Chapter 3

The Role of Emotion Regulation in the Development of Psychopathology

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An 8-year-old boy begins to take a test. He looks at the first question. He doesn't understand it! He tenses, looks harder, but cannot see a solution. He can't think straight now. His eyes dart around the page, but without really taking in the questions and planning answers. He feels agitated. He covers his face with his hands, then looks at the first question again—and again—but he doesn't know what to do. He sneaks a glance at the other students, then at the teacher—Oh no—she is watching him! His cheeks reddening, his heart racing, he tries to look like he's working. He begins to kick the legs of his desk. The teacher comes over, tells him to stop kicking. She can see his panic, so she softly encourages him, offers help. It's too much! He jumps up, kicking over the desk, and runs out of the room. The teacher finds him pounding his fist against a locker in the hallway. The boy tells her what she can do with her stupid test. He cannot recover and is sent to the principal's office; he does not take the test.

Emotions have long been linked to psychopathology. Western philosophers, for example, viewed madness as the result of an excess of emotion that interferes with reason (Cicchetti, Ackerman, & Izard, 1995). Eastern philosophies regard emotions as human limitations that are obstacles to achieving enlightenment (Goleman, 2003). The view of emotions as dangerous culprits that threaten health and adjustment also appeared in the first formal psychological theories (Greenberg & Safran, 1987). Freud contended that pent-up emotional energy caused psychopathology. He argued that early childhood stress typically created unacceptably intense feelings in children, feelings that required psychological defenses to remove them from conscious awareness. In the process, these transformed emotions still expended energy, producing psychological symptoms. In sum, throughout history, emotions have captured the minds of great thinkers who strove to understand human behavior, and from the very first, emotions have been implicated in models of human frailty, deviance, and psychopathology.
In the more recent past, emotions have reemerged as an important area of study, including as a factor in models of adult and child psychopathology and treatment (e.g., Cole, Michel, & Teti, 1994; Davidson, Scherer, & Goldsmith, 2003; Greenberg & Safran, 1987). Contemporary emotion theories, building upon Darwin's (1872) view that the capacity to be emotional is crucial to adaptation, describe emotions as psychological processes that serve the function of achieving goals for maintaining well-being (e.g., Barrett & Campos, 1987; Ekman, 1992; Frijda, 1986; Izard, 1977; LeDoux, 1996; Panksepp, 1982; Plutchik, 1962; Sroufe, 1996; Tomkins, 1962–1991). Yet, emotions are also thought to play a significant role in the nature and development of psychopathology. Hence emerges a conundrum.

The concept of emotion regulation solves this seeming contradiction. It is not emotions themselves that create psychological vulnerability. Rather, it is the manner in which emotions are managed that determines whether a person's adjustment or functioning is jeopardized (Cicchetti et al., 1995; Cole, Michel, et al., 1994; Davidson, 1998; Garber & Dodge, 1991; Gross, 1999; Keenan, 2000; Thompson & Calkins, 1996). In general, emotion regulation patterns that are flexible, allowing a person to access the full range of human emotions and yet modulate the experience and expression in accordance with the ever-changing demands of life, are associated with healthy functioning (Cole, Michel, et al.).

The emotional presentations associated with psychopathology often involve poorly regulated responses, such as overwhelming emotion (e.g., rage), restricted emotion (e.g., inability to enjoy previously preferred activities), inappropriate affect (e.g., laughing at another's pain), and poorly timed or attuned emotion (e.g., affective lability and affective instability). In the example above, the boy was understandably frustrated, embarrassed, and nervous, but he ended up overwhelmed with frustration, shame, and anxiety; he was unable to use external resources (the teacher's solace) or internal mechanisms (self-talk, distraction) to manage those emotions in a way that would allow him to solve the immediate problem of the confusing question.

Our view of the role of emotion regulation in psychopathology begins with the premise that emotional processes are fundamentally adaptive, providing a means of positioning oneself in relation to circumstances in order to achieve well-being. With a generally intact nervous system and reasonably decent relationships, our emotions—each and all of them—serve these goals and do not create vulnerability for psychopathology. Vulnerability to psychopathology emerges when the manner of emotion regulation, although achieving some immediate goal, interferes with other proximal or distal goals of development (taking the test, passing the test, preserving a good relationship with the teacher, gaining the respect of your peers, knowing how to avoid storms, living in the office of your boss when you feel confused in later years; see also Cicchetti, Ganiban, & Barnett, 1991). In addition, context determines whether a particular way of regulating emotion is competent or deviant, appropriate or dysregulated (Campos, Mumme, Kerminon, & Campos, 1994; Cole, Michel, et al., 1994; Markus & Kitayama, 1991; Saarni, 1999; Shields, 2002). Finally, risk for developing a disorder does not arise in one moment alone. Rather, vulnerability for psychopathology exists when stable, stylized patterns of emotion regulation that lack the flexibility and situational sensitivity necessary for dealing with a complex world of goals and relationships are the dominant mode of responding (Izard & Malatesta, 1987; Magai & McFadden, 1995; Malatesta & Wilson, 1988).

In this chapter, we suggest that early patterns of emotional dysregulation create vulnerability to the development of psychopathology. Although any psychological...
process can create risk, emotions are central candidates because they are the fuel behind behavior (Cicchetti et al., 1995; Izard, 1977; Tomkins, 1962–1991). We suggest that patterns of emotion regulation may precede the emergence of formal disorders. In reviewing studies of children and adolescents with known problems, we generate hypotheses about the types of early emotional experience and expression that might predispose a child, particularly a child faced with stressful life circumstances, to develop symptoms and eventually a disorder.

