
Family Context in the Development of Psychopathology

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High public health significance is attached to understanding how family relationships impact child psychopathology. Decades of research have established that a wide array of family characteristics serve as pivotal precursors of children's mental health outcomes (Morris, Silk, Steinberg, Myers, & Robinson, 2007; Repetti, Taylor, & Seeman, 2002). Reviews of the literature within the framework of "risky" family environments have specifically documented that aggression, conflict, and disengagement in the whole family, parent-child, interparental, and sibling contexts qualify as risk factors for the emergence and persistence of psychological problems throughout childhood and adulthood (Repetti, Robles, & Reynolds, 2011; Repetti et al., 2002). Since the last edition of this book over 10 years ago, significant headway has been made in elucidating the processes and conditions underlying the variability in outcomes of children exposed to these specific family characteristics. By the same token, significant gaps remain in understanding how and why family processes affect children's mental health within a developmental framework. Accordingly, the overarching objective of this chapter is to describe the progress, potential, and challenges

in characterizing the unfolding cascade of developmental processes underlying links between risky family contexts and child psychopathology.

Figure 8.1 illustrates our organizational framework for addressing the central conceptual and empirical themes for research on family processes and developmental psychopathology. To provide a bridge between the existing family risk research and our developmental perspective, the first section of the chapter provides a brief synopsis of the primary family relationship characteristics that serve as proximal risk factors for the development of psychopathology. Next, we illustrate some of the advances that have been made in contextualizing these risk factors within the broader dynamics of the family. Building on the analysis of risk factors, the following sections of the paper examine the question of how and why these family risk factors increase children's risk for psychopathology. Toward the goal of more deeply characterizing the diversity of trajectories of adaptation, we demonstrate the utility of identifying the regulatory conditions and contexts that underlie the sources of heterogeneity in the developmental pathways children follow. In closing the chapter, we briefly summarize the progress in relation to the next generation of research.

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Family Risk Factors

In the terminology of developmental psychopathology, risk factors are defined as characteristics that probabilistically increase the likelihood of

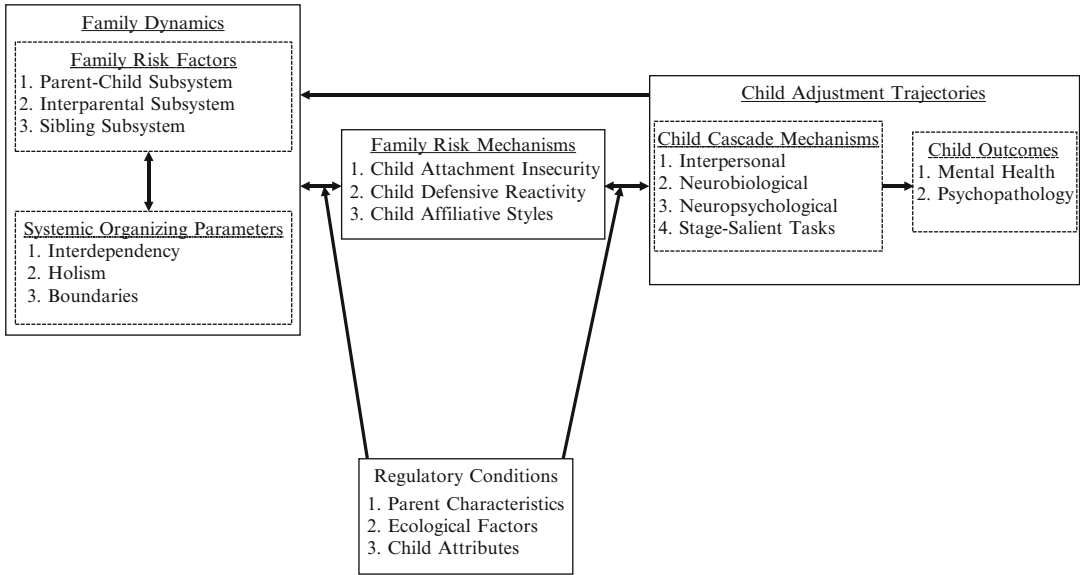


Fig. 8.1 A graphical depiction of our organizational framework for understanding the developmental pathways, mechanisms, and conditions underlying associa-

tions among family characteristics and children's developmental psychopathology

child maladjustment. For the sake of parsimony, we selectively focus on the more heavily investigated classes of family risk factors as a way to concisely summarize key findings in the literature (see Fig. 8.1). Consistent with key subsystems identified in family systems theory, the following sections summarize the primary attributes of the parent-child, interparental, and sibling relationships that are associated with individual differences in children's psychopathology.

Parent-Child Subsystem

One of the most proximal developmental contexts for children is the parent-child subsystem. Although family systems theory emphasizes the transactional nature of subsystem relationships (Cox & Paley, 1997), theoretical conceptualizations of the dynamics of the parent-child subsystem have predominantly elaborated on the unidirectional effects by which parenting influences children's developing capacities. Thus, the behaviors and strategies used by parents toward socializing children have historically been dimensionalized across two primary

axes including sensitivity/responsiveness and demandingness/control (Barber, 1996; Maccoby & Martin, 1983), out of which arise a tripartite classification of parental behavior including warmth/support, behavioral control, and psychological control (Barber, 1996). Parental warmth/support has been conceptualized as parental behaviors that convey positive affect and emotional availability, are sensitively responsive to the emotional needs of the child, and suggest a supportive presence on the part of the caregiver. Parental behavioral control refers to the regulation or structure of children's behavior through monitoring and discipline, whereas psychological control involves parental attempts to control and constrain a child's psychological world through guilt induction, love withdrawal, and manipulation of feelings (e.g., Barber, 1996).

