"The Developing Child and Mental Illness"

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The Developing Child and Mental Illness

3 CEU Credit Hours

Course Description:
Understand the developmental processes that affect children and adolescents as relates to onset of mental illness.

Course Objectives:
At the conclusion of this course, the professional will be able to:

1) Identify key theories of childhood development
2) Apply and understanding of how childhood development contributes to mental illness
3) Create treatment plan objectives for clients consistent with developmental data
4) Differentiate between psychosocial stressors and biological causes of childhood mental illness

Purpose of this course:
The purpose of the course is to assist mental health, family counseling and social work professionals developing an deeper understanding of factors contributing to childhood mental health disorders and creating treatment objectives that are age appropriate for impacting clients.

Course Outline:
Part 1: Course organization, Documentation and Introduction.
Part 2: Reading of the course materials (this document)
Part 3: Administration and Completion of the Evaluation of Learning Quiz
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3 Clock Hours / CE Credits

If you ever have any questions concerning this course, please do not hesitate to contact **PeachTree at (800) 390-9536**.

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The Developing Child and Mental Illness

3 CEU Credit Hours

Spanning roughly 20 years, childhood and adolescence are marked by dramatic changes in physical, cognitive, and social-emotional skills and capacities. Mental health in childhood and adolescence is defined by the achievement of expected developmental cognitive, social, and emotional milestones and by secure attachments, satisfying social relationships, and effective coping skills. Mentally healthy children and adolescents enjoy a positive quality of life; function well at home, in school, and in their communities; and are free of disabling symptoms of psychopathology (Hoagwood et al., 1996).

It is important to underscore the often heard admonition that "children are not little adults." Even more than is true for adults, children must be seen in the context of their social environments, that is, family, peer group, and their larger physical and cultural surroundings. Childhood mental health is expressed in this context, as children proceed through development.

Development, characterized by periods of transition and reorganization, is the focus of much research on children and adolescents. Studies focus on normal and abnormal development, trying to understand and predict the forces that will keep children and adolescents mentally healthy and maintain them on course to become mentally healthy adults. These studies ask what places some at risk for mental illness and what protects some but not others, despite exposure to the same risk factors.

In addition to studies of normal development and of risk factors, much additional research focuses on mental illness in childhood and adolescence and what can be done to prevent or treat it. The science is challenging because of the ongoing process of development. The normally developing child hardly stays the same long enough to make stable measurements. Adult criteria for illness can be difficult to apply to children and adolescents, when the signs and symptoms of mental disorders are often also the characteristics of normal development. For example, a temper tantrum could be an expected behavior in a young child but not in an adult.

At some point, however, it becomes clearer that certain symptoms and behaviors cause great distress and may lead to dysfunction of children, their family, and others in their social environment. At these points, it is helpful to consider serious deviations from expected cognitive, social, and emotional development as "mental disorders." Specific treatments and services are available for children and adolescents with such mental disorders, but one cannot forget that these disorders emerge in the context of an ongoing developmental process and shifting relationships within the family and community. These developmental factors must be carefully addressed, if one is to maximize the healthy development of children with mental disorders, promote remediation of associated impairments, and enhance their adult outcomes.

The developmental perspective helps us understand how estimated prevalence rates for mental disorders in children and adolescents vary as a function of the degree of impairment that the child experiences in association with specific symptom patterns. For example, the MECA Study (Methodology for Epidemiology of Mental Disorders in Children and Adolescents) estimated that almost 21 percent of U.S. children ages 9 to 17 had a diagnosable mental or addictive disorder associated with at least minimum impairment.

Table 3-1. Children and adolescents age 9–17 with mental or addictive disorders, combined MECA sample, 6-month (current) prevalence* (%)
Anxiety Disorders 13.0
Mood Disorders 6.2
Disruptive Disorders 10.3
Substance Use Disorders 2.0
Any Disorder 20.9
* Disorders include diagnosis-specific impairment and Child Global Assessment Scale _70 (mild global impairment)
Source: Shaffer et al., 1996a

When diagnostic criteria required the presence of *significant* functional impairment, estimates dropped to 11 percent. This estimate translates into a total of 4 million youth who suffer from a major mental illness that results in significant impairments at home, at school, and with peers. Finally, when *extreme* functional impairment is the criterion, the estimates dropped to 5 percent.

Given the process of development, it is not surprising that these disorders in some youth are known to wax and wane, such that some afflicted children improve as development unfolds, perhaps as a result of healthy influences impinging on them. Similarly, other youth, formerly only "at risk," may develop full-blown forms of disorder, as severe and devastating in their impact on the youth and his or her family as are the analogous conditions that affect adults. Characterizing such disorders as relatively unchangeable underestimates the potential beneficial influences that can redirect a child whose development has gone awry.

Likewise, characterizing children with mental disorders as "only" the victims of negative environmental influences that might be fixed if societal factors were just changed, runs the risk of underestimating the severity of these conditions and the need for focused, intensive clinical interventions for suffering children and adolescents. Thus, the science of mental health in childhood and adolescence is a complex mix of the study of development and the study of discrete conditions or disorders. Both perspectives are useful.

Each alone has its limitations, but together they constitute a more fully informed approach that spans mental health and illness *and* allows one to design developmentally informed strategies for prevention and treatment.

Development is the lifelong process of growth, maturation, and change that unfolds at the fastest pace during childhood and adolescence. An appreciation of normal development is crucial to understanding mental health in children and adolescents and the risks they face in maintaining mental health. Distortions in the process of development may lead to mental disorders. This section deals with the normal development of understanding (cognitive development) in young children and the development of social relationships and temperament.

Historically, the changes that take place in a child's psyche between birth and adulthood were largely ignored. Child development first became a subject of serious inquiry at the beginning of this century but was mostly viewed from the perspective of mental disorders and from the cultural mainstream of Europe and white America. Some of the "grand theories" of child development, such as that propounded by Sigmund Freud, grew out of this focus, and they unquestionably drew attention to the importance of child development in laying the foundation for adult mental health. Even those theories that resulted from the observation of healthy children, such as Piaget's theory of cognitive development, paid little attention to the relationship between the development of the "inner self" and the environment into which the individual was placed.

In contrast, the interaction of an individual with the environment was central to the school of thought known as behaviorism. Theories of normal development are presented briefly below, because they form the basis of many current approaches to understanding and treating mental illness and mental health problems in children and adults. These theories have not achieved the broader objective of explaining how children grow into healthy adults. More study and perhaps new theories will be needed to improve our ability to guide healthy child-rearing with scientific evidence.

