This article provides an overview of an attachment-based approach to formulation of behavioural and psychiatric disorder. The dynamic-maturational model (DMM) of attachment places many such problems within a context of family-attachment relationships. In the DMM, neurological maturation interacting with experience is central to the self-protective strategies that individuals develop to regulate familial attachments. When the relationships fail to protect child (or parent), more extreme strategies are organised to wrest some measure of safety and comfort from an otherwise threatening environment. A wide range of such strategies is described. It is argued that recognizing attachment strategies in patients is crucial to providing helpful treatment (and to reducing the risk of inappropriate treatment).

A Dynamic-Maturational Model of Attachment
Attachment theory is the newest major theory of adaptive and maladaptive functioning but, in the roughly 50 years since its initial formulation by Bowlby (1969–1982, 1973, 1980), it has attracted a great deal of attention and developed many variants. The approach discussed here is the Dynamic-Maturational Model (DMM) of attachment theory.

In the DMM, attachment is a theory about (a) protecting the self and one’s progeny from danger and (b) finding a reproductive partner (Crittenden, 1995). As a developmental theory, it is concerned about the interactive effects of genetic inheritance, maturational processes and person-specific experience to produce individual differences in strategies for keeping oneself safe. These strategies, that is, patterns of attachment, provide both a description of interpersonal behaviour and also a functional system for diagnosing psychopathology. Compared to many approaches to developmental psychopathology, the DMM places relatively more emphasis on the effect of maturation in creating possibility for change in developmental pathways and less on the cumulative effects of early conditions in limiting individual potential (Maughan & Kim-Cohen, 2005). Similarly, the DMM interprets adaptation, especially in childhood, in terms of fit of strategy to context, and emphasises the importance of adapting as opposed to focusing exclusively on security.

As a theory of psychopathology, the DMM is concerned with the effects of exposure to danger on psychological and behavioural functioning (Bowlby, 1973, 1980) and on failure to find a satisfying reproductive relationship (Crittenden, 1997a). Unlike other theories of psychopathology, attachment theory began with empirical studies of infants and mothers, rather than with adult disorder. This has yielded some unexpected hypotheses regarding how the immature mind construes threatening experience, together with growing empirical support for these. The DMM’s central contributions to understanding psychopathology are that (1) it differentiates many atypical strategies (as opposed to considering most psychiatric patients ‘disorganised’) (2) it provides a theoretical model of how strategies develop, in terms of maturing abilities to process information, and (3) it specifies the self-protective function of atypical strategies. That is, through the lens of the DMM, current maladaptive behaviour becomes meaningful in terms of the individual’s developmental history. This may help therapists to define psychological disturbance in self-enhancing rather than self-denigrating ways.

Attachment theory is not, however, a theory of treatment. Instead, the dynamic-maturational model can help to redefine the problem, offer new methods of assessment, and suggest when and with whom to use the various existing tools for psychological change.

Five central ideas underlie the DMM:
2. Self-protective strategies are learned in interaction with protective figures (attachment figures, most often one’s parents).

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3. Symptoms are functional aspects of dyadic strategy (e.g. acting out, inhibition) or consequent to a strategy (e.g. anxiety behaviours).

4. Strategies will change when individuals (a) perceive that the strategies do not fit the context (b) have alternative responses to offer, and (c) both believe and feel that it is safe to behave in the alternative ways.

5. Therefore, the focus of treatment should be on enabling individuals to reflect upon the conditions surrounding their behaviour, to practise new responses in safety, and ultimately to learn to fit strategy to context to yield maximum safety and comfort.

“Attachment theory proposes that humans have an innate propensity to organise self-protective and, after puberty, sexual strategies.”

Organised Self-protective Strategies
Attachment theory proposes that humans have an innate propensity to organise self-protective and, after puberty, sexual strategies (Bowlby, 1969/82; Crittenden, 1997a). The bases for this organisation are universal (genetically transmitted) forms of information processing that result in the individual’s directing preferential attention to stimuli tied to danger and sex. Specifically, the strategies are the outcome of processing two types of information: the temporal order of stimulation (that is, the order in which stimuli occur) and its intensity. These two types of information are processed separately by the brain to yield ‘cognitive’ information about causal relations and ‘affective’ information about the somatic feelings associated with contexts. Cognition, in other words, is the basis for learning theory (the temporal contingencies between events), whereas affect is tied to arousal (the feelings one has such as a racing heartbeat, a sinking feeling in the pit of one’s stomach).

Cognition, Affect, and Attachment Strategies
These two forms of predictive information (sequence-based and context-based) lead to two basic attachment strategies, Types A and C, respectively. Individuals using a Type A strategy organise around experienced outcomes that they expect will recur in the future. Such individuals minimise awareness of negative feelings, do that which they expect will be reinforced, and avoid doing that which they expect will be punished. Disorders of inhibition and compulsion may be tied to too great a reliance on cognitive information.