We organize the discussion around particular emotion families, linking them to behavioral approach and avoidance motivations (i.e., anger, joy, empathy, sadness, fear, guilt, and shame). In this way, we attempt to tie the tradition of emotion theories, which classify subjective feeling states, with contemporary advances in affective neuroscience that shed light on how the brain supports motivated behavior under emotional conditions. The literature linking emotional processes to child and adolescent psychopathology has tended to rely on the proverbial basic emotions—anger, joy, empathy, fear, sadness, shame, and guilt. Throughout our discussion, we relate these findings to the motivational approach and avoidance systems. Moreover, our focus is on how emotions are experienced and expressed. We refer readers to excellent reviews focusing on the role of general emotional competence in the development of disorders (e.g., Casey, 1996; Halberstadt, Denham, & Dunsmore, 2001; Saarni, 1999).

EMOTIONS AND THE ADAPTIVE CAPACITIES TO APPROACH AND WITHDRAW

Emotions are motivational systems that function to help achieve goals (Barrett & Campos, 1987; Izard & Ackerman, 2000). The basic emotions, which are generally regarded as specific motivational states, appear to have important relations to the two overarching motivational systems: approach and withdrawal systems. Approach systems (Fowles, 1980; Gray, 1987) subserve our capacity to act upon the environment. Happiness, anger, and empathy are regarded as approach-oriented emotions (Coan & Allen, 2004; Davidson, 1998), although there is some debate about whether anger is an approach or withdrawal emotion (Harmon-Jones, 2003). Here, we treat anger as an approach emotion, given the theoretical argument that anger motivates action to overcome obstacles (Barrett & Campos). Withdrawal systems orient us away from the environment, toward avoiding dangers and relinquishing goals. Withdrawal systems lead to (temporary) inaction and often elicit support from others. Withdrawal system emotions include sadness, fear, and some social emotions, such as shame and possibly guilt (Davidson, 1998; Gray, LeDoux, 1996; M. Lewis, 2000).

The ability to both approach and withdraw from circumstances is essential to human survival (Abe & Izard, 1999; Barrett & Campos, 1987; Izard & Ackerman, 2000; Keltner & Gross, 1999). Emotions signal specific orientations toward perceived circumstances (Barrett & Campos). An infant’s smile signals a desire to approach, which serves the critical role of inviting and maintaining caregiver interest, care, and affection. The tears of a child signal the giving up of a goal, eliciting comfort and care from others and possibly solutions to attaining the goal. Anger signals a negatively valenced approach; anger supports persistence, power, and dominant behavior, warning others of a readiness to act against their goals. Each serves adaptive functions, but poorly regulated joy, sadness, anger, and other emotions can interfere with healthy development and create vulnerability for the development of psychopathology.
ANGER, JOY, AND EMPATHY: 
THE CAPACITY TO APPROACH 
AND VULNERABILITY TO 
PSYCHOPATHOLOGY

Anger: Approaching Obstacles

The angry emotions involve appraising that one’s goals for well-being are blocked, thwarted, or unjustly removed and that they still can and should be achieved, and readying to act to overcome the obstacles and achieve the goal (Barrett & Campos, 1987; Frijda, 1986). The anger-related emotions support asserting one’s best interests, as one perceives them, and aid in establishing one’s dominant status, autonomy, and identity.

In the course of development, what must the pattern of anger regulation appear like to indicate vulnerability to psychopathology? Irritability, rage, rudeness, aggression, and hostility describe symptoms in both the international and U.S. diagnostic manuals for classifying mental disorders (American Psychiatric Association [APA], 1994; World Health Organization [WHO], 1993). They indicate pervasive anger, reactive and intense anger, and anger expressed against others in socially unacceptable ways. Clinical conceptualizations of these problems describe such anger as underregulated. In other words, attempts to maintain a sense of control or dominance are no longer regulated in ways that take into account the needs of relationships and situational constraints (e.g., when a teenager acts out rather than coping with the disappointments in her family life). Angry emotions, however, can also be overregulated, also creating risk for psychopathology. A person may be unable to experience and communicate justified anger that would be useful in signaling an acute need and solving problems (e.g., when a youngster cannot stand up for himself with other persons).

The Underregulation of Angry Emotions

The underregulation of angry emotions is the most studied aspect of emotional processes in the development of psychopathology. It is most often associated with “externalizing” symptoms, that is, symptoms that disrupt or disturb others (see Hankin, Abela, Auerbach, McWhinnie, & Skitch, Chapter 14 of this volume, for greater discussion of externalizing problems). Anger is not exclusively linked to externalizing, however. Irritability and other forms of intense or reactive anger are also seen in individuals with anxious and depressive symptoms.

There is a wealth of studies showing relations between higher levels of anger, measured in various ways, and externalizing behavior problems, as reported by teachers or parents among both preschool and school-age children (e.g., Casey, 1996; Cole, Zahn-Waxler, & Smith, 1994; Eisenberg et al., 1994; Eisenberg et al., 2001; Gilliom, Shaw, Beck, Schonberg, & Lukon, 2002; Zeman, Shipman, & Suvcek, 2002). Research with adolescents has also shown the relation (Keltner, Moffitt, & Stouthamer-Loeber, 1995), although fewer studies have been conducted with this age group (Sheeber, Allen, Davis, & Sorenson, 2000). Children with externalizing problems are often persistent, defiant, oppositional, or aggressive in their efforts to achieve goals, at the cost of disrupting their relationships.

Relations between underregulated anger and symptomatic behavior are context specific and may vary as a function of situation, a person’s gender, or cultural display rules. Anger displays in boys may be viewed as more acceptable than anger in girls, which may contribute to boys’ greater rates of overt aggression (Brody & Hall, 1993; Keenan & Shaw, 1997). Young girls with externalizing symptoms, on the other hand, may overregulate anger expressions in certain interpersonal contexts (Cole et al., 1994). Thus, relations between symptoms and particular emotions, such as angry defiance, are complex and must be considered in terms of context.