Freud and the psychoanalyst Erik Erikson proposed a series of stages of development reflecting the attainment of biological objectives. The stages are expressed in terms of functioning as an individual and with others—within the family and the broader social environment (particularly in Erikson's theories). Although criticized as unscientific and relevant primarily to the era and culture in which they were conceived, these theories introduced the importance of thinking developmentally, that is, of considering the ever-changing physical and psychological capacities and tasks faced by people as they age. They emphasized the concept of "maturation" and moving through the stages of life, adapting to changing physical capacities and new psychological and social challenges. And they described mental health problems associated with failure to achieve milestones and objectives in their developmental schemes.

These theories have guided generations of psychodynamic therapists and child development experts. They are important to understand as the underpinnings of many therapeutic approaches, such as interpersonal therapy, some of which have been evaluated and found to be efficacious for some conditions. By and large, however, these theories have rarely been tested empirically.

The Swiss psychologist Jean Piaget also developed a stage-constructed theory of children's intellectual development. Piaget's theory, based on several decades' observations of children (Inhelder & Piaget, 1958), was about how children gradually

acquire the ability to understand the world around them through active engagement with it. He was the first to recognize that infants take an active role in getting to know their world and that children have a different understanding of the world than do adults. The principal limitations of Piaget's theories are that they are descriptive rather than explanatory. Furthermore, he neglected variability in development and temperament and did not consider the crucial interplay between a child's intellectual development and his or her social experiences (Bidell & Fischer, 1992).

Other approaches to understanding development are less focused on the stages of development. Behavioral psychology focused on observation and measurement, explaining development in terms of responses to stimuli, such as rewards. Not only did the theories of the early pioneers (e.g., Pavlov, Watson, and Skinner) generate a number of valuable treatments, but their focus on precise description set the stage for current programs of research based on direct observation. Social learning theory (Bandura, 1977) emphasized role models and their impact on children and adolescents as they develop. Several important clinical tools came out of behaviorism (e.g., reinforcement and behavior modification) and social learning theory (cognitive-behavioral therapy). Both treatment approaches are used effectively with children and adolescents.

It is common knowledge that infants and, for the most part, their principal caretakers typically develop a close bond during the first year of life, and that in the second year of life children become distressed when they are forcibly separated from their mothers. However, the clinical importance of these bonds was not fully appreciated until John Bowlby introduced the concept of *attachment* in a report on the effects of maternal deprivation (Bowlby, 1951). Bowlby (1969) postulated that the pattern of an infant's early attachment to parents would form the basis for all later social relationships. On the basis of his experience with disturbed children, he hypothesized that, when the mother was unavailable or only partially available during the first months of the child's life, the attachment process would be interrupted, leaving enduring emotional scars and predisposing a child to behavioral problems.

A mother's bond with her child often starts when she feels fetal movements during pregnancy. Immediately after birth, most, but by no means all, mothers experience a surge of affection that is followed by a feeling that the baby belongs to them. This experience may not occur at all or be delayed under conditions of addiction or postnatal depression (Robson & Kumar, 1980; Kumar, 1997).

Yet, like all enduring relationships, it seems that the relationship between mother and child develops gradually and strengthens over time. Some infants who experience severe neglect in early life may develop mentally and emotionally without lasting consequences, for example, if they are adopted and their adoptive parents provide sensitive, stable, and enriching care, or if depressed or substance-abusing mothers recover fully (Koluchova, 1972; Dennis, 1973; Downey & Coyne, 1990). Unfortunately, however, early neglect is all too often the precursor of later neglect. When the child remains subject to deprivation, inadequate or insensitive care, lack of affection, low levels of stimulation, and poor education over long periods of time, later adjustment is likely to be severely compromised (Dennis, 1973; Curtiss, 1977).

In general, it appears that the particular caregiver with whom infants interact (i.e., biological mother or another) is less important for the development of good social relationships than the fact that infants interact over a period of time with someone who is familiar and sensitive (Lamb, 1975; Bowlby, 1988). One of the problems in the later development of children who experience early institutionalization or significant neglect is that there may have been no opportunities for the caretakers and the infants to establish strong and mutual attachments in a reciprocating relationship.

Recent research has established that successful use of language and communication is a cornerstone of childhood mental health. Not only are strong language capabilities critical to the development of such skills as listening and speaking, but they also are fundamental to the acquisition of proficient reading and writing abilities. In turn, children with a variety of speech and language impediments are at increasing risk as their language abilities fall behind those of their peers.

Caretaker and baby start to communicate with each other vocally as well as visually during the first months of life. Many, but not all, developmental psychologists believe that this early pattern of mother-infant reciprocity and interchange is the basis on which subsequent language and communication develop. Various theorists have attempted to explain the relations between language and cognitive development (Vygotsky, 1962; Chomsky, 1965, 1975, 1986; Bruner, 1971; Luria, 1971), but no single theory has achieved preeminence. While a number of theories address language development from different perspectives, all theories suggest that language development depends on both biological and socio-environmental factors. It is clear that language competence is a critical aspect of children's mental health.

To be healthy, children must form relationship*s* not only with their parents, but also with siblings and with peers. Peer relationships change over time. In the toddler period, children's social skills are very limited; they spend most of their time playing side by side rather than with each other in a give-and-take fashion.

As children grow, their abilities to form close relationships become highly dependent on their social skills. These include an ability to interpret and understand other children's nonverbal cues, such as body language and pitch of voice. Children whose social skills develop optimally respond to what other children say, use eye contact, often mention the other child's name, and may use touch to get attention.

If they want to do something that other children oppose, they can articulate the reasons why their plan is a good one. They can suppress their own wishes and desires to reach a compromise with other children and may be willing to change—at least in the presence of another child—a stated belief or wish. When they are with a group of children they do not know, they are quiet but observant until they have a feeling for the structure and dynamics of the group (Coie & Kuperschmidt, 1983; Dodge, 1983; Putallaz, 1983; Dodge & Feldman, 1990; Kagan et al., 1998).

In contrast, children who lack such skills tend to be rejected by other children. Commonly, they are withdrawn, do not listen well, and offer few if any reasons for their wishes; they rarely praise others and find it difficult to join in cooperative activities

(Dodge, 1983). They often exhibit features of oppositional defiant or conduct disorder, such as regular fighting, dominating and pushing others around, or being spiteful (Dodge et al., 1990). Social skills improve with opportunities to mix with others (Bridgeman, 1981). In recent years, knowledge of the importance of children's acquisition of social skills has led to the development and integration of social skills training components into a number of successful therapeutic interventions.