Over several decades, empirical research has examined how diminished caretaking across different parenting practices increases children's vulnerability to mental health difficulties and socioemotional maladjustment (Borkowski, Ramey, & Bristol-Power, 2002). Although a full accounting of the multitude of research examining these parenting behaviors and child

psychopathology is beyond the scope of this chapter, empirical work has delineated associations between these constructs and children's depressive symptoms (McLeod, Weisz, & Wood, 2007), externalizing problems (Hoeve et al., 2009), and peer relationships (Clark & Ladd, 2000). Some specificity between parenting practices and developmental outcomes has been reported. Specifically, research suggests that poor behavioral control is primarily related to externalizing symptomatology whereas psychological control and warmth/support may be more strongly associated with poor self-esteem, low agency, and internalizing symptomatology (e.g., Barber, Olsen, & Shagle, 1994; Gray & Steinberg, 1999).

Toward achieving greater precision in delineating how these wide constellations of parenting behaviors may differentially influence children's development, theorists have utilized pattern-based conceptualizations of parenting and parent-child relationship dynamics. Using the original dimensions of parenting behaviors, four broad parenting profiles have been demarcated in the literature including authoritative, authoritarian, permissive/indulgent, and rejecting/neglecting (Maccoby & Martin, 1983), and findings suggest some specificity of effects on children's adjustment. Authoritarian parenting styles characterized by high levels of both demandingness and responsiveness have been associated with the highest levels of adjustment in children (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). However, findings suggest that lax/permissive (low demandingness/high responsiveness) and rejecting/neglecting (low demandingness/low responsiveness) parenting styles are linked to a plethora of adverse outcomes including insecure forms of attachment, difficulties in peer relationships, higher levels of misconduct and externalizing symptomatology, lower self-regulation, and lower academic achievement and school competence (e.g., Luyckx et al., 2011). In contrast, research examining authoritarian parenting styles has produced mixed outcomes with some studies suggesting either a risk or protective effect of authoritarian parenting within certain ecological niches (Steinberg & Silk, 2002).

Interparental Relationship Characteristics

Due to the prevalence of divorce, cohabitation, remarriage, and premarital childbearing, children in contemporary society vary widely in their experience of different relationship arrangements between parents. Research examining different family structures has documented that the experience of interparental relationship instability in the form of separations, the establishment of new romantic relationships, and single parenthood place children at risk for psychological problems, including academic difficulties, poor social competence, emotional problems, and delinquency (Amato, 2010; Cavanagh & Huston, 2008). Nevertheless, it is important not to over-pathologize the risk associated with these forms of interparental relationship instability. Structural changes in the interparental relationship are generally modest risk factors for psychopathology. Moreover, research has shown that the emotional tenor and quality of the interparental relationship is a more potent risk factor and a primary mechanism that explains why interparental transitions take a psychological toll on children (Grych & Fincham, 2001).

Interparental relationship quality is, itself, a broad construct consisting of multiple dimensions. Initial empirical efforts to more precisely identify the risk properties underlying interparental relationship quality underscored the developmental significance of how parents manage stress, conflict, and challenges. For example, conflict between parents is a better predictor of a wide range of child problems than general distress or dissatisfaction between parents (Jouriles et al., 1991). However, because disputes and disagreements between parents are common occurrences in homes, it is important to distinguish between the properties of conflict that are harmful and benign for children. Constructive forms of conflict involving calm, rational disagreements that end in resolution are associated with better psychological adjustment in children (Cummings & Davies, 2010). In fact, constructive conflict

may have a positive effect, teaching children important conflict management strategies that they can subsequently use when interacting with siblings and peers (Davies, Martin, & Cicchetti, 2013; McCoy, Cummings, & Davies, 2009). Conversely, high levels of hostile, escalating, and unresolved forms of interparental conflict are consistent predictors of a wide array of child problems, including social difficulties, behavioral problems, emotional symptoms, academic setbacks, and physical troubles (e.g., illness, sleep problems). Research has further shown that physical violence, psychological abuse (i.e., name-calling, threats), and disagreements over child-rearing constitute particularly damaging forms of interparental conflict that incrementally predict children's vulnerability to psychopathology beyond the risk conferred by global discord and hostility between parents (Fergusson & Horwood, 1998; Jouriles et al., 1991; McHale & Fivaz-Depeursinge, 1999).

Sibling Relationship Quality

Family scholars have increasingly turned their attention to the dynamics of the sibling relationship as a context for children's development (Dunn, 1991). Attesting to the importance of sibling relationships, an estimated 80% of children will grow up with a sibling (Cicirelli, 1995), and children spend more time on average interacting with their siblings than with parents or other family members in the household (e.g., McHale & Crouter, 1996). Given the more egalitarian nature of siblings with respect to power and dominance within a family hierarchy, research examining the impact of siblings on individual's socioemotional development has primarily focused on the two parameters of sibling relationships: conflict and cohesion. With respect to conflict between sibling dyads, studies have linked aversive, chronic, and physical conflict to a host of adjustment difficulties including internalizing symptoms (Milevsky & Levitt, 2005), lower social competence (Stormshak, Bellanti, & Bierman, 1996), and externalizing problems (Ensor, Marks, Jacobs, & Hughes, 2010). In terms of relational

cohesion and warmth, sibling relationships may provide an opportunity to express emotions, communicate wants and needs, as well as provide a context for emotional support. Sibling warmth has been linked with positive self-worth (Stocker, 1994), reduced externalizing behavior (Branje, van Lieshout, van Aken, & Haselager, 2004), and more resilient functioning in the context of environmental adversity (e.g., Jenkins, 1992).

Systemic Organizing Parameters

Although identifying characteristics of specific family relationships that serve as risk factors is a valuable approach in developmental psychopathology, a complementary objective in family process research is to better understand how each specific family characteristic operates in the context of the larger fabric of the family system. Within the open system conceptualization of family systems theory, any one subsystem or individual is regarded as inextricably embedded within the family unit. Systemic processes operating at the broader family level play a critical role in regulating how family characteristics operate together to influence children's psychological maladjustment. Open system frameworks are instantiated more precisely in several key principles. For the sake of illustration, Figure 8.1 depicts the role of three concepts in advancing the field of developmental psychopathology: interdependency, holism, and boundaries.