Individuals using a Type C strategy are motivated by somatic feelings (tied to intensity of stimulation and processing through the limbic structures). Lacking confidence in what will happen next, they focus on feelings as guides to behaviour. The crucial feelings are negative, in a gradient of increasing arousal from desire for comfort, to anger, fear, sexual desire, and pain. High arousal, however, can be expressed in many ways. These vary in (a) physiology, that is, the preparation of the body for self-protective and sexual action; (b) non-verbal signals, for example, nervous behaviour, intensely positive arousal, sexual signals; and (c) the verbal label given to the feeling, for example, arousal can be labelled ‘distress’, ‘excitement’ or ‘sexual desire’. Some feelings explicitly signal an uncomfortable state, for example, anger, desire for comfort, and desire for sexual contact; all of these, when satisfied, yield a lowering of arousal and an increase in comfort. Others falsely portray a positive state, for example, smiling when angry or frightened, expressing bravado when frightened, self-induced high arousal when depressed. Many, but not all, of the anxiety disorders are tied to too great a reliance on the organising, motivating, and communicative functions of negative affect. Such disorders include anxious fearfulness, agitation, disorders of aggression, and separation-based disorders.

Type B is the integration of cognition and affect and consists of open, direct, and reciprocal communication of expectations and feelings. Intra-personal reflection (integration) and inter-personal discussion and negotiation are crucial to avoiding the biases that are inherent in too great a reliance on either cognitive or affective information. The Type B strategy of psychological balance is, therefore, the least vulnerable to psychopathology. Moreover, balance enables individuals to be safe and feel comfortable in the widest range of circumstances. Balance is not, however, synonymous with security, because endangered people can be psychologically balanced and secure people may only have the good fortune of living in a safe and secure context. ‘Balance’, in other words, is a more psychologically demanding and less contextually dependent condition than ‘security’.

Self-Protective Strategies and Attachment Figures
In infancy and childhood, attachment figures both provide protection and teach children how to make meaning of information. After puberty, a sexual partner provides both the protective and reproductive functions. This relationship produces the next generation of children to whom parents will be protective attachment figures. In that role, they act on their own understanding of what is dangerous and safe, thus creating the environment in which their children learn to make self-relevant meanings. These meanings, however, reflect the child’s experience and may not be the same meanings and strategies as those used by the parents.

Sexuality and Attachment
Joining sexuality to attachment is unique to the DMM. The decision to link the two is based on several considerations. Theoretically, attachment fails to promote survival of the species if reproduction and protection of progeny are not tied to self-protection. Behaviourally, it is almost impossible to differentiate attachment and sexual behaviour because of their extensive overlap; both rely on approach, vocalisation,
smiling, kissing, caressing and holding/clinging. Because sexuality usually culminates within attachment relationships, it could be considered a late-maturing attachment behaviour. Affectively, the boundaries between affection, aggression, and fear, on the one hand, and sexual arousal, on the other, are highly permeable. States of high arousal can be transformed from one affective state to another or be mixed, for example, anger, fear, and intense desire for comfort can all be experienced as sexual arousal.

Functionally, both attachment and sexuality promote proximity, enduring dyadic bonds, and survival of the next generation. Moreover, when either sexuality or attachment fails to function, the other can fulfill the function, albeit in a distorted manner. That is, when attachment is distorted, such that a bond cannot be maintained or might become dangerous, sexual activity can initiate new unions, soothe disrupted unions, and deflect aggression. Conversely, when sexuality is blocked, attachment maintains unions. Tellingly, severe distortions of attachment almost always involve distorted sexuality as well, to the point that psychopathology essentially always involves disruption of both attachment and sexuality. The two systems are so intertwined that differentiating them may partially be an artifact of cultural values in the attempt to regulate reproduction in protective ways.

Danger and the Development of Strategies
Postulating the role of protection and reproduction in organising human behaviour permits attachment theorists to interpret psychopathological behaviour as maladaptive attempts to protect the self or find a reproductive partner. That is, instead of having a wide assortment of pathologies, such as DSM or ICD, the dynamic-maturational model hypothesises that maladaptation at each age will reflect both exposure to danger at that and prior ages and also the set of strategies that are possible at that age. When the danger cannot be resolved using strategies available to the not-yet-mature brain, the child is likely to apply an ill-fitting strategy in a not fully adaptive manner. For example, an infant may learn to inhibit display of negative affect if it has been severely punished. Toddlers may learn to exaggerate the display of negative affect if it increases the probability of eliciting otherwise unpredictable parental attention. Even in some cases where a suitable strategy is possible developmentally, it may not be used if the child has already learned not to attend to the relevant information or not to act in the necessary ways. For example, inhibition of negative affect may continue or be applied pervasively even after language has made verbal problem solving possible. The same logic applies to acting out.