During the past two decades, as psychologists began to view the child less as a passive recipient of environmental input but rather as an active player in the process, the importance of temperament has become better appreciated (Plomin, 1986). Temperament is defined as the repertoire of traits with which each child is born; this repertoire determines how people react to the world around them. Such variations in characteristics were first described systematically by Anna Freud from her observations of children orphaned by the ravages of World War II. She noticed that some children were affectionate, some wanted to be close but were too shy to approach adults, and some were difficult because they were easily angered and frustrated (A. Freud, 1965).

The first major longitudinal observations on temperament were begun in the 1950s by Thomas and Chess (1977). They distinguished 10 aspects of temperament, but there appear to be many different ways to describe temperamental differences (Goldsmith et al., 1987). Although there is some continuity in temperamental qualities throughout the life span (Chess & Thomas, 1984; Mitchell, 1993), temperament is often modified during development, particularly by the interaction with the caregiver. For example, a timid child can become bolder with the help of parental encouragement (Kagan, 1984, 1989).

Some traits of temperament, such as attention span, goal orientation, lack of distractibility, and curiosity, can affect cognitive functioning because the more pronounced these traits are, the better a child will learn (Campos et al., 1983). Of note, it is not always clear whether extremes of temperament should be considered within the spectrum of mental disorder (for example, shyness or anxiety) or whether certain forms of temperament might predispose a child to the development of certain mental disorders.

A number of central concepts and guiding assumptions underpin our current understanding of children's mental health and illness. These have been variously defined by different investigators (Sroufe & Rutter, 1984; Cicchetti & Cohen, 1995; Jensen, 1998), but by and large these tenets are based on the premise that psychopathology in childhood arises from the complex, multilayered interactions of specific characteristics of the child (including biological, psychological, and genetic factors), his or her environment (including parent, sibling, and family relations, peer and neighborhood factors, school and community factors, and the larger social-cultural context), and the specific manner in which these factors interact with and shape each other over the course of development. Thus, an understanding of a child's particular history and past experiences (including biologic events affecting brain development) is essential to unravel the why's and wherefore's of a child's particular behaviors, both normal and abnormal.

While this principle assumes developmental continuities, to the extent that early experiences are "brought forward" into the current behavior, it is also important to consider developmental discontinuities, where qualitative shifts in the child's biological, psychological, and social capacities may occur. These may not be easily discerned or predicted ahead of time and may reflect the emergence of new capacities (or incapacities) as the child's psychological self, brain, and social environment undergo significant reorganization.

A second precept underlying an adequate understanding of children's mental health and illness concerns the innate tendencies of the child to adapt to his or her environment. This principle of adaptation incorporates and acknowledges children's "self-righting" and "self-organizing" tendencies; namely, that a child within a given context naturally adapts (as much as possible) to a particular ecological niche, or when necessary, modifies that niche to get needs met. When environments themselves are highly disordered or pathological, children's adaptations to such settings may also be pathologic, especially when compared with children's behaviors within more healthy settings. This principle underscores the likelihood that some (but not all) "pathologic" behavioral syndromes might be best characterized as adaptive responses when the child or adolescent encounters difficult or adverse circumstances. Notably, this ability to adapt behaviorally is reflected at multiple levels, including the level of brain and nervous system structures (sometimes called neuroplasticity).

A third consideration that guides both research-based and clinical approaches to understanding child mental health and illness concerns the importance of age and timing factors. For example, a behavior that may be quite normal at one age (e.g., young children's distress when separated from their primary care-taking figure) can be an important symptom or indicator of mental illness at another age. Similarly, stressors or risk factors may have no, little, or profound impact, depending on the age at which they occur and whether they occur alone or with other accumulated risk factors.

A fourth premise underpinning an adequate understanding of children's mental health and illness concerns the importance of the child's context. Perhaps the most important context for developing children is their caretaking environment. Research with both humans and animals has demonstrated that gross disruptions in this critical parameter have immediate and long-term effects, not just on the young organism's later social-emotional development but also on physical health, long-term morbidity and mortality, later parenting practices, and even behavioral outcomes of its offspring. Moreover, context may play a role in the definition of what actually constitutes psychopathology or health. The same behavior in one setting or culture might be acceptable and even "normative," whereas it may be seen as pathological in another.

Yet another principle central to understanding child mental health and illness is that normal and abnormal developmental processes are often separated only by differences of degree. Thus, supposed differences between normal and abnormal behavior may be better understood by taking into account the differences in the amount or degree of the particular behavior, or the degree of exposure to a particular risk factor.

Frequently, no sharp distinctions can be made. The virtue of these developmental considerations when applied to children is that (a) they enable a broader, more informed search for factors related to the onset of, maintenance of, and recovery from abnormal forms of child behavior; (b) they help move beyond static diagnostic terms that tend to reduce the behaviors of a complex, developing, adapting, and feeling child to an oversimplified diagnostic term; (c) they offer a new perspective on potential targets for intervention, whether child-focused or directed toward environmental or contextual factors; and (d) they highlight the possibility of important timing considerations: windows of opportunity during a child's development when preventive or treatment interventions may be especially effective.

Current approaches to understanding the etiology of mental disorders in childhood are driven by empirical advances in neuroscience and behavioral research rather than by theories. Epidemiological research on the factors that make children vulnerable to mental illness is important for several reasons: delineating the range of risk factors for particular mental disorders helps to understand their etiology; the populations most at risk can be identified; understanding the relative strength of different risk factors allows for the design of appropriate prevention programs for children in different contexts; and resources can be better allocated to intervene so as to maximize their effectiveness.

There is now good evidence that *both* biological factors and adverse psychosocial experiences during childhood influence—but not necessarily "cause"—the mental disorders of childhood. Adverse experiences may occur at home, at school, or in the community. A stressor or risk factor may have no, little, or a profound impact, depending on individual differences among children and the age at which the child is exposed to it, as well as whether it occurs alone or in association with other risk factors.

Although children are influenced by their psychosocial environment, most are inherently resilient and can deal with some degree of adversity. However, some children, possibly those with an inherent biological vulnerability (e.g., genes that convey susceptibility to an illness), are more likely to be harmed by an adverse environment, and there are some environmental adversities, especially those that are long-standing or repeated, that seem likely to induce a mental disorder in all but the hardiest of children. A recent analysis of risk factors by Kraemer and colleagues (1997) has provided a useful framework for differentiating among categories of risk and may help point this work in a more productive direction.

