In addition to having difficulty expressing feelings in words, patients with alexithymia have a paucity of fantasy life and describe the world in mechanistic terms (51). The concept of alexithymia arose in an attempt to capture how psychological factors contribute to the etiology, onset, and exacerbation of somatic pathology (52). Although several authors have suggested that this condition plays an important role in various somatic conditions, substance abuse (53), posttraumatic stress disorder (54), and other psychiatric conditions (55), there is controversy about whether the condition actually exists, and research has been hampered by the lack of an adequate operational measure of it (56).

Our theory sheds new light on the phenomenon of alexithymia in several important ways. On the basis of our formulation of emotional experience as an observer-dependent reality, we propose that the alexithymic individual, as currently described in the literature, is like the child from Florida confronted with a snowy landscape: the terrain is perceived and experienced as undifferentiated. The undifferentiated nature of emotional experience is self-perpetuating to the extent that the alexithymic individual avoids reflecting on and generating symbolic representations of experience. Our model suggests that an important reason for this avoidance is that unpleasant emotional arousal is experienced as overwhelming somatic distress when it is attended to.

This hypothesis is supported by the work of Linville (57), who has shown that individuals who manifest greater cognitive complexity in their descriptions of themselves are less likely to experience extreme perturbations in their emotional equilibrium than are those individuals who manifest lower levels of cognitive complexity. Furthermore, our theory suggests that the phenomenon is not a distinct entity but represents one pole of a developmental continuum: the inability to put feelings into words may be a global trait, a circumscribed trait pertaining to emotions of a particular type, or a transient state. Perhaps measures used to specify levels of emotional awareness may prove to be more precise measures of the concept of alexithymia and could be used to explore the many research questions generated by clinical observations in this area.

Since our developmental model goes beyond the concept of alexithymia by specifying the nature of emotional arousal when it cannot be put into words, it helps to define the nature of the emotional disturbance in those disorders in which alexithymia is thought to play a role. For example, although substance abuse disorders are not defined as being associated with a disturbance in emotional functioning, our developmental continuum suggests that substance abuse is a sensorimotor enactive response to relatively undifferentiated states of unpleasant emotional arousal (level 2). The nature of the emotional disturbance may be difficult to define clinically precisely because it is undifferentiated. Furthermore, consistent with the self-medication hypothesis of addictive disorders (58), our theory suggests that for substance-abusing patients certain types of emotional arousal (e.g., anger) are so overwhelming that pharmacological relief is the only remedy available to them. The clinical maxim that the substance abuse must stop before the motivational sources of the behavior can be identified and dealt with psychotherapeutically is entirely consistent with this theory. Our developmental continuum may also be useful in determining whether a deficit in emotional awareness related to substance abuse is present in someone who claims to use substances for recreational purposes only. Perhaps the extent to which impairments exist in the ability to put feelings into words either at the time of initial assessment or following short-term clinical intervention may be an important prognostic determinant of recovery from these disorders.

Another category of psychiatric disorders to which our cognitive-developmental approach may be applied is the affective disorders. Since the inception of *DSM-III,* it has become clear that considerable heterogeneity exists within a given diagnostic category with regard to response to treatment and course of the disorder. An example of this is the finding that the course of major depression is characterized by more frequent recurrences in patients with a concomitant dysthymic disorder, so-called double expression, than in individuals without a preexisting mental disorder (59). This observation may be understandable on the basis of a cognitive-developmental approach. Patients with dysthymic disorder have a range of emotional experience that is comparable to the emotional range of patients with major depression but is more constricted than the emotional range of individuals with no mental disorder. This suggests that individuals with no mental disorder have more developed emotional schemata and are less vulnerable to the pervasive emotional arousal of major depression than are individuals with dysthymic disorder. These considerations suggest that the baseline level of emotional functioning in a patient who develops an affective disorder interacts with and helps determine the cause of the affective disorder.

To the extent that this is true, a whole new group of clinical and research questions arise. For example, why don't all individuals at high genetic risk for affective disorders develop episodes of such disorders? Do differences exist in the premorbid emotional functioning of those who develop an affective disorder and those who do not? What are the characteristics of the emotional experiences associated with the "precipitating event" leading to a first episode of illness or to relapse in a particular patient? Under what circumstances is insight-oriented psychotherapy a necessary adjunct to psychopharmacological management to prevent relapse, hospitalization, or suicide? It is quite possible that answers to these questions will lead to improvements in the prevention and treatment of these disorders.

A final category of psychiatric disorder to which our approach may be applied is schizophrenia. On the basis of Semrad's clinical observation that schizophrenic disorganization arises as a consequence of a failure to assimilate or "metabolize" unpleasant emotional arousal (60), one may hypothesize that the level of emotional awareness among schizophrenic patients would reflect this lack of assimilative capacity and be predictive of outcome to the extent that heterogeneity in level of emotional awareness exists among these patients. Although a direct test of this hypothesis has not yet been undertaken, Johnson and Quinlan's finding that nonparanoid schizophrenic patients have more fluid boundaries in their representations of human characters than do paranoid schizophrenic patients (61, 62) suggests that the level of emotional awareness in paranoid patients may be higher than it is in nonparanoid patients. This in turn may help to account for the observation that both short-term and long-term outcomes are better in paranoid than in nonparanoid patients (63). To the extent that this use of our cognitive-developmental model is valid, the model may provide a new framework for integrating other, seemingly disparate, findings regarding the association between emotion and outcome in schizophrenia, such as the finding that schizophrenic patients with depressive symptoms have better outcomes (64) and that high expressed emotion (open criticism, hostility, and affective overinvolvement) in families of schizophrenic patients is associated with poorer outcome (65, 66).

In summary, this discussion shows that when one adopts a cognitive-developmental approach to emotion and emotional awareness, one's thinking becomes more differentiated and integrated with regard to a number of different issues: the objective measurement of emotional experience, theories of emotion, strategies of clinical intervention, the process of change in psychotherapy, the phenomenon of alexithymia, the etiology of substance abuse, and the heterogeneity of outcome among patients with affective disorders and schizophrenia. Although we have not discussed them in this paper, this framework has a similar influence with regard to other areas of psychopathology as well as our understanding of phenomena related to the biological and social domains of emotion (our unpublished paper). An important test of the usefulness of this perspective will be the extent to which instruments

such as the Levels of Emotional Awareness Scale (unpublished paper of Lane et al.) that are specifically designed for the objective measurement of levels of emotional awareness facilitate empirical investigation of the questions outlined in this paper.

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