Interdependency

Interdependency refers to the existence of the reciprocal influences among subsystems and individuals in the family (Cox & Paley, 1997; Minuchin, 1985). Each family relationship (e.g., parent-child subsystem) and its members are conceptualized as both causes and products of one another. Thus, perturbations in any one subsystem are posited to reverberate through other family relationships in a negative reciprocal cycle. Since Patricia Minuchin (1985) broadly introduced the concept of circularity to a large

audience of developmental scientists, developmental psychopathology models of family process have increasingly acknowledged the operation of bidirectional influences between multiple family subsystems (McHale, 2007). Consistent with these assumptions, interparental animosity and distress predicts subsequent coparenting difficulties characterized by lack of mutual support in child-rearing, active undermining of each other's parenting goals, and greater discrepancies between parents in their levels of involvement with their children (Paley, O'Connor, Kogan, & Findlay, 2005). Interparental conflict is also associated with ensuing decrements in parenting (e.g., warmth, involvement, discipline) and parent-child relationship qualities across an array of temporal spans (i.e., days, months, and years) and methodological designs (Almeida, Wethington, & Chandler, 1999; Jouriles & Farris, 1992; Sturge-Apple, Davies, & Cummings, 2006a). In demonstrating bidirectionality among subsystems, other studies have indicated that coparenting relationship qualities are key prognosticators of subsequent increases in interparental discord (e.g., Schoppe-Sullivan, Mangelsdorf, Frosch, & McHale, 2004).

Documentation of transactions among family subsystems begs the question of how multiple risk factors in the family operate together in understanding the development of psychopathology. In integrating this systemic principle into family risk models of child psychopathology, researchers have gained a fuller appreciation of the multitude and complexity of mediational pathways among family risk factors and child psychopathology. For example, many family theories postulate that interparental hostility increases children's vulnerability to psychological problems by undermining parenting practices and the parent-child relationship (e.g., Davies & Cummings, 1994; Grych & Fincham, 1990). Supporting this hypothesis, there is now empirical evidence indicating that the association between interparental conflict and child psychopathology is partially accounted for by a wide array of parenting difficulties, including low warmth, disengagement, inconsistent and harsh discipline, hostility, and psychological

control (Gerard, Krishnakumar, & Buehler, 2006; Sturge-Apple, Davies, & Cummings, 2006b). Likewise, coparenting difficulties have also been delineated as key explanatory processes underlying the heightened vulnerability of children exposed to destructive interparental conflict (Cui, Donnellan, & Conger, 2007; Katz & Low, 2004).

Holism

According to the principle of holism, the family as a unit is not simply reducible to an additive aggregation of functioning within each family subsystem (Cox & Paley, 1997). In the field of developmental psychopathology, a primary corollary is that the collective adjustment of the whole family unit will have distinct implications for children's development even after considering the additive contributions of each family subsystem. Empirical tests of this hypothesis are difficult to conduct due to the challenges of ensuring that targeted dimensions of functioning with each family subsystem are assessed in a comparably comprehensive way as the "holistic" or family-level forms of functioning. In spite of these challenges, studies have supported the distinctive developmental advantages of capturing family-level functioning above and beyond the analysis of the family subsystems (e.g., Ackerman, Kogos, Youngstrom, Schoff, & Izard, 1999; Katz & Low, 2004; McHale & Rasmussen, 1998). For example, McHale and Rasmussen (1998) reported that observations of family-level dynamics (i.e., hostility, harmony, discrepancies in parent involvement) in triadic interactions involving mothers, fathers, and infants predicted child psychological problems 3 years later even after controlling for parental characteristics and marital quality.

The significance of holism is also evident at dyadic or individual levels of analysis in the family as it assumes that any aspect of functioning in a subsystem gains critical meaning and purpose from other parts of the family unit. Thus, any attempt to disaggregate specific family risk factors from the broader constellation of family

processes must be balanced by complementary efforts to understand how family characteristics may have different implications for children depending on characteristics in the larger family context. For example, according to the compensatory hypothesis, some parents who are facing high levels of discord may defy the odds of experiencing parenting difficulties and even devote substantial efforts to offset children's vulnerability to this adversity by increasing their warmth, engagement, and responsiveness in interactions with children (e.g., Cox, Paley, & Harter, 2001). As McHale (2007) notes, high levels of warmth and engagement are commonly interpreted as beneficial for children and families. However, family systems theory cautions against interpreting increases in positive parenting in high-conflict homes at face value. Under some family conditions, warmth is part of a broader pattern of parent-child triangulation, emotional entanglement, and intrusiveness (Kretchmar & Jacobvitz, 2002; Marvin & Stewart, 1990). In other words, associations among a focal family predictor (e.g., warmth) and children's psychopathology are assumed to be moderated by (or vary as a function of) the broader organization of the family climate (e.g., triangulation, entanglement). Thus, understanding diversity and underlying meaning of patterns of relations between family characteristics and child psychopathology will require progressively holistic accounts of the family system.

Boundaries

In building on the notion of holism, family systems frameworks underscore the usefulness of analyzing interpersonal boundaries in fully deciphering the meaning of interaction patterns in family subsystems. Boundaries within and across relationships in the family are defined by characteristic ways of exchanging resources, information, and materials in the family unit. Although theory and research on family systems has identified a number of different configurations of emotional and relational functioning in the family, cohesive, disengaged, enmeshed, and triangulated patterns of communication have been

most consistently delineated in empirical work (Davies, Cummings, & Winter, 2004; Johnson, 2010; Kerig, 1995; Kretchmar & Jacobvitz, 2002; Minuchin, 1974). Flexible, well-defined boundaries characteristic of cohesive families provide children with ready access to resources (e.g., warmth, support, guidance) while respecting their autonomy and individuality. Conflict and distress among family members tend to be mild, well-managed, and encapsulated within interparental, parent-child, and sibling relationships and are substantially outweighed by warmth, affection, and autonomy support. Thus, children in these families tend to develop along healthy psychological trajectories.