Risk factors for developing a mental disorder or experiencing problems in social-emotional development include prenatal damage from exposure to alcohol, illegal drugs, and tobacco; low birth weight; difficult temperament or an inherited predisposition to a mental disorder; external risk factors such as poverty, deprivation, abuse and neglect; unsatisfactory relationships; parental mental health disorder; or exposure to traumatic events.

It seems likely that the roots of most mental disorders lie in some combination of genetic and environmental factors—the latter may be biological or psychosocial (Rutter et al., 1999). However, increasing consensus has emerged that biologic factors exert especially pronounced influences on several disorders in particular, including pervasive developmental disorder (Piven & O'Leary, 1997), autism (Piven & O'Leary, 1997), and early-onset schizophrenia (McClellan & Werry, in press). It is also likely that biological factors play a large part in the etiology of social phobia (Pine, 1997), obsessive-compulsive disorder (Leonard et al., 1997), and other disorders such as Tourette's disorder (Leckman et al., 1997).

Two important points about biological factors should be borne in mind. The first is that biological influences are not necessarily synonymous with those of genetics or inheritance. Biological abnormalities of the central nervous system that influence behavior, thinking, or feeling can be caused by injury, infection, poor nutrition, or exposure to toxins, such as lead in the environment. These abnormalities are not inherited. Mental disorders that are most likely to have genetic components include autism, bipolar disorder, schizophrenia, and attention-deficit/hyperactivity disorder (ADHD) (National Institute of Mental Health [NIMH], 1998).

Second, it is erroneous to assume that biological and environmental factors are independent of each other, when in fact they interact. For example, traumatic experiences may induce biological changes that persist. Conversely, children with a biologically based behavior may modify their environment. For example, low-birth-weight infants who have sustained brain damage, and thereby become excessively irritable, may change the behavior of caretakers in a way that adversely affects the caretaker's ability to provide good care. Thus, it is now well documented that a number of biologic risk factors exert important effects on brain structure and function and increase the likelihood of subsequently developing mental disorders.

These well-established factors include intrauterine exposure to alcohol or cigarette smoke (Nichols & Chen, 1981), perinatal trauma (Whitaker et al., 1997), environmental exposure to lead (Needleman et al., 1990), malnutrition of pregnancy, traumatic brain injury, nonspecific forms of mental retardation, and specific chromosomal syndromes.

A landmark study on risks from the environment (Rutter & Quinton, 1977) showed that several factors can endanger a child's mental health. Dysfunctional aspects of family life such as severe parental discord, a parent's psychopathology or criminality, overcrowding, or large family size can predispose to conduct disorders and antisocial personality disorders, especially if the child does not have a loving relationship with at least one of the parents (Rutter, 1979). Economic hardship can indirectly increase a child's risk of developing a behavioral disorder because it may cause behavioral problems in the parents or increase the risk of child abuse (Dutton, 1986; Link et al., 1986; Wilson, 1987; Schorr, 1988). Exposure to acts of violence also is identified as a possible cause of stress-related mental health problems (Jenkins & Bell, 1997). Studies point to poor caregiving practices as being a risk factor for children of depressed parents (Zahn-Waxler et al., 1990).

The quality of the relationship between infants or children and their primary caregiver, as manifested by the security of attachment, has long been felt to be of paramount importance to mental health across the life span. In this regard, the relationship between maternal problems and those factors in children that predispose them to form insecure attachments, particularly young infants' and toddlers' security of attachment and temperament style and their impact on the development of mood and conduct disorders, is of great interest to researchers. Many investigators have taken the view that the nature and the outcome of the attachment process are related to later depression, especially when the child is raised in an abusive environment (Toth & Cicchetti, 1996), and to later conduct disorder (Sampson & Laub, 1993). The relationship of attachment to mental disorders has been the subject of several important review articles (Rutter, 1995; van IJzendoorn et al., 1995).

There is controversy as to whether the key determinant of "insecure" responses to strange situations stems from maternal behavior or from an inborn predisposition to respond to an unfamiliar stranger with avoidant behaviors, such as is found in socially phobic children (Belsky & Rovine, 1987; Kagan et al., 1988; Thompson et al., 1988; Kagan, 1994, 1995). Kagan demonstrated that infants who were more prone to being active, agitated, and tearful at 4 months of age were less spontaneous and sociable and more likely to show anxiety symptoms at age 4 (Snidman et al., 1995; Kagan et al., 1998). These findings are of considerable significance, because longterm study of such highly reactive, behaviorally inhibited infants and toddlers has shown that they are excessively shy and avoidant in early childhood and that this behavior persists and predisposes to later anxiety (Biederman et al., 1993). There is also some controversy as to whether "difficult" temperament in an infant is an early manifestation of a behavior problem, particularly in children who go on to demonstrate such problems as conduct disorder (Olds et al., 1999).

One analysis of the attachment literature suggests that abnormal or insecure forms of attachment are largely the *product* of maternal problems, such as depression and substance abuse, rather than of individual differences in the child (van IJzendoorn et al., 1992). The relationship between a child's temperament and parenting style is complex (Thomas et al., 1968); it may be either protective if it is good or a risk factor if it is poor. Thus, a difficult child's chances of developing mental health problems are much reduced if he or she grows up in a family in which there are clear rules and consistent enforcement (Maziade et al., 1985), while a child exposed to inconsistent discipline is at greater risk for later behavior problems (Werner & Smith, 1992).

As noted above in the relationships between temperament and attachment, in some instances the relative contributions of biologic influences and environmental influences are difficult to tease apart, a problem that particularly affects studies investigating the impact of family and genetic influences on risk for childhood mental disorder. For example, research has shown that between 20 and 50 percent of depressed children and adolescents have a family history of depression (Puig-Antich et al., 1989; Todd et al., 1993; Williamson et al., 1995; Kovacs, 1997b). The exact reasons for this increased risk have not been fully clarified, but experts tend to agree that both factors interact to result in this increased risk (Weissman et al., 1997).

Family research has found that children of depressed parents are more than three times as likely as children of nondepressed parents to experience a depressive disorder (see Birmaher et al., 1996a and 1996b for review). Parental depression also increases the risk of anxiety disorders, conduct disorder, and alcohol dependence (Downey & Coyne, 1990; Weissman et al., 1997; Wickramaratne & Weissman, 1998). The risk is greater if both parents have had a depressive illness, if the parents were depressed when they were young, or if a parent had several episodes of depression (Merikangas et al., 1988; Downey & Coyne, 1990; McCracken, 1992a, 1992b; Mufson et al., 1992; Warner et al., 1995; Wickramaratne & Weissman, 1998).