Anger has been most clearly articulated as a risk factor for externalizing disorders in Patterson’s (1986) coercive cycle model. In a
coercive cycle, a young child defies the parent, who then becomes angry, leading to an escalation of child and parental anger until one party yields. In other words, these parent-child dyads escalate, rather than modulate, each other’s anger in their attempts to influence each other. The model has withstood empirical tests. In children as young as preschool age, mutually angry interactions are associated with early externalizing problems (Cole, Teri, & Zahn-Waxler, 2003; Dumas, LaFreniere, & Serketch, 1995; Denham et al., 2000), and reciprocal anger between parents and youth is also correlated with conduct disorder in adolescents (Dadds, Sanders, Morrison, & Rebgetz, 1992; Sanders, Dadds, Johnston, & Cash, 1992). Moreover, high levels of anger expression are not merely correlates of externalizing problems; they forecast continuing problems. Longitudinal studies that began when participants were infants or preschoolers, for example, show that early indications of anger underregulation predispose children to later disruptive behavior problems (Bates, Pettit, Dodge, & Ridge, 1998; Chaplin, Cole, & Zahn-Waxler, in press; Cole et al., 2003; Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996; Eisenberg et al., 1997; Gilliom et al., 2002).

In a review of the adult literature, Kring and Bachorowski (1999) discussed links between the biologically based approach motivational system and antisocial personality disorder. They suggested that the underregulation of approach behavior, involving physiological responses to angry emotions, may predispose a youth to acting without regard for others. Anger has been theoretically linked to both approach and withdrawal areas of the brain (Coan & Allen, 2004; Harmon-Jones, 2003), and research is needed to better understand how anger and approach and withdrawal are related. Nonetheless, it is clear that dysregulated anger is a risk factor for psychopathology, and particularly for externalizing disorders.

Although links between underregulated anger and externalizing symptoms are clear, there is not an isomorphic relation between them. For example, children with elevated depressive symptoms reveal hostile interpretations of events (Quiggle, Garber, Panak, & Dodge, 1992), a form of underregulation of anger appraisal. Interestingly, what distinguishes children with high depressive symptoms from those with high externalizing symptoms is that, despite angry ideas organizing their perceptions and perhaps their feelings, depressed children are less likely than externalizing children to act aggressively. Thus, the regulation of angry experience and expression both need to be considered.

The Overregulation of Angry Emotions

Although the underregulation of angry emotions has received the lion’s share of empirical attention, the overregulation of anger is also considered a risk factor in the development of psychopathology. Many individuals with depressed and anxious symptoms report intense and recurrent angry emotional experiences (Clark & Watson, 1991; Hankin & Abramson, 2001), although others report feeling unable to experience anger. Still others seem angry but are unable to recognize their anger. Every clinician has experience with a client who furiously insists, “I’m NOT angry.” A pattern of experiencing high levels of frustration and irritation but regularly trying to suppress or to mask them is argued to create vulnerability for depression (Biaggio & Godwin, 1987; Gross, 1999; Gross & John, 2003; Zahn-Waxler, 2001).

Angry emotions support self-assertion and maintenance of one’s individuality, autonomy, and dominance. Difficulties in establishing a firm sense of autonomy or mastery may reflect anger overregulation and are related to depressive symptoms in adolescents (Allen, Hauser, Eickholt, Bell, & O’Connor, 1994; Burhans & Dweck, 1995; Kobak & Ferenz-Gillies, 1995). A young
child who experiences barriers to, and attendant frustration at, getting goals met but who, for various reasons, develops a pattern of stifling frustration, injustice, or protest may be vulnerable to psychopathology and perhaps prone to depression. Suppression of outward anger implies that the anger is still felt (Gross & John, 2003), and in many clinical cases, that suppressed anger is turned inward. In children, the suppression of strongly felt anger may lead to self-criticism and blame, commonly associated with depression (Abraham, 1924/1968; Izard, 1972).

Girls may be particularly vulnerable to this style of anger regulation (Zahn-Waxler, 2001). In one study, introverted, oversocialized traits in 7-year-olds were predictive of adolescent depression in girls, whereas aggressive, undercontrolled traits were predictive of later depressive symptoms for boys (Block, Gjerde, & Block, 1991). It may be that girls in stressful conditions are prone to exaggerate their interpersonally oriented gender role and therefore be at particular risk for depression, in contrast to boys, whose role orientation is not focused on concern about the effect of their anger on others (Zahn-Waxler, Klieme Dougan, & Slattery, 2000). Females' propensity for focusing on others' needs, above their own, has been linked to depression in females (LeDebanter, Kuperminc, Blatt, & Hertzog, 1999).

Most discussion of the overregulation of anger focuses on individuals who experience high levels of angry emotions but do not feel entitled to express or even feel them. Reports of high levels of anger and self-directed hostility feelings are correlated with depressive symptoms and diagnoses of depression in children and adolescents (Blumberg & Izard, 1985; Carey, Finch, & Carey, 1991). Less research has examined whether children and adolescents at risk for depression actually suppress their feelings of anger, although studies showing a tendency for depressed children to have hostile feelings but not act on them are consistent with overregulation of anger being associated with depression (Quiggle et al., 1992). Higher levels of angry emotions generally, coupled with lower levels of observed anger in a specific frustrating situation, accounted for depressive symptoms in college students (Chaplin, 2004). Observed suppression of aggression toward mothers was associated with increases in levels of depression for adolescent girls 1 year later (Davis, Sheeber, Hops, & Tildesley, 2000).

There are few prospective studies of early anger patterns. The few that exist show that later depression can be predicted by overcontrolled and introspектив traits in early childhood (Block et al., 1991; Caspi, Henry, McGee, Moffitt, & Silva, 1995). Suppression of anger may be implicated in those traits, but more research is needed.