On the other hand, biological insults (e.g. genetic anomalies, brain injury, or chemical disorders) can result in inappropriate behaviour or its absence. It is crucial in these cases to determine whether the behaviour is tied to interpersonal contingencies or is random. For example, a tic or stuttering might become pronounced when the parents were angry or when a separation was impending. That such behaviours are under operant control is indicated by the effectiveness of behavioural interventions to modify their display. If the behaviour is truly random, it is outside the DMM, but if it is tied to, or modified by, interpersonal behaviour, the behaviour can be considered within a strategic model. After all, all behaviour is genetically based, using neurological structures and regulated by biochemical processes. The crucial question has to do with when and how the behaviour is displayed interpersonally.

Transformations of Information and Expansion of the Array of Strategies
In this section, the process from perceiving stimulation to processing it, generating multiple representations from it, and, finally, acting strategically (or non-strategically) on the basis of the representation is presented. The discussion here is condensed and abstract, but can be found in a more elaborated form elsewhere (see Crittenden, 2006).

Transformations of Information
The only information that we have is information about the past, whereas the only information that we need is information about the future. A central function of the brain is to transform information about the past to yield representations of the probable relation of self to context in the future. The simplest transformations are the cognitive and affective representations just described. These can be transformed in five ways (Crittenden, 1997c). When the information directly predicts future conditions, it can be considered truly predictive. Sometimes predictive information is generated, but discarded from further processing (such that it does not affect behaviour). Individuals using a ‘pure’ Type A strategy omit their own negative affect from further processing, whereas individuals using a ‘pure’ Type C strategy omit cognition from further processing. This is omitted information. In addition, however, some retained temporal information doesn’t predict the future consequences and some retained feelings do not indicate future conditions. When superstitious associations are made between current conditions and future outcomes, the information generated is considered erroneous. Compulsive behaviour and anxious feelings that do not predict safety or danger are examples of erroneously predictive information. Infants are capable of making all three of these transformations.

More complex representations are generated as the brain matures and information can be processed through additional parts of the brain; these meanings create a gap between what was experienced and what is represented. That is, appearances are not always reality and more complexly transformed information is needed to reflect that. For example, children can omit some information about the past from further processing, thus exaggerating the impact of the remaining information on how they represent the probable future. Either cognition or affect can produce such distorted predictions of the future. Preschool-aged children can distort part of the retained information while concurrently excluding other
information from behaviour. For example, an aroused preschooler can display exaggerated anger while inhibiting the display of fear and desire for comfort. Information can also produce falsified prediction. Preschool-aged children can falsify affect. Children (and adults) using the Type A strategy often transform true, but forbidden, negative affect into apparent false positive affect. False positive affect misleads observers about the individual’s true inner state — and possibly actions as well, if the inner state motivates actual behaviour. By the school years, children can falsify cognition, that is, they can convey the opposite of what is expected and, by acting on that representation, they can mislead others about their future behaviour. Delinquent behaviour often relies on false cognition.

These five sorts of transformations (i.e. truly predictive, omitted from prediction, erroneously predictive, distorted prediction, and falsified prediction) enable individuals to regulate the probability with which they identify danger and organise self-protective responses (Crittenden, 1997b). The more individuals feel threatened by imminent and severe danger, the less error they can tolerate; consequently, distorting transformations usually increase the probability of over-identifying danger, and are also used more often by people who have been endangered. For example, people who endured bombing during World War II may respond with dramatically inappropriate self-protection to the unexpected sound of fireworks or awaken in a cold sweat to the sound of propeller airplanes. For a case example, see Kozlowska, Foley, & Crittenden, this issue.

The Mind and Representation

These transformations yield dispositional representations, that is, patterns of neurological activity that dispose individuals to act in some manner (Damasio, 1994). Depending upon whether the representation is based on temporal order or intensity of stimulation, individuals are disposed to behave, based on expected consequences or on feelings. Thus, the various representations may dispose an individual to incompatible responses. In that case, the mind must either select one response to enact or construct a new integrative response.

When individuals estimate the danger to be very high, they are propelled into action on the basis of the preconceptual representation that most clearly signals threat. This representation is likely to be an over-estimation of threat, and because it has been processed only precortically, error is not easily discerned or corrected. Thus, behaviour will often be maladaptive. When this happens sufficiently often, it may be deemed psychopathological. Because of cortical immaturity and greater vulnerability to danger, children are at particular risk for over-attributions of danger and maladaptive responses. Maturation and development promote correction of these errors — except in cases of severe, ongoing, and deceptive danger. In these cases, the pervasive and ambiguous nature of threat increases the probability that the individual will incompletely process the information regulating behaviour. The outcome in adolescence or early adulthood can be very complexly distorted patterns of behaviour.

Multiple Representations Conceptualised as ‘Memory Systems’

Information processing yields numerous different dispositional representations. In a simplified description of a complex and incompletely understood process, one could say that there are three levels of transformation: (a) preconscious and non-verbal, (b) conscious and verbal, and (c) reflective integration. These yield six memory systems (Schacter & Tulving, 1994) that can provide a working model of how behaviour is organised.