Depressed parents may be withdrawn and lack energy and consequently pay little attention to, or provide inadequate supervision of, their children. Alternatively, such parents may be excessively irritable and overcritical, thereby upsetting children, demoralizing them, and distancing them (Cohn et al., 1986; Field et al., 1990). At a more subtle level, parents' distress— being pessimistic, tearful, or threatening suicide—is sometimes seen or heard by the child, thereby inducing anxiety. Depressed parents may not model effective coping strategies for stress; instead of "moving on," some provide an example of "giving up" (Garber & Hilsman, 1992).

Depression is also often associated with marital discord, which may have its own adverse effect on children and adolescents. Conversely, the behavior of the depressed child or teenager may contribute to family stress as much as being a product of it. The poor academic performance, withdrawal from normal peer activities, and lack of energy or motivation of a depressed teenager may lead to intrusive or reprimanding reactions from parents that may further reduce the youngster's self-esteem and optimism.

The consequences of maternal depression vary with the state of development of the child, and some of the effects are quite subtle (Cicchetti & Toth, 1998). For example, in infancy, a withdrawn or unresponsive depressed mother may increase an infant's distress, and an intrusive or hostile depressed mother may lead the infant to avoid looking at and communicating with her (Cohn et al., 1986). Other studies have shown that if infants' smiles are met with a somber or gloomy face, they respond by showing a similarly somber expression and then by averting their eyes (Murray et al., 1993).

During the toddler stage of development, research shows that the playful interactions of a toddler with a depressed mother are often briefer and more likely to be interrupted (by either the mother or the child) than those with a nondepressed parent (Jameson et al., 1997). Research has shown that some depressed mothers are less able to provide structure or to modify the behavior of excited toddlers, increasing the risk of out-of-control behavior, the development of a later conduct disorder, or later aggressive dealings with peers (Zahn-Waxler et al., 1990; Hay et al., 1992). A depressed mother's inability to control a young child's behavior may result in the child failing to learn appropriate skills for settling disputes without reliance on aggression.

The relationship between stressful life events and risk for child mental disorders is well established (e.g., Garmezy, 1983; Hammen, 1988; Jensen et al., 1991; Garber & Hilsman, 1992), although this relationship in children and adolescents is complicated, perhaps reflecting the impact of individual differences and developmental changes. For

example, there is a relationship between stressful life events, such as parental death or divorce, and the onset of major depression in young children, especially if they occur in early childhood and lead to a permanent and negative change in the child's circumstances. Yet findings are mixed as to whether the same relationship is true for depression in midchildhood or in adolescence (Birmaher et al., 1996a and 1996b; Garrison et al., 1997).

Child abuse is a very widespread problem; it is estimated that over 3 million children are maltreated every year in the United States (National Committee to Prevent Child Abuse, 1995). Physical abuse is associated with insecure attachment (Main & Solomon, 1990), psychiatric disorders such as post-traumatic stress disorder, conduct disorder, ADHD (Famularo et al., 1992), depression (Kaufman, 1991), and impaired social functioning with peers (Salzinger et al., 1993). Psychological maltreatment is believed to occur more frequently than physical maltreatment (Cicchetti & Carlson, 1989); it is associated with depression, conduct disorder, and delinquency (Kazdin et al., 1985) and can impair social and cognitive functioning in children (Smetana & Kelly, 1989).

The influence of maladaptive peers can be very damaging to a child and greatly increases the likelihood of adverse outcomes such as delinquency, particularly if the child comes from a family beset by many stressors (Friday & Hage, 1976; Loeber & Farrington, 1998). One way to reduce antisocial behavior in adolescents is to encourage such youths to interact with better adapted youths under the supervision of a mental health worker (Feldman et al., 1983). Sibling rivalry is a common component of family life and, especially in the presence of other risk factors, may contribute to family stresses (Patterson & Dishion, 1988).

Although almost universal, in the presence of other risk factors it may be the origin of aggressive behavior that eventually extends beyond the family (Patterson & Dishion, 1988). In stressed or large families, parents have many demands placed on their time and find it difficult to oversee, or place limits on, their young children's behavior. When parental attention is in short supply, young siblings squabbling with each other attract available attention. In such situations, parents rarely comment on good or neutral behavior but do pay attention, even if in a highly critical and negative way, when their children start to fight; as a result, the act of fighting may be inadvertently rewarded. Thus, any attention, whether it be praise or physical punishment, increases the likelihood that the behavior is repeated.

Recent evidence suggests that social/environmental risk factors may combine with physical risk factors of the child, such as neurological damage caused by birth complications or low birth-weight, fearlessness and stimulation-seeking behavior, learning impairments, autonomic underarousal, and insensitivity to physical pain and punishment (Raine et al., 1996, 1997, 1998).

However, testing models of the impact of risk factor interactions for the development of mental disorders is difficult, because some of the risk factors are difficult to measure. Thus, the trend these days is to move away from the consideration of *individual* risk factors toward identifying *measurable* risk factors and their *combinations* and incorporating all of them into a single model that can be tested (Patterson, 1996).

Childhood is an important time to prevent mental disorders and to promote healthy development, because many adult mental disorders have related antecedent problems in childhood. Thus, it is logical to try to intervene early in children's lives before problems are established and become more refractory. The field of prevention has now developed to the point that reduction of risk, prevention of onset, and early intervention are realistic possibilities. Scientific methodologies in prevention are increasingly sophisticated, and the results from high-quality research trials are as credible as those in other areas of biomedical and psychosocial science. There is a growing recognition that prevention does work; for example, improving parenting skills through training can substantially reduce antisocial behavior in children (Patterson et al., 1993).

The wider human services and law enforcement communities, not just the mental health community, have made prevention a priority. Policymakers and service providers in health, education, social services, and juvenile justice have become invested in intervening early in children's lives: they have come to appreciate that mental health is inexorably linked with general health, child care, and success in the classroom and inversely related to involvement in the juvenile justice system. It is also perceived that investment in prevention may be cost-effective. Although much research still needs to be done, communities and managed health care organizations eager to develop, maintain, and measure empirically supported preventive interventions are encouraged to use a risk and evidence-based framework developed by the National Mental Health Association (Mrazek, 1998).