**Happiness: Approaching the Environment**

Like anger, happiness involves an approach-oriented motivational stance. The family of happy emotions motivates humans to reach out into their environment in order to promote personal growth and growth of harmony with family, friends, and community (Izard & Ackerman, 2000). Also, happy feelings appear to involve activation of the left prefrontal cortex, an area of the brain associated with approach-oriented goals and behavior (Davidson, 2000). Poorly regulated expressions and feelings of happy emotions are linked with the impulsivity and expansiveness symptomatic of disorders such as attention deficit hyperactivity disorder (ADHD) and mania (Barkley, 1997, 2003). On the other hand, difficulty experiencing joy in situations that previously made one happy defines anhedonia and associated conditions, symptoms of depressive disorders (Clark & Watson, 1991; Henriches & Davidson, 1991; Izard, 1972; Hankin & Abramson, 2001).

Generally, expressions and feelings of pleasure and happiness reflect the satisfaction
of goals for well-being. Such satisfaction, however, can come at another's expense. Relatively little research has examined phenomena such as gleeful aggression and happy victimization. Yet, some examples of conduct problems and antisocial behavior involve enjoyment at another's expense. Preschoolers who expressed joy while aggressing against a peer were in fact more aggressive, less accepted by peers, and rated by teachers as less socially competent than preschoolers who did not express joy under such circumstances (Arsenio, Cooperman, & Lover, 2000).

The Underregulation of Happy Emotions

The underregulation of happiness creates risk when it overtakes behavior and creates problems for one's own well-being or the well-being of others. The creativity of some famous artists, perhaps reflecting the openness to experience associated with happiness, has been attributed to manic phases (Jamison, 1993). Another potentially problematic pattern is a presentation of cheerfulness that is not felt (Hochschild, 1983; Zahn-Waxler, 2001; Zahn-Waxler, Cole, & Barrett, 1991). Thus, abundant joy, when it overtakes goals of effective personal action or social propriety, is dysregulated.

Theorists and clinicians have noted that children with ADHD often express exuberant joy, even in inappropriate situations (Barkley, 1997; Saarni, 1999; Whalen & Henker, 1985). Barkley (1997) proposed that ADHD involves a failure to inhibit emotion expressions and to understand how to coordinate expressions to situations. Boys with ADHD report more “pleasurable” reactions to startling sounds than boys without ADHD, suggesting that they feel happy when others feel discomfort (Ornitz et al., 1997).

At the same time, ADHD often co-occurs with anxiety and major depression, suggesting that some children with ADHD may also experience strong negative emotions. Thus, children with ADHD may show general deficits in emotion regulation rather than dysregulation involving a specific set of emotions. One study found concurrent relations between ineffective emotion regulation in a frustrating task (difficulty maintaining focus and effort and not displaying disruptive emotions such as anger) and ADHD in boys, particularly those with aggressive behavior (Melnick & Hinshaw, 2000). Future research should explore these relations longitudinally, including an examination of the degree to which earlier attentional and emotional difficulties forecast the development of ADHD symptoms in preschool and school age.

In bipolar disorders, euphoric states that overtake the best interest of the individual as well as others are observed. Bipolar disorder in adults, and somewhat in children, is characterized by mood lability, particularly alternations between depression and elation (Nottelmann et al., 2001). The euphoric moods are associated with behaviors such as unrestrained spending, risk taking, and sexual promiscuity. There is surprisingly little research on the developmental origins of dysregulated joy. Recent studies have shown that high levels of elated mood in children and early adolescents are related to concurrent bipolar disorder diagnoses (Geller et al., 2002). Interestingly, Geller and colleagues (1998) find that elated mood may be specific to children with bipolar disorder and may differentiate them from children with ADHD. However, much more remains to be known about the rôle of underregulated joy and the development of different disorders and more broadly about emotional lability.

Lack of Happy Emotions

Difficulty experiencing joy or happiness is related to psychopathology, notably unipolar depressive disorders (APA, 1994; WHO, 1993; see Hankin & Abela, Chapter 10 of this volume, for greater discussion about depression). Even when circumstances are
difficult, the up-regulation of positive emotion is thought to be a sign of health (Folkman & Moskowitz, 2000). Although depression typically does not emerge until adolescence, difficulty generating and experiencing happiness and joy can be present early in childhood. Without an adequate reserve of happiness to motivate seeking out experiences and companionship with others, particularly in the presence of life circumstances that do not compensate for difficulty up-regulating positive emotions, children may be at risk for depression. Children who are low in happiness may appear unhappy or affectively flat. Others may cover anhedonia with inauthentic happy expressions despite persistently feeling unhappy.

Empirical evidence on relations between a lack of happiness and actual symptoms of clinical depression has been found in research using both physiological and self-report measures of emotion experience. Studies of brain activity show that depressed adults, as compared to nondisordered adults, have lower activation of the left prefrontal cortex, the area associated with approach-related positive emotion (e.g., Davidson, 2000; Henriques & Davidson, 1991). Young children of depressed mothers show similar patterns of neural activity (Dawson et al., 1999; Dawson et al., 2001). Consistent with these findings, children’s and adolescents’ reports of low levels of happiness are correlated with self-reported depressive symptoms (Blumberg & Izard, 1985; Carey et al., 1991; Chaplin, 2004; Hammen & Rudolph, 1996). This correlation remains even after controlling for item overlap between self-reports of emotion and depressive symptoms (Blumberg & Izard; Chaplin). Also, low self-reported happiness is more characteristic of depressive disorders than elevated sadness, and in fact, low levels of happiness distinguish depressive disorders from anxiety disorders (Clark & Watson, 1991; Mineka, Watson, & Clark, 1998).