The preconscious, non-verbal memory systems are procedural memory (for cognitive, temporally ordered information) and imaged memory (for affective, sensory information). These function from birth on, generating behaviour rapidly and self-protectively. Procedures are sensory-motor schemata that operate on the basis of reinforcement contingencies, in preconscious, almost reflexive ways. Procedural schemata either inhibit certain behaviours (for example, shouting or crying) or produce repetitive sorts of behaviour (i.e. compulsions) that the individual usually cannot explain rationally. Sensory images associate some aspect of the sensory context (i.e. visual, auditory, gustatory, olfactory, and tactile sensations) with an expectation of what will occur next, causing changes in the body (somatic images) preparatory to the expectation. Pavlov’s dog salivating is an example (see Fig. 1).

The slower, but more open to conscious review, forms of cognition and affect are semantic memory and connotative language, respectively. Semantic memory is verbal and consists of generalisations regarding how things have been in the past and how they are expected to be in the future. Often, however, semantic information is treated as how things should be. As a consequence, there can be a very considerable gap between semantic representations and behaviour. Connotative language both communicates feelings (or the absence of them) verbally and also elicits feelings in the listener. Although these four types of representation are integrated with information about the immediate temporal and spatial context in working memory, meaning-generating integration is associated with more complex processes (see Fig. 1).

The various cognitive and affective representations can be knit together to yield occasion-specific episodes (either recalled or imagined), beginning at about three years of age. After about six years of age, reflective functioning can be used both to modify existing information and also to generate new information. Because reflective integration requires extensive cortical processing, it develops slowly across childhood and into early adulthood and takes longer to complete than preconscious processing. Consequently, integrative reflection is rarely used when danger is close in time or space (see Fig. 1).

Self-Protective Organisations of Behaviour

Ainsworth’s classic work identified three basic patterns of attachment (Ainsworth, 1979); the brilliance of this...
tricotomy has been confirmed in a wealth of studies by other investigators. Put very succinctly, Type A individuals tend to omit their own negative feelings from processing and to act in accordance with expected consequences. Type C individuals do the opposite: they act in accordance with their negative feelings, with little attention to consequences. Both tend to overestimate the probability of danger and act in an unnecessarily self-protective manner. Type B individuals use both sources of information; they have balanced mental processes and adaptive behaviour (see Fig. 2).

Both Crittenden and Main have expanded the Ainsworth model. Main’s ABCD model is based on the work of Main and Solomon (1990) and defines almost everything outside of the Ainsworth patterns as ‘disorganised’ or ‘cannot classify’. Empirically, it reduces the number of individuals assigned to the Type C category, subsuming most Type C children within the ‘D’ category (van IJzendoorn, Goldberg, Kroonenberg & Frenkel, 1992; see Fig. 3).

The DMM has an expanded the array of strategies that include compulsive Type A strategies and obsessive Type C strategies (Crittenden, 1995, 2002). The higher numeral strategies reflect transformations of information and organisations of behaviour that infants cannot manage. That is, distorted affect and cognition occur in mid-model strategies, whereas falsified affect and cognition occur toward the bottom of the model. The array of patterns increases in synchrony with maturation, with psychopathy becoming possible only in the early twenties (see Fig. 4).

Briefly, the B strategies are balanced with regard to cognition and affect. A1–2 is mildly dismissing of negative affect, but under serious threat, individuals using these strategies can gain access to needed affect. Individuals using the compulsive caregiving (A3, Bowlby, 1973) and compulsive compliant

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**FIGURE 1**
Six memory systems as a function of cognitive and affective information.

Note: 1 These three memory systems are functional at birth.
2 Semantic memory and connotative language begin to function after about two years of age.
3 Episodic memory begins to function after about three years of age.
4 Source memory begins to function after about seven years of age.
5 Integrative functioning is always present, but is very limited until the school years and not mature until the 30s.

**FIGURE 2**
Ainsworth’s model of patterns of attachment.
circumstances could yield different outcomes. Representation of events, suggests a process by which similar outcomes. Very threatened individuals may delusionally ideализie endangering attachment figures (the `hostage syndrome', Crittenden, 2002) or rely almost entirely on others to define them (externally assembled self, Crittenden, 2002).

On the opposite (affective) side of the model, C1–2 is a slight exaggeration of negative affect that can be brought under control when safety requires it. Individuals using an aggressive and feigned helpless strategy (C3–4, Crittenden, 1995), on the other hand, heighten the display of affect — even when it brings undesirable consequences. Individuals using a punitive or seductive strategy (C5–6, Crittenden, 1994) are not only obsessed with specific attachment relationships, but also mislead others, especially attachment figures, about their intentions. Individuals using a menacing or paranoid strategy (C7–8, Crittenden, 1995) threaten or fear everyone, act in deceptive ways, and feel safe almost none of the time.