Children growing up in families with the other types of boundaries have been shown to fare significantly worse than children in cohesive families. Overly rigid, thick, and inflexible boundaries in disengaged families block access to support, protection, and other resources across family subsystems. Consequently, high levels of emotional detachment, apathy, and alienation are commonly accompanied by bouts of hostility and collectively serve to increase or maintain psychological distance between family members. As a result, children growing up in these homes evince a heightened risk for developing patterns of maladjustment characterized by high interpersonal disregard, social withdrawal, and externalizing problems (Jacobvitz, Hazen, Curran, & Hitchens, 2004; Sturge-Apple, Davies, & Cummings, 2010). In contrast, enmeshed families are characterized by weak metaphorical boundaries in families in which children's access to resources commonly comes at a price of a loss of autonomy and undue exposure to discord and turmoil. Thus, any displays of warmth and support commonly occur in a larger context of family expressions of psychological control, intrusiveness, and hostility that tend to proliferate seamlessly across individuals and relationships. By emotionally drawing or coaxing children into family difficulties, theory and research support the notion that diffuse boundaries in enmeshed families increase children's risk for anxiety, emotional distress, and interpersonal dependency (Davies et al., 2004; Jacobvitz et al., 2004; Kerig, 1995).

Likewise, triangulation in families reflects various complex blends of enmeshment and disengagement across family subsystems and individuals in which family members form defensive alliances (i.e., enmeshed component) against another individual or subsystem (i.e., disengaged component). For example, in detouring families, children's psychological symptoms progressively intensify as they serve to increase closeness between parents who are in an otherwise unhappy relationship. Conversely, the psychological burdens of serving as caretaker, confidante, or guardian in parent-child coalitions may pose its own unique set of risks for children (Johnson, 2010; Kerig, 1995).

Mechanisms of Family Risk

Further progress in understanding family processes in the development of psychopathology hinges on identifying the risk mechanisms underlying the family risk factors. Risk in family socialization pathways does not operate in an instantaneous way; rather, it is part of an unfolding cascade of mechanisms that ultimately explain why family relationship parameters are associated with child psychopathology. Thus, a pressing goal is to address the questions of how and why family risk factors increase the likelihood of child psychopathology. Within these process-oriented frameworks, exposure to family risk is conceptualized as setting in motion dynamic risk mechanisms or processes that serve as more proximal agents in the development of child psychopathology. In statistical terminology, risk mechanisms are regarded as the mediators or the intermediary, explanatory processes that link risk factors to specific child outcomes. In our account of transactions among family characteristics (see the Interdependency section), it is evident that some family factors may actually serve as risk mechanisms that mediate or explain the risk posed by another family factor. For example, coparenting and parenting difficulties have been identified as risk mechanisms that account, in part, for the association between interparental conflict and child psychopathology. However,

fully charting the risk mechanisms also requires understanding how these more proximal family risk factors engender changes in children's adaptation and coping processes that ultimately coalesce, intensify, and crystallize into more intractable patterns of child maladjustment. Contemporary work on family risk mechanisms has produced a complex, multilayered array of potential processes (e.g., Grusec & Davidov, 2010). To illustrate the value of identifying risk mechanisms, we selectively describe some of the processes that are consistently implicated in the genesis of child psychopathology (Davies, Sturge-Apple, & Martin, 2013).

Child Attachment Insecurity

Attachment theory proposes that the quality of family relationships impact children's success in maximizing sensitivity and protection of caregivers in times of distress and threat (Bowlby, 1988). Children's histories of successfully procuring supportive resources from primary caregivers are theorized to be a primary determinant of individual differences in parent-child security. Thus, displays of sensitivity, warmth, and availability by caregivers, particularly under conditions of distress, foster children's confidence in their ability to access caregivers. The end result is the very efficient operation of the attachment system characterized overtly by patterns of behavior that reflect assertive, direct bids for support and, in turn, effectively reduce fear and distress (McElwain & Booth-LaForce, 2006). In contrast, prolonged experiences with harsh, inconsistent or diminished levels of caregiver availability are key processes that undermine children's ability to reliably use parents as safe bases of security (Belsky & Fearon, 2004).

Although natural selection likely equipped children with many ways of coping with inaccessible attachment figures, specific stimuli and cues in the caregiving environment may engender different strategies for coping with insecurity. Within the attachment literature, studies have distinguished between two specific types of strategies based on whether they serve to deactivate or

hyperactivate the natural output of the attachment system (Ainsworth, Blehar, Waters, & Wall, 1978). Whereas avoidant attachment styles reflect deactivating strategies for minimizing children's overt expression of negative affect, bids for support, and the processing of attachment-relevant information, resistant or ambivalent patterns of attachment are hyperactivating approaches that serve to amplify and inflate overt distress, dependency, and the processing of attachment cues (Cassidy, 2008; Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993). Deactivation or avoidance is specifically regarded as an adaptive strategy for limiting exposure to the negative consequences of repeatedly approaching chronically inaccessible, rejecting caregivers. Conversely, hyperactivation of the attachment system may be a functional strategy for eliciting more reliable responsiveness and sensitivity from a caregiver who is inconsistent in supporting the child's needs (Cassidy, 2008). Patterns of insecure attachment, in turn, have been documented to be predictors of a wide array of child mental health problems (e.g., Thompson, 2008; Sroufe, Egeland, Carlson, & Collins, 2005) (see Cascade Mechanisms section for an account of how attachment insecurity may increase psychopathology).

However, risk factors for attachment insecurity may not simply be limited to parental sensitivity and support under stressful conditions. At the level of risk mechanisms, it is not uncommon for children to develop more extensive attachment hierarchies that go beyond relationships with parents. For example, children may rely on their siblings as attachment figures in many families (Ainsworth, 1989; Howes, 1999). Although the sibling attachment relationship may assume a more subsidiary role in the lives of children than the parent-child attachment relationship, the sparse studies on sibling emotional relationships suggest that children do utilize siblings as bases of security (Gass, Jenkins, & Dunn, 2007; Stewart & Marvin, 1984). However, more research is sorely needed as we still know very little about the specific family precursors and psychological sequelae of sibling attachment quality.