False cheeriness, when unhappy children try to appear cheerful, may constitute risk for psychopathology. Some children express happiness even when they are not feeling it in order to please others or to keep harmony in relations with others (Zahn-Waxler, 2001). Even infants can be “overly cheery” to regulate interactions with an unresponsive caregiver (Cassidy, 1994). This may be more common for females, because girls are socialized to focus on the needs of others (Gilligan, 1982). False cheeriness that becomes a style of dealing with an averse or unresponsive environment may occur at the cost of honest emotional expression and assertion and potential vulnerability to internalizing disorders including depression. Further research is needed to identify whether overly cheerful expressions in early childhood may create vulnerability for the development of depression and gender differences in depression later in development.

**Empathy: Approaching Others in Distress**

Empathy is typically classified as a social emotion, reflecting a motivational orientation toward acting for the welfare of persons in distress (Miller & Eisenberg, 1988; Zahn-Waxler, 2001). Authors have distinguished two forms of empathy (e.g., Eisenberg et al., 1988; Zahn-Waxler): empathic concern and personal distress. Empathic concern may be considered an approach-oriented emotion, motivating inquiry and aid. Personal distress, however, involves fear or anxiety and withdrawal from the discomfort (Eisenberg et al., 1988). In this chapter, we consider personal distress as fear based; in this section we focus on empathic concern.

Concern for others’ distress is considered a milestone of prosocial development. Empathic concern fosters caring relationships and a sense of conscience or morality (Hoffman, 1982; Kochanska, DeVet, Goldman, Murray, & Putnam, 1994). When, then, does empathic concern contribute to vulnerability for psychopathology? Risk arises if a child feels
empathy for others to the exclusion of taking care of his or her own needs; such a pattern is thought to create risk for the development of internalizing disorders, including depression and anxiety (Zahn-Waxler, 2001; Zahn-Waxler et al., 1991). Alternately, if children show a chronic underexperience of empathy when seeing others in distress, they may be at risk for conduct disorder in childhood or adolescence and could be at elevated risk for later antisocial personality disorder in adulthood (Miller & Eisenberg, 1988).

The Overregulation of Empathic Concern

The inability to up-regulate empathy is thought to be a risk factor for conduct disorder and antisocial personality disorder (Feshbach & Feshbach, 1969; Miller & Eisenberg, 1988). The main feature of antisocial personality disorder, for example, is “a persistent disregard for and violation of the rights of others” (APA, 1994). This includes stealing, lying, or violence. Impoverished empathic concern may be one factor that enables such callous acts, which disregard the pain and suffering of others. It is as yet unknown whether individuals are born without a capacity to experience empathy or whether abusive or neglectful early environments interfere with the normal development of empathic concern (Frick, Cornell, Barry, Bodin, & Danc, 2003).

Low levels of reported and observed empathic responding have been correlated with aggression and greater rates of externalizing problems in children, particularly in middle childhood and adolescence (e.g., Hughes, White, Sharpen, & Dunn, 2000; for meta-analysis, see Miller & Eisenberg, 1988). Studies also indicate that physiological underarousal while observing others in distress is associated with low empathic concern (e.g., Liew et al., 2003). It is not clear whether this develops in early childhood or is present at birth.

Children who lack empathic concern early in life may be at elevated risk for later conduct problems. A study of preschoolers who were at risk for the development of conduct problems, by virtue of elevated externalizing symptoms at age 4 to 5 years, did not differ in empathic concern (Zahn-Waxler, Cole, Welsh, & Fox, 1995). On follow-up, however, early concern for others predicted decreases in previously elevated externalizing problems (Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000). Moreover, externalizing preschoolers showed decreased concern for others by 6 to 7 years of age.

Lack of Empathic Concern

Whereas low levels of empathic concern for others in distress are associated with conduct problems, high levels of empathic concern can create vulnerability to psychopathology, particularly for internalizing disorders. Overly empathic children, especially if they also experience significant guilt, may put others’ needs above their own (Zahn-Waxler, 2001; Zahn-Waxler et al., 1991; Zahn-Waxler et al., 2000). An exaggerated sense of responsibility for others can interfere with the development of a strong sense of self and autonomy and lead to the passivity and low self-esteem of depression. Zahn-Waxler has also argued that the gender difference in empathy may be related to the preponderance of internalizing disorders among girls.

The theorized link between excessive empathic concern and internalizing disorders has only begun to be tested empirically. Most research focuses on high empathy as facilitating positive development. However, the potential cost of being “overly” prosocial has some empirical support. Hay and Pawlby (2003) found that extreme worry about others, a feature symptom of generalized anxiety disorder, was correlated with prosocial behavior. The nature of difficulties in empathic concerns and how they contribute
to the development of psychopathology is an interesting topic that requires more research focused on thorough analysis of the emotional components prior to the onset of formal disorder.

SADNESS, FEAR, GUILT, AND SHAME: THE CAPACITY TO WITHDRAW AND VULNERABILITY TO PSYCHOPATHOLOGY

Sadness: Relinquishing Goals

Sadness orients one toward withdrawal. It allows one to relinquish control over situations one cannot change or control (Barrett & Campos, 1987). Yet poorly regulated sadness may contribute to vulnerability for psychopathology. Intense or frequent sadness, particularly to the exclusion of other emotions, will lead to relinquishing control and withdrawing from challenges, behaviors that are common in depression. However, a rigid refusal to allow sad feelings or expressions may also create risk for psychopathology. Some individuals who turn to alcohol or drugs to cope may be trying to block out experiencing sadness (Wills, Sandy, & Yaeger, 2002).