There are also various combinations of A and C strategies, of which psychopathy (A1–8C1–8, Crittenden, 1995) is the most distorted, dangerous, and endangered.

These compulsive and obsessive strategies are meant to reflect a gradation of dimensional processes, not categorical absolutes. Furthermore, individuals are expected to move among them, as a function of an ongoing, dynamic interaction of past experience, maturation, and current conditions. The strategies encompass many commonly recognised forms of maladaptive behaviour. They differ from symptom-based diagnoses in that strategies are seen as a functional attempt to reduce danger as represented, or misrepresented, by the individual.

Representation as a Mediating Variable
Recognising that experience and behaviour are connected by the process of mental representation helps to explain why different individuals exposed to similar dangers can have different outcomes. Representation, in turn, reflects the effects of prior experience and processing on brain organisation. The representational process itself, rather than genes or experience directly, organises individuals' behaviour. This suggests the need to differentiate between contributing, necessary, and sufficient conditions for psychopathology. There is little evidence that genes alone are sufficient to cause mental illness, nor is it evident that they are an essential condition. To the contrary, genetic influence more often functions as a contributing factor. Neither, however, does experience determine outcomes. Attachment theory, through its emphasis on individual representation of events, suggests a process by which similar circumstances could yield different outcomes.

Developmental Pathways
The dynamic-maturational model of attachment theory addresses the process by which normal potential differentiates into a wide range of human displays, including those considered psychopathological. A particular advantage of this perspective is that the most serious disorders of adolescence and adulthood, the personality disorders and psychoses, can be seen as the cumulative effect of a series of developmental insults and consequent transformations of information. Each adds further distortion to previously distorted functioning. That is, given numerous branching points in development, the cumulative effect of always selecting a distorted pathway leading away from balance and normality will be an array of serious disorders that, when viewed only in adulthood, appear incomprehensible. Following the behaviour forward from infancy renders the accretion of distortion comprehensible, albeit, in a person-specific manner. This, in turn, might make it possible to identify risk and intervene early.

Development in Infancy
Maturation combined with experience enables children to develop new strategies that better represent the relation of self to context. Until adulthood, however, children cannot account adequately for all types of information. Moreover, the context keeps changing as children mature, i.e. challenges are not static. Consequently, each developmental step forward contains the opportunity to correct past error and generate more adaptive behaviour, and also the risk that new challenges will prevent integration and elicit more extreme responses. In infancy, the problems are to (1) learn which signals affect adults’ behaviour (2) share affective states with others (e.g. attunement), and (3) regulate arousal to maintain, for increasingly long periods of time, a state of moderate and attentive arousal. Failure to accomplish these with attachment figures leads to inhibiting or exaggerating affective displays (i.e. Types A or C strategies). If these don’t function to change the probabilities that parents will behave in a particular way, the infant may become non-strategic (i.e. depressed with low arousal, disoriented with high arousal, or vulnerable to intrusions of high arousal in an inhibitory strategy). In infancy, these three states appear as (1) sad, withdrawn passivity (2) aimless agitation without interpersonal focus and, sometimes, with self-stimulation (e.g. autistic spectrum symptoms), and (3) brief seizure-like losses of inhibitory control at moments of intense stress.

The Preschool Years
In the preschool years, the risks are that some children will fail to establish relations with non-familial adults and children, and that those who choose a strategy of escalation of affect may harm themselves or elicit harm from others while trying to provoke a response. That is, the extreme Type C patterns carry more immediate and obvious risks than the Type A inhibitory strategies. In addition, preschool-aged children make the transition from action to language. The risk is
that Type A children will learn that their true negative feelings cannot be communicated in words to parents, i.e. they are not appropriate feelings from the parents’ perspective. Thus the children learn to use language to please the listener rather than to express the self. Type C children are more likely to learn that others can use language to deceive them, especially about the future. The risk is that they will continue to communicate through action, instead of language.

The School Years

During the school years, the cortex matures in ways that, for the first time, permit children to reflect on their own behaviour. Children who are not helped to do this by their attachment figures will find it increasingly difficult to regulate their behaviour. This will affect both their inner experience of themselves and their outer experience of relationships with peers (including both a best friend peer attachment and also groups of friends). Usually, this failure occurs when (1) the costs of failing to be good are so great that the child relies too heavily on adults’ perspectives or (2) consequences are so unpredictable that the child relies too heavily on his or her own perspective. The former satisfies adults (and goes unnoticed or is even praised), whereas the latter upsets adults and results in punishment and referrals to mental health or correction services. To avoid the latter outcomes, some Type C children begin to use language to deceive others.