At the level of risk factors, researchers have expanded their search for family precursors and

pathways of insecure attachment beyond the delimited set of caregiving (e.g., sensitivity responsiveness) antecedents (Davies, Harold, Goeke-Morey, & Cummings, 2002). For example, in reflecting a more indirect pathway, parental distress, preoccupation, and anger stemming from interparental conflict may ultimately impact children's attachment insecurity and psychopathology by undermining their abilities to provide sensitive and responsive care to their children. In reflecting a more direct pathway, witnessing frightening (e.g., hostile, aggressive), vulnerable (e.g., distressing, fearful), or volatile (e.g., emotionally labile) parental behaviors during interparental conflict may directly undermine children's confidence in parents as figures who can competently allay their distress. Studies using a variety of methods and designs support each of these pathways (Davies et al., 2002; Frosch, Mangelsdorf, & McHale, 2000; Sturge-Apple, Davies, Winter, Cummings, & Schermerhorn, 2008).

Child Defensive Reactivity

In complementing the primary focus of attachment theory on how children use family relationships as resources for *regaining or preserving* of security, several family process models share the assumption that family characteristics can also serve as a *source of threat* that undermine children's sense of safety and well-being (Davies & Sturge-Apple, 2007; Grych & Fincham, 1990; Repetti et al., 2011). Children's experiences as indirect bystanders or direct targets of family discord are specifically proposed to alter the ways in which children process and react behaviorally and emotionally to threat. According to the sensitization hypothesis, repeated exposure to interparental disharmony, parental rejection and hostility, and sibling conflict in high-conflict homes may progressively increase the salience of survival or self-protective strategies in subsequent family contexts and, in the process, increase children's risk for psychopathology (Davies, Sturge-Apple, et al., 2013; Monroe & Harkness, 2005). Behavioral manifestations of the heightened operation of survival or self-protective strategies

include greater perceptual sensitivity to threat cues, prolonged fear, distress, and vigilance, flight and camouflaging (e.g., avoidance, inhibiting overt emotions) activities, and fight (e.g., triangulation or alliance formation) behaviors (Davies & Sturge-Apple, 2007).

Consistent with the sensitization hypothesis, studies have indicated that witnesses and targets of various forms of family hostility (e.g., interparental conflict, physical abuse) exhibit greater sensitivity and reactivity to subsequent signs of interpersonal and family adversity (Davies, Martin, et al., 2013; Shackman, Shackman, & Pollak, 2007). In further reflecting the operation of mediational pathways, these predispositions to respond in guarded, hypervigilant ways to family stressors have been empirically identified as precursors to later psychological problems (Davies, Sturge-Apple, et al., *in press*; Repetti et al., 2011). Although identifying the cascade of processes underpinning the pathogenic effects of defensive responding in the family remains a critical research direction, conceptual models offer promising guides in achieving this objective. For example, prolonged concerns for security would be expected to tip the balanced allocation of psychobiological resources toward investing in immediate personal safety at the cost of sufficient investment in the mastery of the physical and social environment (Davies, Sturge-Apple, et al., 2013; Ford, 2009) (see Cascade Mechanisms section for more details).

However, it is important to note that the sensitization process does not appear to be readily applicable across all developmental and family risk conditions. From a developmental standpoint, children's distress cannot increase in an incremental, graduated way following each episode of family discord over time. If sensitization operated in a uniform way across long temporal spans of family risk exposure, then children from chronically discordant homes would respond in exceedingly distressing ways to virtually every family event, be it supportive, benign, or threatening. Working from a biological framework, the stress autonomy and attenuation models postulate that sensitization to family adversity is only evident in the early stages of exposure (Monroe

& Harkness, 2005; Susman, 2006). Over long periods of time, recurrent family adversity may set in motion other mechanisms that supersede the initial risk posed by family processes. For example, in the attenuation model, the tendency of systems to maintain an internal state of equilibrium is proposed to dampen stress-sensitive physiological reactivity in the face of chronic family adversity. Inhibition of these physiological systems (e.g., sympathetic nervous system, hypothalamic–pituitary–adrenocortical axis) may reflect the activation of processes designed to thwart the toxic effects of chronic physiological arousal to threat (Susman, 2006). Social-experiential models of canalization further propose that children's patterns of adapting to risky family environments may become increasingly intractable and resistant to subsequent family influences as they increasingly select out stressful niches or evoke negative responses from others (Davies & Windle, 2001; Sroufe, 1997). Thus, the relationship between family stress and children's heightened reactivity may be curvilinear in form, reaching an asymptote that signifies progressively weaker associations between family adversity and children's defensive responses. In spite of the rich, theoretically guided hypotheses, little is known empirically about the conditions and mechanisms underlying the potential changes in sensitization over time.

Specific configurations of family risk may also result in diminished reactivity in specific domains or levels of responding. At a physiological level, the attenuation hypothesis postulates that family conflict manifested in emotional instability and unpredictability may actually dampen physiological stress responses to threatening events by disrupting the capacity of the limbic system to process and acquire information on the interpersonal consequences of emotional events in the family (Susman, 2006). Resulting difficulties in neurobiological processing of emotion and fear-relevant parameters may be particularly likely to be manifested in aggressogenic attributes such as fearlessness, sensation seeking, and callousness. At a psychological level, the reformulated emotional security theory has proposed that children may experience diminished

displays of distress to family difficulties following exposure to specific patterns of family risk (Davies & Sturge-Apple, 2007). For example, tendencies to progressively inhibit feelings of fear and distress in the service of directly and aggressively engaging family threat is proposed to be an adaptive solution to coping with recurrent family conflict that is accompanied by parental displays of vulnerability (e.g., depression, anxiety), disengagement, and collapses in the family power hierarchy. Tendencies to exhibit this dominant pattern of responding to family threat, in turn, are proposed to specifically coalesce into externalizing symptoms by breeding hostile views of the social world, interpersonal disenfranchisement, callousness, and the rigid, reflexive use of aggressive behaviors.