The Underregulation of Sad Emotions

Persistent sadness is a feature of depression. A pattern of recurrent and intense sadness may exist in some children before they appear to be depressed (Blumberg & Izard, 1985). Such a pattern, in a context where children are stressed and unable to overcome those stresses, may lead to a predominant style of reacting to challenge with sadness and risk for depression. Hankin and Abramson (2001) argue that depression in adolescence is set in motion by initial negative affect (including sadness, but also anger and fear), which they theorize is caused by persistent negative life events (also see Abela, 2001; Abramson, Metalsky, & Alloy, 1989). The greater tendency for experiencing or expressing sadness in females (Broderick, 1998; Stapley & Haviland, 1989) may help to explain the gender difference in depression (Hankin & Abramson, 2001; Nolen-Hoeksema & Girgus, 1994). Nolen-Hoeksema and others have proposed that rumination, including thinking about and talking about one’s depressive symptoms (including sadness) may actually amplify the symptoms, creating increased sad feelings and increases of depression. Initial findings show that rumination is related to depressive symptoms in adolescents and in adults, particularly in the presence of stressful life events (Kraaij et al., 2003; Nolen-Hoeksema, Larson, & Grayson, 1999).

Subjective feelings of sadness are related to depressive symptoms in childhood (Blumberg & Izard, 1985; Carey et al., 1991) and late adolescence and adulthood (Chaplin, 2004; Kasch, Rottenberg, Arnow, & Gotlib, 2002). They are also associated with activation of the right prefrontal cortex (Davidson, 1998; Davidson & Fox, 1988). The offspring of depressed mothers, even infants, have higher relative activation in the right frontal brain area, although it is unclear whether this is due to heightened right activation (indicating sadness) or reduced left activation (associated with reduced joy) (Dawson et al., 1999; Field, Fox, Pickens, & Nawrocki, 1995; Jones, Field, Fox, Davalos, & Gomez, 2001). Moreover, infants of depressed mothers are more responsive to sad than to happy expressions by their mothers, suggesting a bias toward responding to sadness (Lundy, Field, Cigales, & Cuadra, 1997). Such a bias could prime children to develop a pattern of amplifying or rumination on sad feelings. Typically developing children, with no known risks, do not like feeling sad and will say that other children feel sad in appropriate contexts but that they themselves do not (Glasberg &
Aboud, 1982). Thus, the process of feeling very sad may constitute risk.

In addition to feelings of sadness, the expression of sadness is assumed to be related to depression. One criterion for diagnosing major depression is sad or tearful appearance, although children and adolescents may appear irritable rather than sad (APA, 1994; WHO, 1993). Empirical studies, however, have failed to find relations between sad expressions and depressive symptoms (Chaplin, 2004; Rottenberg, Gross, Willhelm, Najmi, & Godlib, 2002). Sanders and colleagues (1992) found that adolescents with depression, conduct disorder, or both appeared sadder during a family interaction than did normally developing adolescents. Casey (1996) reported similar findings for children with internalizing and externalizing disorders. Sadness experience may be related specifically to depression, but appearing sad, among other negative emotional expressions, may be a general aspect of psychopathology.

**The Overregulation of Sad Emotions**

Theory and research have not considered the risk of low levels of sad affect, in keeping with an emphasis on reducing negative affect. Cole, Michel et al. (1994) argued that the emotionally well-regulated person has access to the full range of emotions, including sadness. Wills and colleagues (2002) proposed that avoidance and distraction from one's sadness may predispose adolescents to substance use problems. A failure to appreciate lost objectives, to experience and convey sadness in close relationships, and to cope realistically with such loss may be signs of risk for maladjustment. Male gender roles that condemn the expression of submissive emotions (e.g., sadness) may place males at risk for overregulation (Nolen-Hoeksema & Girgus, 1994). Chaplin et al. (in press) found that preschool-age boys showed less sadness to their parents than girls during a difficult game. The overregulation of sadness could predispose children to persist in anger and to fail to realistically appraise situations in which they cannot or should not have control.

**Fear: Withdrawing From Danger**

The fearful emotions are our means of appraising danger to well-being and preparing to act swiftly and certainly to retreat and flee (Barrett & Campos, 1987; Izard & Ackerman, 2000). Persistent fearfulness, for example, behavioral inhibition (Kagan, Reznick, & Snidman, 1987) or chronic exposure to trauma (Cicchetti & Toth, 1997), may create vulnerability, especially for the development of anxiety disorders. Alternatively, fearlessness constitutes behavioral risk. Individuals who do not learn from punishment or failure, that is, individuals who behave as if they do not fear those outcomes, are at risk for the development of psychopathology.

**The Underregulation of Fear Emotions**

Generalized anxiety disorder involves excessive worrying (APA, 1994). Social phobia involves intense fear of negative evaluation by others (e.g., humiliation, embarrassment) to the point that one either avoids social situations or endures them with marked discomfort (APA). Both disorders are seen in children (see Williams, Reardon, Murray, & Cole, Chapter 11 in this volume) and are thought to have origins in early emotional functioning (Lonigan, Vasey, Phillips, & Hazen, 2004; Vasey & Dadds, 2001).

Proneness to fear and behavioral inhibition, both of which reflect fearfulness, have been linked to the development of anxiety disorders (Kagan et al., 1987; Rothbart & Bates, 1998). A predisposition to respond
to novelty fearfully by stopping action (inhibition) or by avoiding (withdrawal) does not by itself cause anxiety disorder. Coupled with certain styles of caregiving or circumstances that overtax the fear system, a child may not develop flexible coping skills to deal with this temperament tendency (Lonigan et al., 2004; Rothbart, Posner, & Hershey, 1995; see Tackett & Krueger, Chapter 8 in this volume, for discussion of temperament). The physiological reactions of temperamentally fearful children parallel those of individuals with anxiety disorders (Davidson, 2000; Kagan, Reznick, & Snidman, 1988). The evidence suggests that fearful individuals experience more activation of the biological fear system and difficulty regulating such arousal (Davidson, 2000; Davidson & Fox, 1988; Davidson, Marshall, Tomraken, & Henrique, 2000; Rauch et al., 1996; see Pihl and Nantel-Vivier, Chapter 4 in this volume, for review of biological vulnerabilities to psychopathology). Very young children identified as fear prone or behaviorally inhibited are more likely to develop anxiety disorders than other children (Biederman et al., 1990; Hirschfeld et al., 1992; Kagan, 1994).