Some forms of primary prevention are so familiar that they are no longer thought of as mental health prevention activities, when, in fact, they are. For example, vaccination against measles prevents its neurobehavioral complications; safe sex practices and maternal screening prevent newborn infections such as syphilis and HIV, which also have neurobehavioral manifestations. Efforts to control alcohol use during pregnancy help prevent fetal alcohol syndrome (Stratton et al., 1996). All these conditions may produce mental disorders in children.

This section describes several exemplary interventions that focus on enhancing mental health and primary prevention of behavior problems and mental health disorders. Prevention strategies usually target high-risk infants, young children, adolescents, and/or their caregivers, addressing the risk factors described above.

Project Head Start, though generally conceived of as an early childhood intervention program, is probably this country's best known prevention program. In 1965, when it was designed and first implemented in 2,500 communities, Head Start's target population was economically disadvantaged preschool children. Its goal was to improve the social competence of these children through an 8-week comprehensive intervention that included a center-based component and a home visit by community aides, focusing on social, health, and education services (Karoly et al., 1998). A number of psychologists, most notably Jerome Bruner (1971), argued that children can be *trained* to think in a more logical way and that the development of logic is not entirely predetermined. Bruner's views were very influential in launching early intervention programs such as Head Start. There is now ample evidence that, by providing an appropriately stimulating environment, significant advances in knowledge and reasoning ability can be achieved.

The program has served over 15 million children and has cost $31 billion since its inception (General Accounting Office, 1997). It has changed in many ways in the intervening years, and there now is considerable program variation across localities (Zigler & Styfco, 1993). Early evaluations of Head Start showed promising results in terms of higher IQ scores, but over the years many of the findings have met with criticism and skepticism. The reason is that there has been no national randomized controlled trial to evaluate the program as originally designed (Karoly et al., 1998).

Repeated evaluations of Head Start programs that did not employ such a rigorous design (Berrento- Clement et al., 1984; Seitz et al., 1985; Lee et al., 1990; Yoshikawa, 1995) have shown that, although focused early education can improve test scores, the advantage is short-lived. The test scores of children of comparable ability who do not receive early childhood education quickly catch up with those who have been in Head Start programs (Lee et al., 1990).

Yet there appear to be more enduring academic outcomes. A review of 36 studies of Head Start and other early childhood programs found them to lower enrollment in special education and to enhance rates of high school graduation and promotion to the next grade level (Barnett, 1995). Head Start and other forms of early education offer arguably even more important benefits, which do not become apparent until children are older.

The advantages are mainly social, rather than cognitive, and include better peer relations, less truancy, and less antisocial behavior (Berrento-Clement et al., 1984; Provence, 1985; Seitz et al., 1985; Webster-Stratton, 1998; Weikart, 1998). Although important from a societal perspective, it is not known whether these very significant benefits are due to direct effects on the child or to the parent education programs that often accompany Head Start programs (Zigler & Styfco, 1993).

The Carolina Abecedarian Project is an example of an early educational intervention for high-risk children that has been tested more rigorously than Head Start in well-designed, randomized, and controlled trials. It addresses the issue of the timing of the intervention, that is, when an intervention should begin and how long it should continue. Unlike Head Start, children were enrolled in this program at birth and remained in it for several years.

In the Carolina Abecedarian Project, children who had been identified at birth as being at high risk for school failure on the basis of social and economic variables were enrolled in a child-centered prevention-oriented intervention program delivered in a day care setting from infancy to age 5 (Campbell & Ramey, 19941). The preschool intervention operated 8 hours a day for 50 weeks a year and included an infant curriculum to enhance development and parent activities. At elementary school age, a second intervention was provided: the children, who were then in kindergarten, received 15 home visits a year for 3 years from a teacher who prepared a home program to supplement the school's basic curriculum. There were significant positive effects from the two-phase intervention on intellectual development and academic achievement, and these effects were maintained through age 12, which was 4 years after the intervention ended.

The Infant Health and Development Program (IHDP) also began at birth and continued for several years and was also designed for low-birth-weight and premature infants (McCarton et al., 19972). The intervention was provided until the children reached 3 years of age. It included pediatric care, home visits, parent group meetings, and center-based schooling 5 days a week from 12 months of age to 3 years. At the end of the intervention, the group receiving it had significantly higher mean IQ scores than did the control group. Of note, although children's behavior problems were not targeted by the intervention, mothers of children in the intervention group reported significantly fewer behavior problems than those in the control group.

The Elmira Prenatal/Early Infancy Project is an excellent example of a preventive intervention that targeted an at-risk population to prevent the onset of a series of health, social, and mental health problems in children and in their mothers (Olds et al., 1998 and previous years3). This study warrants special attention because of its positive and enduring findings, randomized, controlled design, cost-benefit analysis, and unusually long-term follow up of 15 years. The study began by focusing on pregnant women bearing their first child in a small, semirural county in upstate New York. The children of these women were considered high risk because of their mother's young maternal age, single-parent status, or low socioeconomic level.

There were four study groups to which random assignment was made. The first group received developmental screening at ages 1 and 2; the second group received screening and free transportation to health care; the third group received screening, transportation, and nurse home visits once every 2 weeks during pregnancy; and the fourth group received all of the above plus continued home visits by a nurse on a diminishing schedule until the infants were 24 months of age. The intervention focused on parent education, enhancement of the women's informal support systems, and linkage with community services.

Women in both groups receiving home visits from nurses had many positive behavioral outcomes compared with groups that received screening only or screening plus transportation. Among the women at highest risk for caregiver dysfunction, those who were visited by a nurse had fewer instances of verified child abuse and neglect during the first 2 years of their children's lives. They were observed in their homes to restrict and punish their children less frequently, and they provided more appropriate play materials. There were no differences between groups in the rates of new cases of child abuse and neglect or in the children's intellectual functioning in the period when the children were 25 to 48 months of age. However, nurse-visited children had fewer behavioral and parental coping problems (as noted in the physician record). Nurse-visited mothers were observed to be more involved with their children than were mothers in the comparison groups.

A cost-benefit analysis estimated program costs (direct costs of nurse visitation, costs of services to which nurses linked families, and costs of transportation) and benefits (cost outcomes presumed to be affected by the program through improved maternal and child functioning, such as less use of Aid to Families With Dependent Children, Medicaid, food stamps, child protective services, and greater tax revenues generated by women's working). Taking a time point of 2 years after the program ended, the net cost of the program for the sample as a whole was $1,582 per family, but for low-income families, the cost of the program was recovered with a dividend of $180 per family.