Child Affiliative Styles

Many process models rooted in social learning and information processing theories posit that children's elevated vulnerability to psychological problems in high-conflict homes results from exposure to pathogenic learning contingencies in the family. Observational and enactive learning processes are two primary classes of learning mechanisms that are regarded as shaping children's patterns of affiliating in the family (Eron, Huesmann, & Zelli, 1991). According to the observational learning component of the theory, witnessing distraught family members (e.g., parents, siblings) provides children with opportunities to master new ways of enacting distressing behaviors through (a) imitation, (b) acquisition of generalized scripts or abstract rules, and (c) reduction of inhibitions for engaging in behaviors (Cox et al., 2001; Margolin, Oliver, & Medina, 2001). The articulation of specific vicarious (i.e., observational) learning processes generates a more precise articulation of specific linkages between risk factors, risk mechanisms, and outcomes. For example, subsequent increases in displays of anger and hostility by children in family settings are theorized to emerge through their emulation of hostile family behaviors (Hyde, Shaw, & Moilanen, 2010). In turn, increasing

tendencies to display hostility are proposed to intensify and proliferate into externalizing difficulties. Conversely, witnessing recurrent bouts of anxiety, social disengagement, and dysphoria by family members are postulated to magnify children's vulnerability to internalizing symptoms by fostering their vicarious displays of distress and social withdrawal (Morris et al., 2007).

Within the enactive component of social learning theory, reinforcement contingencies are primary mechanisms underpinning the development of psychopathology in risky family environments, particularly in the context of parental management of children's behavior (Restifo & Bogels, 2009). From a social learning perspective, perturbations in parental abilities to regulate child behavior as manifested in inadequate supervision, vague communication of expectations for appropriate child conduct, and lax, harsh, or inconsistent discipline in response to child transgressions have two major consequences. On the one hand, the lax or hostile parental behaviors do not positively reinforce children's prosocial behaviors by providing rewarding consequences for appropriate child conduct. On the other hand, these same parenting difficulties preclude the ability to dispense effective punishments that serve to impose negative consequences following bouts of child misbehavior (Patterson, 1982; Snyder, Schrepferman, McEachern, & Suarez, 2010). The resulting intensification of children's tendencies to adopt coercive, hostile styles of affiliation is, in turn, proposed to be a central risk mechanism in the development of broader behavioral problems (Forgatch, Patterson, DeGarmo, & Beldavs, 2009).

Greater dispositions to exhibit significant behavior problems among the children from high-conflict homes also substantially increase the probability of coercive parent-child exchanges that may further intensify children's behavior problems. In social learning theory, coercive process is defined as a specific set of transactional influences between parental and child behavior that create, maintain, or intensify inept parenting and child problems through reinforcement contingencies (Patterson & Yoerger, 1997; Snyder et al., 2010). In many cases, this

process begins with parents responding to bouts of child complaints and mild misbehavior with threats or dismissive statements. This results in a mutually escalating cycle of negativity and hostility between parents and children. Children specifically respond to parents by “stepping up” their misbehavior and parents react to children by further intensifying their threats and negativity. Over time, however, parents in these coercive cycles trend toward capitulating to the demands of their children without enforcing any negative consequences for children (i.e., no discipline). The mutual influence of parent and child negative behaviors is theorized to result in negative reinforcement processes that spur more inept, volatile parenting behaviors and child negative behaviors in the future. Through this negative reinforcement process, the children learn that escalating tantrums and misbehavior results in the elimination of an aversive and negative stimulus in the form of parental negativity. Likewise, because abdicating power to the child during these conflicts commonly results in a reduction of child tantrums and misconduct, surrendering to the demands of the child is also negatively reinforcing to the parent. Thus, parents are postulated to be more likely to submit to children’s demands in the future (Snyder, Edwards, McGraw, Kilgore, & Holton, 1994; Stoolmiller, Patterson, & Snyder, 1997).

Developmental Pluralism

Consistent with the concept of developmental pluralism, our characterization of the multiplicity of family risk factors, family risk mechanisms, and child outcomes underscores the diverse pathways children experience in the development of psychological problems. By the same token, a myopic focus on these specific pathways offers an incomplete picture of the complexity and array of children’s trajectories of adjustment. To address this gap, the following sections examine three main themes in developmental psychopathology that serve as valuable tools for advancing an understanding of children’s adaptation to adverse family contexts.

Cascade Mechanisms

The characterization of children’s developmental trajectories does not end with the identification of family risk mechanisms as mediators of links among risky family environments. Rather, it raises a new set of questions revolving around how family risk mechanisms produce a cascade of broader processes that ultimately proliferate beyond the family unit and develop into trait-like forms of psychopathology. We refer to these intermediary processes in the pathways among risk mechanisms and children’s mental health outcomes as cascade mechanisms (see Fig. 8.1). Thus, in our selective account of family risk mechanisms, attachment insecurity, defensive reactivity, and malevolent affiliative patterns in the family may serve as blueprints for cascade mechanisms that reflect specific ways of filtering, interpreting, and responding to subsequent interpersonal events outside the family. Several theoretical frameworks share the premise that the highly reflexive and automatic algorithms for processing and responding to stressful family events are later used as guides in novel or challenging settings to simplify, evaluate, and adapt to social experiences (e.g., Cassidy, 2008; Davies & Cummings, 1994; Dodge, 2006; Johnston Roseby, & Kuehnle, 2009). Consistent with this hypothesis, research has indicated that parent–child attachment insecurity predicts children’s internalizing and externalizing symptoms through its association with more hostile, inflexible patterns of processing and responding to challenging peer problems (Cassidy, Kirsh, Scolton, & Parke, 1996; Dodge, 2006; Granot & Mayesless, 2012). Likewise, as a potential cascade mechanism, hostile processing of peer transgressions has been shown to mediate associations between children’s negative representations of interparental relationships and increases in their school maladjustment over a 1-year period (Bascoe, Davies, Sturge-Apple, & Cummings, 2009).