Physiological evidence linking underregulated fear with anxiety disorders is supported by personality research that uses self-report instruments. These find that whereas general negative affectivity is predictive of both anxiety and depression (Clark, Watson, & Mineka, 1994), self-reported fear (termed autonomic hyperarousal) is specifically related to anxiety symptoms in adults (Brown, Chorpita, & Barlow, 1998) and in children (Chorpita, Albano, & Barlow, 1998; Ollendick, Yule, & Ollier, 1991). Thus, early fearfulness may specifically forecast later anxiety disorders, rather than general internalizing disorders, although there is a lack of longitudinal research (Lonigan et al., 2004).

The Overregulation of Fear Emotions

Overregulation of fear is associated with antisocial behaviors and traits. Insufficient fearfulness in the face of real danger leads to acting without caution and without appreciation of known consequences (Barkeley, 2004; Fowles, 1980; Lahey, Hart, Pliszka, Applegate, & McBurnett, 1993; Lykken, 1995). It is not known whether such persons overregulate fear or are unable to up-regulate fear in appropriate situations.

Children and adults with severe conduct problems show lower sympathetic arousal in situations that would normally involve increases in arousal, and they have lower resting heart rates (for review, see Lahey et al., 1993). Moreover, Raine, Venables, and Mednick (1997) found that low resting heart rate in 3-year-olds, one component of a fear reaction, predicted more severe aggressive conduct problems at age 11. In sum, there is evidence that antisocial behaviors may be a result of an underactive or overregulated fear response (see also Hankin et al., Chapter 14 of this volume), which, notably, may correspond to lower personal distress, one component of empathy.

Shame and Guilt: Withdrawing in the Eyes of Others

Shame and guilt, like empathy, are social emotions, considered to develop over time as children interact with their environment (H. B. Lewis, 1971) and possibly as children develop the cognitive ability to evaluate the self (M. Lewis, 2000). Shame is an aversive emotion that occurs when one perceives that the self is inadequate in some way and does not measure up to the ideal self (Higgins, 1987; M. Lewis, 2000; Tangney, 1993). Guilt is a related emotion but is thought to
refer more specifically to a behavior than to the self, for example, regret about a specific transgression that violates moral values (Tangney).

Shame and guilt motivate a person to care about socially determined values, and the capacity to experience them should be related to the development of moral behavior and conscience (Kochanska et al., 1994). Shame, at least in the cultural context of U.S. society, is often seen as creating more vulnerability for maladjustment than guilt, because it involves a negative evaluation about one’s entire self, not just a particular action, and can undermine self-esteem (M. Lewis, 2000; Tangney, 1993). It is noteworthy that many Asian peoples believe that shame is a necessary and healthy emotion that should be cultivated in a person (Kitayama, Markus, & Matsumoto, 1995).

Excessive shame, beyond what is expected in a society, is associated with withdrawal in situations that involve being evaluated by others. In college student samples, it is related to eating disorders (Reimer, 1996; Sanftner, Barlow, Marshall, & Tangney, 1995) and depressive symptoms (Tangney, Wagner, & Gramzow, 1992). Intense shame may also be turned against others, perhaps as a defensive reaction, creating feelings of rage and hostility that are related to conduct disorder, antisocial personality disorder, and narcissistic personality disorder (H. B. Lewis, 1971; Tangney, Wagner, Fletcher, & Gramzow, 1992; Wright, O'Leary, & Balkin, 1989). Feeling guilt even when one has not done anything wrong may also create risk for psychopathology. A proclivity toward guilt can lead to excessive self-blame, feelings of hopelessness, and depression (Zahn-Waxler, 2001; Zahn-Waxler & Robinson, 1995). Low levels of guilt (and some forms of shame), like low levels of empathic concern, may contribute to risk for conduct problems and aggressive behavior (Cimbora & McIntosh, 2003).

The Underregulation of Shame and Guilt

A pattern of exaggerated and intense shame and guilt may be implicated in the development of internalizing disorders (e.g., Tangney, 1993; Zahn-Waxler et al., 1991; see Cooper, Chapter 12 in this volume, for a review of eating disorders). Self-reports of feeling guilt and shame are correlated with depressive symptoms in children, adolescents, and adults (Blumberg & Izard, 1985; Izard, 1972; Tangney, Wagner, & Gramzow, 1992). Preschoolers with depressed mothers report more distorted and less resolved narratives about guilt (Zahn-Waxler, Kochanska, Krupnick, & McKnew, 1990). One possibility is that being exposed to maternal anhedonia and irritability, particularly when a young child does not have the cognitive resources to understand that a mother’s problems are not his or her fault, leads to unresolved guilt. An exaggerated sense of personal responsibility and guilt or shame might create risk for later depression.

Excessive feelings of shame have also been linked to the development of eating disorders (Reimer, 1996). Shame involves a perception that one’s self does not match up to an internalized standard, which could include standards about body shape. In college samples, self-reports of shame, but not guilt, are related to eating disorder symptoms (Sanftner et al., 1995). Eating disorders are more common among females, and the greater tendency of girls to endorse feelings of shame and guilt suggests consideration of these early emotional patterns as gender-related vulnerabilities for such problems (Tangney, 1993). The female tendency to feel shame may be exacerbated during puberty, particularly because girls have more negative evaluations of their bodily changes than boys at this time (Brooks-Gunn, 1988). Again, longitudinal research is needed.
The Overregulation of Shame and Guilt

Children with serious conduct problems and adults with antisocial personality disorder are often thought to lack guilt or shame (Damon, 1988). Young children who do not experience guilt in response to their misbehaviors may not internalize moral standards and a sense of conscience, which in turn could lead to acting out against others (Hoffman, 1982; Zahn-Waxler & Robinson, 1995). This pattern is a potential formula for conduct disorder and, later, antisocial personality disorder. Indeed, children with conduct problems are more likely to report that transgressors do not feel guilt while committing aggressive acts than are children without conduct problems (Cimbora & McIntosh, 2003; Eisikovits & Sagi, 1982).