Puberty and Adolescence

At puberty, the reproductive system becomes functional and the challenges are to (1) integrate sexual desire with previously existing feelings of both comfort and joy, and also desire for comfort, anger, fear, and pain and (2) engage in an intimate heterosexual relationship that can become the foundation for selecting a lifelong reproductive partner. Failure to integrate the onset of sexuality with attachment can lead to isolation, promiscuity, or dangerous sexual entanglements. In addition, failure to integrate different sources of information will interfere with adolescents’ ability to differentiate appearance from reality. In such cases, adolescents will be unprepared to select a partner wisely in early adulthood.

Cortical maturation is complete somewhere in the early 30s. Consequently, the transition to adulthood presents unique risks.

Assessment

Attachment researchers have developed a series of age-specific procedures to permit researchers and clinicians to assess individuals’ representations and behaviour. All differentiate Types A, B, and C (including sub-classifications). The discourse-based assessments also permit evaluation of integrative capacity. The DMM series of developmental assessments is described here.

Using Verbal Procedures: The School Years, Adolescence, and Adulthood

The discourse-based assessments include the School-Aged Assessment of Attachment (SAA), the Transition to Adulthood Attachment Interview (TAAI) adapted for 16–25-year-olds, and the Adult Attachment Interview (AAI, George, Kaplan & Main, 1986). The TAAI and AAI have been modified to fit the DMM (Crittenden, 1999, 2004). These tools permit both assignment of strategy and the form of integration: integrated, reorganising, disrupted (by unresolved trauma or loss), disoriented, affective intrusions, and depressed. Although the results of these assessments can be

“Cortical maturation is complete somewhere in the early 30s. Consequently, the transition to adulthood presents unique risks.”
Psychological treatment has focused either on treating symptoms or on deep structural change in personality. More recently attachment has fostered a focus on achieving secure (Type B) attachment. The DDM suggests a somewhat different approach that combines elements of the other approaches. From psychoanalytic theory, the DDM borrows the ideas of (1) deep change, in this case, change in how the individual processes information regarding safety versus danger, and sexual opportunity versus isolation (2) the power of feelings to motivate behaviour (3) the notion that symptoms can serve different functions and that it is the function, and not the symptom, that requires attention, and (4) use of the patient–therapist relationship as a part of the treatment. Behavioural treatment has contributed awareness of the importance of (a) temporal order and (b) reinforcement schedules, especially as uncertainty about reinforcement affects organisation of the Type C strategy. Indeed, the power of reinforcement schedules implicitly confirms (c) the importance of interpersonal processes for behavioural change. From family systems theory, the DMM borrows the ideas of (1) the familial context providing the primary occasion for employing and maintaining self-protective strategies (2) family change being an important means of changing individuals’ strategies, and (3) conscious recognition of preconscious procedural enactments during therapy sessions being crucial to change. Cognitive therapy contributes its focus on (a) procedural behaviour and (b) semantic representations as well as the importance of (c) specifying and testing the effectiveness of psychotherapy.

The central treatment issue is to enable the individual to generate and apply adaptive self-protective strategies at the right time and in the right context. That is, the goal is psychological balance and not security. Psychological balance is possible for everyone, whereas security is partially dependent upon external circumstances beyond the control of individuals. Psychological balance refers to the individual’s ability to use all types of information (both cognitive and affective, in all the memory systems), without preconscious biases in favor of or against any particular form of information, in consciously reflective ways that permit him/her to select the strategy most likely to be efficacious in each context. That is, there is no ‘right’ behavioural strategy; each must fit its occasion and context. Nevertheless, the most adaptive psychological strategy is reflective access to as wide a range of information as possible and the ability to integrate it in novel ways.

The focus on protection clarifies the importance of creating in treatment a safe environment (from the perspective of the patient) in which new strategies can be learned without fear or threat. As opposed to symptom reduction, a DMM presumes that the patient’s existing strategy is (or was) useful in some context and needs to be (1) repaired (if it is in a depressed, disoriented, or disorganised form (2) freed of erroneous, distorted, and false information, and

Symptoms, Strategies, and Treatment

Current diagnostic procedures rely on symptom clusters and tend not to address the etiology of the disorder, the context of its display, or its treatment. The approach offered here addresses functional formulation of the problem, yielding hypotheses about developmental pathways and implications for treatment. In the DMM, symptoms are seen as serving a function or as being imagined (preconsciously) to serve a function (which, in fact, they do not serve). An example of the latter would be superstitious behaviour based on erroneous information. Underlying the symptoms are the dispositional representations. Determining which dispositional representation regulates behaviour, i.e. which organises the behavioural strategy, and which lie latent and unseen is crucial to identifying where to direct treatment (and thus to selecting methods/tools).

Identifying the process by which layers of distortion are added, in a developmental sequence tied to brain maturation, has several advantages. Because a developmental perspective makes maladaptive behaviour meaningful, it can help therapists to communicate with patients. Further, it suggests developmentally earlier points that might be open to intervention and prevention. Lastly, it suggests new approaches to treatment, particularly treatments that address the strategic function of the distorted process.