Multiple-levels-of-analysis conceptualizations of developmental cascades have also stimulated new research directions in understanding the neurobiological underpinnings of linkages

between family risk mechanisms and child psychopathology (Cicchetti & Walker, 2001; Mead, Beauchaine, & Shannon, 2010). Risky family environment models have posited that family risk mechanisms produce neuropsychological and psychological problems by changing stress-sensitive biological systems, including the hypothalamic-pituitary-adrenocortical (HPA) axis and the sympathetic nervous system (SNS) (Repetti et al., 2002, 2011). Through the process of allostasis, the SNS and HPA axis are designed to respond adaptively to environmental stress and challenge by generating physiological resources necessary to effectively protect individuals. In the immediate wake of stress, the SNS primes the body for fight-or-flight responses in the face of threat through increases in cardiac output, oxygen flow, and blood glucose levels (Porges, 2006). As a subsequent response to threat and challenge (Gunnar & Vazquez, 2006), the HPA axis and its end product of cortisol prime defense mechanisms by mobilizing energy (e.g., glucose, oxygen) and modulating the processing, encoding, and memory consolidation of emotionally significant events. However, successive cycles of allostasis engendered by prolonged coping with family adversity are theorized to alter the set points of the physiological systems by amplifying or attenuating their sensitivity (Repetti et al., 2011; Susman, 2006). For example, some forms of attachment insecurity have been linked with high arousal of the HPA axis (e.g., Spangler & Grossman, 1993). Likewise, research has documented that deviations in the set points of the physiological systems predict an array of difficulties in the form of emotion dysregulation, social impairments, mental health problems, immune suppression, and neurotoxicity (McEwen, 1998; Sapolsky, 2000; Turnbull & Rivier, 1999).

As a final illustration of a developmental cascade, evaluating children's mastery of stage-salient tasks may prove useful in understanding the processes whereby family risk mechanisms crystallize into psychological problems. Stage-salient tasks refer to challenges that become prominent at a given developmental period and remain important throughout the individual's lifetime (Cicchetti, 1993). Because these tasks

are already challenging even under benign developmental conditions, their successful resolution may be particularly difficult in the context of family risk mechanisms. Moreover, mastery of new developmental challenges and the probability of following healthy trajectories depend, in part, on adequate differentiation and integration of prior stage-salient tasks. For example, the transition to toddlerhood is characterized by the challenges of effectively exploring the social and physical worlds, achieving a sense of mastery and autonomy, and regulating emotions (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996; Sroufe et al., 2005). Acquiring these skills, in turn, provides important building blocks for subsequent developmental challenges of establishing self-control, self-reliance, and harmonious peer relations in preschool. Thus, children's successful negotiation of developmental tasks is posited to mediate pathways among family risk mechanisms and their psychopathology. Supporting this prediction, children's fearful reactivity to interparental conflict increased the likelihood of disruptive behavior problems during preschool by undermining their mastery of stage-salient tasks during toddlerhood (Davies, Manning, & Cicchetti, 2013).

Regulating Conditions

Even with the increasing integration of cascade mechanisms into the study of family risk, the resulting family models typically account for only modest to moderate proportions of the individual differences in children's adjustment. In some cases, children who are resilient are able to develop along adaptive developmental trajectories by successfully weathering the burdens associated with family adversity. Conversely, other children exhibit disproportionately high susceptibility to psychopathology in the context of minimal or moderate stress in the family. This observation raises a central question: Why do children who experience similar family and developmental circumstances often develop differently? As illustrated in Fig. 8.1, a primary approach to addressing this question is to identify the regulatory

conditions that alter the mediational cascade of processes in associations between family adversity and child psychopathology. From a developmental psychopathology perspective, individual development is regarded as operating within an open system characterized by the ongoing transactional interplay between an actively changing organism and a dynamic context (Granic & Hollenstein, 2003). It follows, then, that developmental pathways set in motion by family risk factors will lawfully vary as a function of the broader matrix of contextual or regulatory conditions. Regulatory conditions are commonly identified as moderators that alter the magnitude or direction of family risk pathways. Although it is important to note that more fine-grained forms of moderating effects exist (Belsky & Pluess, 2009; Luthar, Cicchetti, & Becker, 2000), two of the more common classes of moderation in developmental psychopathology consist of (1) “vulnerability” or “potentiating” factors that amplify links in the family risk pathways and (2) “protective” factors or buffers that reduce or offset the deleterious impact of family risk factors or mechanisms. Moreover, as Fig. 8.1 outlines, these potentiating and protective factors may be usefully organized into a diverse array of substantive domains including child dispositional attributes (e.g., temperament, personality, history of coping, gender, age), family characteristics (e.g., parent personality and psychopathology), and ecological or extrafamilial characteristics (e.g., community characteristics, culture) (Garmezy, 1985).

Although a comprehensive review of studies on the moderating conditions of family processes is beyond the scope of this chapter, even a brief sampling of the empirical work highlights the value of searching for these types of moderators in understanding heterogeneity in child outcomes. For example, within the domain of family characteristics, research has shown that the potency of some family risk factors (e.g., hostile or overprotective child-rearing) in the prediction of children’s psychological problems is amplified in the context of parental psychopathology (e.g., Guimond et al., 2012). Furthermore, some family characteristics may serve multiple functions in roles as both predictors of child psychopathology and moderators of other family risk factors. For

example, in models predicting children’s peer adjustment, parent–child attachment security and low levels of parent–child negative reciprocity served as protective factors that offset the risk posed by marital conflict (Lindsey, Caldera, & Tankersley, 2009).

As another illustration in the domain of child attributes, children’s difficult temperament has been shown to potentiate associations between several family risk factors (e.g., interparental conflict, child-rearing difficulties) and child psychopathology (Davies & Windle, 2001; Rothbart & Bates, 2006). Until recently, findings on the moderating effects of child temperament and personality were commonly interpreted within diathesis-stress models (Belsky & Pluess, 2009). Difficult temperamental characteristics were specifically designated as “diatheses” or constitutional predispositions to experience disorder that were amplified in the context of family risk factors. However, emerging evidence suggests that many of these moderating effects of difficult or reactive temperamental attributes reflect dispositions of children to exhibit greater sensitivity or plasticity to family processes for better or for worse. According to this relatively new differential susceptibility theory, children with higher levels of temperamental negative emotionality should fare significantly worse in highly discordant homes as the diathesis-stress model posits. However, unlike the diathesis-stress model, differential susceptibility models propose that children with difficult temperaments will also fare significantly better in supportive homes than children without difficult temperaments (see Belsky & Pluess, 2009). Evidence of greater sensitivity or plasticity of child characteristics has also been identified at other levels of analysis, including genetic, epigenetic, and biological functioning (Ellis, Boyce, Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2011).