Fifteen years after the birth of the index child (13 years after termination of the intervention), women who were visited by nurses during pregnancy and infancy had significantly fewer subsequent pregnancies, less use of welfare, fewer verified reports of abuse and neglect, fewer behavioral impairments due to use of alcohol and other drugs, and fewer arrests. Their children, now adolescents, reported fewer instances of running away, fewer arrests, fewer convictions and violations of probation, fewer lifetime sex partners, fewer cigarettes smoked per day, and fewer days having consumed alcohol in the last 6 months. The parents of these adolescents reported that their children had fewer behavioral problems related to use of alcohol and other drugs.

The Primary Mental Health Project (PMHP) is a 42-year-old program for early detection and prevention of young children's school adjustment problems. PMHP currently operates in approximately 2,000 schools in 700 school districts nationally and internationally. Seven states in the United States are implementing the program systematically, based on authorizing legislation and state appropriations.

PMHP has four key elements: (1) a focus on primary grade children; (2) systematic use of brief objective screening measures for early identification of children in need; (3) use of carefully selected, trained, closely supervised nonprofessionals (called child associates) to establish a caring and trusting
relationship with children; and (4) a changing role for the school professionals that features selection, training, and supervision of child associates, early systematic screening, and functioning as program coordinator, liaison, and consultant to parents, teachers and other school personnel.

The PMHP model has been applied flexibly to diverse ethnic and sociodemographic groups in settings where help is most needed. Over 30 program evaluation studies, including several at the state level, underscore the program's efficacy (Cowen et al., 1996). Significant improvements were detected in children's grades, achievement test scores, and adjustment ratings by teachers and child associates. PMHP represents a successful mental health intervention that does not require highly trained and skilled mental health professionals.

These and other prevention trials demonstrate that positive adaptation and social-emotional well-being in children and youth can be enhanced, and that risk factors for behavioral and emotional disorders can be reduced, by intervening in home, school, day care, and other settings. Programs have focused not only on mental health problems but also on other problem behaviors (Botvin et al., 1995; St. Lawrence et al., 1995; Kellam & Anthony, 1998).

Other prevention trials are showing similar benefits. For example, a large-scale, four-site school and home-based prevention trial, known as FastTrack, has shown clear benefits in reducing behavior problems among high-risk children, as well as in reducing needs for and use of special education, which has substantial cost-effectiveness implications (Conduct Problems Prevention Research Group, 1999a, 1999b). Another trial is now under way to test the efficacy of a preventive intervention provided to adolescents whose parents are currently being treated for depression within a health maintenance organization (Clark et al., 1998). Treatment of mood disorders also has potential effectiveness for the primary prevention of suicide, as explained in the later section on Depression and Suicide in Children and Adolescents.

Treatment of Children with Mental Disorders

There has been public concern over reports that very young children are being prescribed psychotropic medications. The studies to date are incomplete, and much more needs to be learned about young children who are treated with medications for all kinds of illnesses. In the field of mental health, new studies are needed to tell us what the best treatments are for children with emotional and behavioral disturbances.

Children are in a state of rapid change and growth during their developmental years. Diagnosis and treatment of mental disorders must be viewed with these changes in mind. While some problems are short-lived and don't need treatment, others are persistent and very serious, and parents should seek professional help for their children.

Not long ago, it was thought that many brain disorders such as anxiety disorders, depression, and bipolar disorder began only after childhood. We now know they can begin in early childhood. An estimated 1 in 10 children and adolescents in the United States suffers from mental illness severe enough to cause some level of impairment. Fewer than one in five of these ill children receives treatment. Perhaps the most studied, diagnosed, and treated childhood-onset mental disorder is attention deficit hyperactivity disorder (ADHD), but even with this disorder there is a need for further research in very young children.

Q: What medications are used for which kinds of childhood mental disorders?

A: There are several major categories of psychotropic medications: stimulants, antidepressants, antianxiety agents, antipsychotics, and mood stabilizers. For medications approved by the FDA for use in children, dosages depend on body weight and age. The Medications Chart below shows the most commonly prescribed medications for children with mood or anxiety disorders (including OCD).

Stimulant Medications: There are four stimulant medications that are approved for use in the treatment of attention deficit hyperactivity disorder (ADHD), the most common behavioral disorder of childhood. These medications have all been extensively studied and are specifically labeled for pediatric use. Children with ADHD exhibit such symptoms as short attention span, excessive activity, and impulsivity that cause substantial impairment in functioning. Stimulant medication should be prescribed only after a careful evaluation to establish the diagnosis of ADHD and to rule out other disorders or conditions. Medication treatment should be administered and monitored in the context of the overall needs of the child and family, and consideration should be given to combining it with behavioral therapy. If the child is of school age, collaboration with teachers is essential.

Antidepressant and Antianxiety Medications: These medications follow the stimulant medications in prevalence among children and adolescents. They are used for depression, a disorder recognized only in the last 20 years as a problem for children, and for anxiety disorders, including obsessive-compulsive disorder (OCD). The medications most widely prescribed for these disorders are the selective serotonin reuptake inhibitors (the SSRIs).

In the human brain, there are many "neurotransmitters" that affect the way we think, feel, and act. Three of these neurotransmitters that antidepressants influence are serotonin, dopamine, and norepinephrine. SSRIs affect mainly serotonin and have been found to be effective in treating depression and anxiety without as many side effects as some older antidepressants.

Antipsychotic Medications: These medications are used to treat children with schizophrenia, bipolar disorder, autism, Tourette's syndrome, and severe conduct disorders. Some of the older antipsychotic medications have specific indications and dose guidelines for children. Some of the newer "atypical" antipsychotics, which have fewer side effects, are also being used for children. Such use requires close monitoring for side effects.

Mood Stabilizing Medications: These medications are used to treat bipolar disorder (manic-depressive illness). However, because there is very limited data on the safety and efficacy of most mood stabilizers in youth, treatment of children and adolescents is based mainly on experience with adults. The most typically used mood stabilizers are lithium and valproate (Depakote®), which are often very effective for controlling mania and preventing recurrences of manic and depressive episodes in adults. Research on the effectiveness of these and other medications in children and adolescents with bipolar disorder is ongoing. In addition, studies are investigating various forms of psychotherapy, including cognitive-behavioral therapy, to complement medication treatment for this illness in young people.