Psychological Opposites

In the DMM, Types A and C are psychological opposites. The transformations that lead to the Type A strategy are based on a different characteristic of the incoming signal (i.e. temporal order or intensity) and are processed through different parts of the brain than are involved in processing the transformations associated with Type C.

Because they result from opposite processes, they are likely to be corrected by opposite forms of treatment. For example, a Type A individual might benefit from techniques that focused on feeling and somatic representation of feeling, whereas this treatment might increase the already exaggerated somatic symptoms of distress in a Type C individual. Similarly, a Type C individual might benefit from a behavioural approach emphasising the predictable consequences of the individual’s actions, whereas this might expand the repertoire of compulsive behaviour of a Type A person. If this hypothesis were shown to be true, it would imply that clustering patients by symptom-based diagnoses would usually lead to mixtures of individuals using different psychological and behavioural strategies. Treating all the members of mixed-strategy groups with the same technique(s) would be helpful to some and harmful to others. Most therapists know that they are unable to help some patients, but fewer imagine that they might augment disorder by applying treatment strategies that confirm the accuracy of individuals’ maladaptive strategies.

Treatment Goals and Processes

Psychological treatment has focused either on treating symptoms or on deep structural change in personality. More recently attachment has fostered a focus on achieving secure (Type B) attachment. The DDM suggests a somewhat different approach that combines elements of the other approaches. From psychoanalytic theory, the DDM borrows the ideas of (1) deep change, in this case, change in how the individual processes information regarding safety versus danger, and sexual opportunity versus isolation (2) the power of feelings to motivate behaviour (3) the notion that symptoms can serve different functions and that it is the function, and not the symptom, that requires attention, and (4) use of the patient–therapist relationship as a part of the treatment. Behavioural treatment has contributed awareness of the importance of (a) temporal order and (b) reinforcement schedules, especially as uncertainty about reinforcement affects organisation of the Type C strategy. Indeed, the power of reinforcement schedules implicitly confirms (c) the importance of interpersonal processes for behavioural change. From family systems theory, the DMM borrows the ideas of (1) the familial context providing the primary occasion for employing and maintaining self-protective strategies (2) family change being an important means of changing individuals’ strategies, and (3) conscious recognition of preconscious procedural enactments during therapy sessions being crucial to change. Cognitive therapy contributes its focus on (a) procedural behaviour and (b) semantic representations as well as the importance of (c) specifying and testing the effectiveness of psychotherapy.

The central treatment issue is to enable the individual to generate and apply adaptive self-protective strategies at the right time and in the right context. That is, the goal is psychological balance and not security. Psychological balance is possible for everyone, whereas security is partially dependent upon external circumstances beyond the control of individuals. Psychological balance refers to the individual’s ability to use all types of information (both cognitive and affective, in all the memory systems), without preconscious biases in favor of or against any particular form of information, in consciously reflective ways that permit him/her to select the strategy most likely to be efficacious in each context. That is, there is no ‘right’ behavioural strategy; each must fit its occasion and context. Nevertheless, the most adaptive psychological strategy is reflective access to as wide a range of information as possible and the ability to integrate it in novel ways.

The focus on protection clarifies the importance of creating in treatment a safe environment (from the perspective of the patient) in which new strategies can be learned without fear or threat. As opposed to symptom reduction, a DMM presumes that the patient’s existing strategy is (or was) useful in some context and needs to be (1) repaired (if it is in a depressed, disoriented, or disorganised form (2) freed of erroneous, distorted, and false information, and
(3) applied with greater specificity. The combination of using existing strategies appropriately and developing a wider repertoire of strategies should go a long way to making the individual’s behaviour adaptive in the present. Managing future challenges, however, means that the patient must learn to use reflective integration. Without that, the therapy is like a band-aid for the wound without the ability to avoid injury or recover from it in the future.

The DMM suggests change is best accomplished with the guidance and support of an attachment figure. Given the lack of such figures in patients’ lives, or their inability to foster change, therapists can function as transitional attachment figures. In this role they accompany their patients (and sometimes guide them) from the sense of threat, which is the patient’s reality, to therapists’ understanding of the possibility of safety and comfort. In this sense, the therapy is co-created. That is, therapies cannot be boxed, copyrighted, or materialised before the patient is seen. Crucial in the therapeutic process is that patients must have some degree of control over what happens to them or they cannot feel safe. For children, this implies that the parents must be included.

Validity and Directions for Further Research

Infants and Preschool-Aged Children

Published studies of infants (Cassidy, Zoccolillo & Hughes, 1996; Crittenden, 1985; Jacobsen & Miller, 1998; Leadbeater & Bishop, 1994; Leadbeater, Bishop & Raver, 1996; Leventhal, Jacobsen & Miller, 2004; Muller-Nix, Forcada-Guex, Pierrehumbert, Jaunin, Borghini & Ansermet, 2004; Pacquette, Zoccolillo & Bigras, 1999; Robert-Tissot, Cramer, Stern, Serpa et al., 1996; Ward, Kessler & Altman, 1993) and preschool-aged children (Chisolm, 1998; DiVito & Hopkins, 2001; Fagot & Pears, 1996; Gunnar, Morison, Chisholm & Schuder, 2001; Teti & Gelfand, 1997; Vondra, Shaw, Swearingen, Cohen & Owens, 2001; Vondra, Hommerding & Shaw, 1999) suggest that the DMM has validity for maltreatment and behavioural or psychiatric disorder.