Transactional Models

A complementary goal in developmental psychopathology is to better understand children’s mental health and disorder as an evolving product of mutual, reciprocal influences between children

and dynamic family processes over time (Sameroff, 2009). In these transactional models, the family not only influences children's adjustment but is also influenced by children's development in a continuous cycle of actions and reactions. Moreover, these transactions occur at multiple points along the cascade of family processes. First, at the level of family risk mechanisms, children's reaction patterns in family relationships reflect transactions between their own attributes and family characteristics that occur over relatively short developmental spans of minutes, days, or weeks. For example, in the Affiliative Patterns section of the chapter, children's hostile patterns of relating to parents emerge from escalating cycles of aversive dyadic exchanges that conclude with parents surrendering to stop the disciplinary bout (Patterson, 1982; Snyder et al., 2010). In applying similar negative reinforcement principles to understanding children's reactions to interparental conflict, Emery (1989) proposed a model of the transactional effects between children and the interparental subsystem. In the initial series of unfolding processes, interparental conflict is hypothesized to be an aversive event that produces distress in children. In the subsequent series of interactions, children's dysregulated expressions of distress (e.g., aggression, temper tantrums) reduce their exposure to aversive interparental stimuli by distracting parents from engaging in ongoing conflicts. In turn, children's disruptive patterns are more likely to be enacted by the child in subsequent conflicts because it reduces or eliminates the aversive stimulus (i.e., conflict).

Second, because family risk mechanisms are defined by children's adaptation in the context of specific family relationships, recurrent behaviors of children in family settings may progressively alter the dynamics of the family over longer periods of months and years. Thus, as shown in Fig. 8.1, family risk mechanisms (e.g., affiliative behaviors or defense responses) can feedback to alter family processes. For example, in a rigorous cross-lagged longitudinal design over a 2-year period, Reuter and Conger (1998) showed that hostile, erratic parenting practices were both

predictors and sequelae of adolescent inflexibility and hostility during parent-child conflicts. It is important to note that the effects of risk mechanisms may also be qualitatively different across these longer developmental spans. For example, although Emery (1989) noted that disruptive behavioral reactions to interparental conflict may temporarily reduce bouts of discord between parents over the period of minutes or hours, these dysregulated reactions may take a cumulative toll on parents and their relationships over months and years. Supporting this hypothesis, research has found that children's disruptive behavioral reactions to interparental conflict predicted increases in interparental conflict 1 year later even after controlling for prior levels of interparental conflict (Schermerhorn, Cummings, DeCarlo, & Davies, 2007).

Third, at yet another level of the model in Fig. 8.1, transactional processes have also been identified between family risk dynamics and children's adjustment (e.g., psychopathology). Findings from the Child Development Project have repeatedly demonstrated bidirectional relationships between parenting and child maladjustment. In a study by Laird, Petti, Bates, and Dodge (2003), decreases in parental monitoring predicted subsequent increases in adolescent delinquency over a 1-year period. Adolescent delinquency, in turn, was associated with further decreases in parental monitoring 1 year later. In addition, another study showed that physical discipline was related to increases in externalizing behavior and greater externalizing behavior was associated with higher physical discipline over 1-year autoregressive lags (Lansford et al., 2011). Furthermore, in one of the strongest tests of transactional processes involving children and the interparental subsystem to date, Cui et al. (2007) examined the reciprocal interplay between interparental conflict and adolescent symptomatology in a series of cross-lagged autoregressive analyses across three annual measurement occasions. Consistent with transactional models, adolescent depressive and delinquency problems served as both outcomes and predictors of interparental conflict.

Conclusions

In conclusion, the growth of developmental psychopathology since the last edition of this handbook has been accompanied by significant advances in identifying the pathways among family risk factors, risk mechanisms, and children's adjustment trajectories in the broader constellation of family and ecological settings. Armed with an array of guiding concepts and principles (e.g., risk mechanisms, cascade processes, potentiating and protective frameworks), developmental psychopathologists have made considerable progress in identifying the mediating mechanisms and moderating conditions underlying the vulnerability of children from discordant homes within frameworks that consider dynamical transactional processes (e.g., Repetti et al., 2011). The end result is a level of greater acknowledgement and identification of the complexity underlying children's development that more closely approximates the open system assumptions of developmental psychopathology.

Although paying tribute to these advances is important, it is also critical to take stock of the research landscape and consider future research directions. In the spirit of moving the field forward, we assert that the scientific pendulum is swinging dangerously close to translating open system assumptions into excessively vague, expansive, and dispersive conceptual models and hypotheses. As a case in point, Thompson (2008) noted in his review of attachment that "One might wonder whether there is anything with which attachment security is *not* associated (p. 348)." As the quote implies, continuing to expand the substantive scope without conceptual checks and empirical balances runs the risk of producing unwieldy and dispersive bodies of knowledge. It does not take a huge inferential leap to conclude that a similar state of affairs exists in the study of a wider range of family risk factors, risk mechanisms, and cascade processes (e.g., Davies, Sturge-Apple, et al., 2013). Our cautionary note is that this direction, if unfettered, will make it difficult to deduce anything more than the relatively unremarkable conclusion that inherently

positive and negative experiences (or coping) will, respectively, beget healthy and unhealthy outcomes. Thus, although open system paradigms will remain critical tools in contextualizing our understanding of developmental psychopathology, we are advocating that these approaches be complemented by the formulation of models that achieve greater precision and novelty in predictions and interpretations (Richters, 1997). In closing, we hope that the next generation of research makes significant headway in formulating hypotheses, interpretations of existing findings, and heuristics for future research by increasing (a) exactness and specificity (i.e., precision) and (b) bold efforts to account for what would otherwise be unexplainable in existing scientific frames (i.e., novelty).

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