Effective treatment depends on appropriate diagnosis of bipolar disorder in children and adolescents. There is some evidence that using antidepressant medication to treat depression in a person who has bipolar disorder may induce manic symptoms if it is taken without a mood stabilizer. In addition, using stimulant medications to treat co-occurring ADHD or ADHD-like symptoms in a child with bipolar disorder may worsen manic symptoms. While it can be hard to determine which young patients will become manic, there is a greater likelihood among children and adolescents who have a family history of bipolar disorder. If manic symptoms develop or markedly worsen during antidepressant or stimulant use, a physician should be consulted immediately, and diagnosis and treatment for bipolar disorder should be considered.

Medications Chart

Stimulant Medications

Brand Name	Generic Name	Approved Age
Adderall	amphetamines	3 and older
Concerta	methylphenidate	6 and older
Cylert*	pemoline	6 and older
Dexedrine	dextroamphetamine	3 and older
Dextrostat	dextroamphetamine	3 and older
Ritalin	methylphenidate	6 and older

**Because of its potential for serious side effects affecting the liver, Cylert should not ordinarily be considered as first line drug therapy for ADHD.*

Antidepressant and Antianxiety Medications

Brand Name	Generic Name	Approved Age
Anafranil	clomipramine	10 and older (for OCD)
BuSpar	buspirone	18 and older
Effexor	venlafaxine	18 and older
Luvox (SSRI)	fluvoxamine	8 and older (for OCD)
Paxil (SSRI)	paroxetine	18 and older
Prozac (SSRI)	fluoxetine	18 and older
Serzone (SSRI)	nefazodone	18 and older
Sinequan	doxepin	12 and older
Tofranil	imipramine	6 and older (for bed-wetting)
Wellbutrin	bupropion	18 and older
Zoloft (SSRI)	sertraline	6 and older (for OCD)

Antipsychotic Medications

Brand Name	Generic Name	Approved Age
Clozaril(atypical)	clozapine	18 and older
Haldol	haloperidol	3 and older
Risperdal (atypical)	risperidone	18 and older
Seroquel (atypical)	quetiapine	18 and older
(generic only)	thioridazine	2 and older
Zyprexa (atypical)	olanzapine	18 and older
Orap	pimozide	12 and older (for Tourette's syndrome). Data for age 2 and older indicate similar safety profile.

Mood Stabilizing Medications

Brand Name	Generic Name	Approved Age
Cibalith-S	lithium citrate	12 and older
Depakote	divalproex sodium	2 and older (for seizures)
Eskalith	lithium carbonate	12 and older
Lithobid	lithium carbonate	12 and older
Tegretol	carbamazepine	any age (for seizures)

Q: Why haven't many medications been tested in children?

A: In the past, medications were not studied in children because of ethical concerns about involving children in clinical trials. However, this created a new problem: lack of knowledge about the best treatments for children. In clinical settings where children are suffering from mental or behavioral disorders, medications are being prescribed at increasingly early ages. The FDA has been urging that products be appropriately studied in children and has offered incentives to drug manufacturers to carry out such testing. The NIH and the FDA are examining the issue of medication research in children and are developing new research approaches.

Q: Does the FDA approve medications for different age groups among children?

A: Yes. However, this is based on the data provided to the FDA by the drug manufacturer and the policies in effect at the time of approval. For example, Ritalin® is approved for children age 6 and older, whereas Dexedrine® is approved for children as young as 3. When Ritalin® was tested for efficacy by its manufacturer, only children age 6 and above were involved; therefore, age 6 was approved as the lower age limit for Ritalin®.

Q: Can events such as a death in the family, illness in a parent, onset of poverty, or divorce cause symptoms?

A: Yes. When a tragedy occurs or some extreme stress hits, every member of a family is affected, even the youngest ones. This should also be considered when evaluating mental, emotional, or behavioral symptoms in a child.

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EVALUATION OF LEARNING QUIZ - PAGE 1 of 4

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EVALUATION OF LEARNING QUIZ - PAGE 2 of 4

Course Title: "The Developing Child and Mental Illness"

3 Hours of Approved Continuing Education Credit

The purpose of the following Evaluation of Learning questions is to:
A.) Verify that you have read the required course materials
B.) Demonstrate an understanding of the practical application of the course materials
C.) Officially document your participation and completion of this course

➲ **ANSWER THE FOLLOWING 20 T/F EVALUATION QUESTIONS.**

T **F** 1. I have read the entire required .pdf text file for this course.

T **F** 2. Childhood and adolescence are marked by dramatic changes in physical, cognitive, and social-emotional skills and capacities.

T **F** 3. 4 million youth who suffer from a major mental illness that results in significant impairments at home, at school, and with peers.

T **F** 4. Development is the lifelong process of growth, maturation, and change that unfolds at the fastest pace during childhood and adolescence.

T **F** 5. Child development first became a subject of serious inquiry in 1978.

T **F** 6. Freud and the psychoanalyst Erik Erikson proposed a series of stages of development reflecting the attainment of cultural values.

T **F** 7. The Swiss psychologist Jean Piaget developed a stage-constructed theory of children's intellectual development.

T **F** 8. Behavioral psychology focused on observation and measurement, explaining development in terms of responses to stimuli, such as rewards.

T **F** 9. A mother's bond with her child often starts one to three months after birth.

T **F** 10. Recent research has established that successful use of language and communication is a cornerstone of childhood mental health.

T **F** 11. As children grow, their abilities to form close relationships become highly dependent on their social skills.

The Evaluation Quiz is continued on the next page →

EVALUATION OF LEARNING (Continued) PAGE 3 of 4

Course Title: "The Developing Child and Mental Illness"

3 Hours of Approved Continuing Education Credit

T F 12. Temperament is defined as the repertoire of traits with which each child is born; this repertoire determines how people react to the world around them.

T F 13. Supposed differences between normal and abnormal behavior may be better understood by taking into account the differences in the amount or degree of the particular behavior, or the degree of exposure to a particular risk factor.

T F 14. There is now good evidence that *both* biological factors and adverse psychosocial experiences during childhood influence—but not necessarily "cause"—the mental disorders of childhood.

T F 15. Although children are influenced by their psychosocial environment, most are inherently resilient and can deal with some degree of adversity.

T F 16. It seems likely that the roots of most mental disorders lie only in environmental factors.

T F 17. Depressed parents may be withdrawn and lack energy and consequently pay little attention to, or provide inadequate supervision of, their children.

T F 18. The relationship between stressful life events and risk for child mental disorders is not well established.

T F 19. It is estimated that over 500 million children are maltreated every year in the United States alone.

T F 20. Childhood is an important time to prevent mental disorders and to promote healthy development, because many adult mental disorders have related antecedent problems in childhood.

GRADE THIS ONLINE COURSE! – Page 4

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