Adolescents and Adults

Unfortunately, there are fewer published papers using this model with adolescents and adults (Black, Jaeger, McCartney & Crittenden on adolescents, 2000; Crittenden & Heller on post-traumatic stress disorder, under review; Hughes, Kendrick & Hardy on anxiety disorders, 2001; Ringer & Crittenden on the eating disorders, under review). However, several unpublished dissertations are consistent with this thinking (Seeefeldt on maltreatment, 1997; Rindal on avoidant personality disorder, 2000; Zachrisson on eating disorders, 2004).

Research Issues

Together, these studies suggest that the attachment strategies and distortions of information processing may be associated differentially with several types of psychiatric disorder. In addition, these studies suggest that disorders with different symptoms may sometimes be functionally similar at the levels of distorting transformations and functional self-protective strategy. If this is the case, treatment might be improved by clustering patients on the basis of these similarities rather than on the basis of symptom-based diagnoses. Certainly, continuing to explore the relation between DSM or ICD diagnoses and the DMM classifications is warranted.

More important, however, might be exploration of the relations between treatment technique, patient attachment strategy, and treatment outcome (success, no effect, and harm). A series of doctoral dissertations could test the relation between particular treatment strategies and changes in mental processing of information. Having this information would be a boon to the psychopathology field at large, regardless of what diagnostic model was used.

Conclusions

The dynamic-maturational model of attachment theory focuses on protection and reproduction as central organisational functions, and on the array of ways that these may be manifested. ‘Representation’ is understood as being an intra-personal process derived from the inter-personal context, especially attachment figures. Behavioural strategies, on the other hand, are always interpersonal, and should be described as something a person does and not as a characteristic of the person, that is, ‘an individual using a Type C strategy’ as opposed to ‘a Type C person’. Both representation and strategic action are treated in attachment theory as being the interactive outcome of universal maturational processes, individual genetic differences, and unique environmental contexts.

Attachment theory’s contributions to understanding psychopathology include (a) a model of functional formulations (as opposed to symptom-based diagnoses) (b) development-based hypotheses regarding the relation of childhood experience to later psychopathology, and (c) an information processing model with implications for treatment. Its contributions to treatment are to (1) suggest that patients can be grouped in new ways that might both facilitate treatment and also reduce harm to patients from misapplied psychotherapy, and (2) provide a rationale for assessing the specific effects of treatment strategies on information processing. If patients were grouped in terms of their pattern of transforming information and then treatment techniques were chosen on the basis of how they effect information processing, we might improve the effectiveness of psychotherapy and shorten its duration. Doing so would require that therapists become skilled in a wide range of methods of delivering treatment without limiting themselves to belief in one theory of treatment. Moreover, for disorders requiring more than brief counselling, therapy will be more effective if therapists function as transitional attachment figures — who both establish personal relationships with patients and limit those relationships to the context of therapy.
Encouraging therapists to gain skills outside of their current training might be difficult, and some therapists might find it uncomfortable to function as transitional attachment figures to patients. The hope of becoming more effective with patients might be sufficient, however, to encourage psychotherapists to add to their repertoire of strategies — precisely what the dynamic-maturational model indicates that patients should do to improve their effectiveness in dealing with life’s problems. Bridging the barriers between different approaches to psychotherapy seems almost analogous to psychological integration. Possibly this is the time to embark on a process of integrating the schools of psychotherapy in the hopes of improving the success rate of psychotherapy, reducing the long-term cost of treatment, and increasing the quality of life of endangered, endangering, and vulnerable humans.

Endnotes

1. The ABC tricotomy was introduced by Ainsworth and is used by most attachment researchers. Because the terms ‘secure’, ‘anxious avoidant’, and ‘anxious ambivalent’ were applied to infant behaviour, but do not accurately describe the behaviour of older individuals, they are not used in the DMM.

2. This term is used in preference to ‘internal working model’ because current data from the cognitive neurosciences indicate that there are always multiple representations and that representations are not stored or retained (as models), but rather are emergent, fleeting neurological events connected temporally only in the probability of particular synaptic sequences being reactivated.

3. Although Ainsworth did not herself place her patterns in a figure such as this, when I did so and added A/C at the bottom to close the circle for my doctoral dissertation under her supervision, her comment was, ‘I always knew they [the patterns] would come together in a circle’. The expansion of the circle to include compulsive and coercive strategies in Crittenden (1994) also met with Ainsworth’s approval prior to publication.

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