The relation between shame and conduct problems may be more complex. One study found that embarrassment (a self-conscious emotion similar to shame) was less likely to occur in adolescent males with conduct disorder (Kelman et al., 1995). However, other research shows relations between shame and anger-proneness, resentment, and aggression, particularly indirect aggression (Tangney, Wagner, Fletcher, et al., 1992; Wicker, Payne, & Morgan, 1983). Thus, shame may engender two responses: an embarrassed response involving hiding from others, which may protect one from externalizing problems, and a rage response involving directing negative feelings toward others, which may lead to externalizing problems or relational aggression (Crick & Zahn-Waxler, 2003).

EMOTION REGULATION PATTERNS AND VULNERABILITY TO PSYCHOPATHOLOGY: A TRANSACTIONAL PERSPECTIVE

A central premise of our discussion is that maladaptive patterns of emotion regulation in childhood contribute to the development of psychopathology. It is not our position that all forms of psychopathology are caused by emotional problems. Rather, emotional functioning is an aspect of all psychological functioning, and, we believe, early signs of deviation in emotional functioning may precede the development of a formal disorder. Before children reach first grade, they have had thousands of emotional experiences and have developed consistent patterns of regulating emotions. With origins in early childhood and the tendency for patterns of emotional reactions and regulation to become fairly automatic, emotion regulation often occurs out of a person's awareness. In fact, clinicians expend considerable thought and effort helping clients understand or modify such highly patterned responses (Greenberg & Safran, 1987; Russell & Shirk, 1998).

Although much remains to be known about how emotion regulation early in life might lead to psychopathology, considerable research is under way to explore these links. The transactional model is particularly useful for conceptualizing the role of emotion regulation in the development of psychopathology (Cummings, Davies, & Campbell, 2000; Sameroff, 1975, 2000). From this perspective, environmental stresses (see Grant & McMahon, Chapter 1 in this volume, for discussion of stress) interact with an individual's regulatory style in reciprocal fashion to determine outcomes such as adjustment or psychopathology. Stressors (a) influence emotion regulation style (e.g., a child hitting another child at school after seeing his parents hit each other), (b) are influenced by an individual's emotion regulation style (e.g., a child who tends to be angry or irritable elicits more physical punishment from his or her parents), and (c) interact with an individual's emotion regulation style over time (e.g., a child copes with his or her parents' divorce by expressing
extreme anger and acting out, leading to an expression of externalizing problems).

In infancy and early childhood, one major stressor is caregiver dysfunction (Goodman & Gotlib, 1999). A caregiver's capacity to be emotionally available and exert developmentally sensitive control is clearly crucial to a child's healthy development (Collins, Maccoby, Steinberg, & Hetherington, 2000; Parke, 2004). Moreover, a caregiver's skillfulness must be sensitive to the particular needs of the child (Kochanska, 1995; Thomas & Chess, 1977). That is, children enter their worlds with different styles and needs and require different treatment from their caregivers. A transactional model assumes that there must be an adequate fit between the caregiving context and the child to lead to positive developmental outcomes. For example, temperamental difficulties is less likely to lead to externalizing symptoms in the presence of caregivers who set flexible, appropriate limits on child misbehavior (Bates et al., 1998).

A child may face any number of stressors in the course of development. Within the family, research has focused on marital conflict and divorce (Davies & Cummings, 1994), domestic violence between parents (Jouriles, Norwood, McDonald, & Peters, 2001), death of a parent (Garmezy & Rutter, 1984), poverty (Mcloyd, 1998), and physical and sexual abuse or neglect of children (Cicchetti & Toth, 1997). These stressors have direct consequences for a child's ability to engage in flexible emotion regulation. For example, physically abused children are more hypersensitive than other children to angry facial displays (Pollak & Tolley-Schell, 2003). This sensitivity is adaptive in a family where anger leads to danger, but it can also lead to other problems, such as overinterpretation of peers' behavior as hostile (Crick & Dodge, 1994).

At the start of adolescence, there are new stressors, including the onset of puberty and associated bodily changes and the transition to junior high school, which can lead to adjustment problems or the emergence of disorders for certain youth (Brooks-Gunn, 1988; Eccles et al., 1993). The adolescent must also negotiate the transition to adulthood in terms of roles and relationships (Arnett, 2000). Each of these potential stressors during adolescence may reciprocally influence and be influenced by emotion regulation patterns, helping to shape an adolescent's emotional style and possibly exacerbating emotional risk factors, leading to psychopathology.

**SUMMARY**

In sum, emotional regulation is central to conceptualizations of the development of psychopathology. The key to a healthy emotional life is balance and the capacity to modulate one's emotional experience and behavior with situational demands and constraints in culturally acceptable ways. Dysregulated emotional functioning, involving difficulty engaging in flexible regulation of emotion that coordinates the individual's goals with the needs of others and the standards of one's social group, is one pathway to the development of psychopathology. Biological stressors and challenging life experiences strain the preadapted system of emotional functioning and can set the stage for vulnerability. These strains can affect one, but often more than one, emotion system. They can also exacerbate preexisting emotional vulnerabilities, such as temperamental proneness to anger or fear. We are confident that future research on the role of emotion will advance our understanding of how child-environment transactions influence the development of psychopathology. The evidence that exists suggests that psychological impairment is closely tied to early patterns of emotion regulation that are exaggerated, inflexible, or otherwise poorly regulated.
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