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ADVANCES IN THE FORMULATION OF EMOTIONAL SECURITY THEORY: AN ETHOLOGICALLY BASED PERSPECTIVE

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Although witnessing conflict between parents is a normal part of family life for children, interparental conflict is a significant public health concern by virtue of its prevalence and significant threat to children’s mental health. Reflecting the prevalence of dissolution in interparental relationships, statistical projections reveal that 50–60% of children born in the 1990s will live in single-parent homes at some period in their lives (Hetherington et al., 1998). Likewise, rates of discord and violence are relatively high among parents who remain together. Between 20 and 40% of parents who remain together report significant, clinical levels of distress in their marriage (Cummings & Davies, 1994). Exposure to these high levels of discord and conflict increases children’s risk for a wide array of psychological problems including internalizing symptoms (e.g., depression, anxiety), externalizing problems (e.g., aggression, conduct problems), social impairments (e.g., poor peer relations), and academic difficulties (e.g., Dunn & Davies, 2001; Erel & Burman, 1995; Grych & Fincham, 2001). Interparental conflict has been shown to account for 4–20% of the variation in children’s individual differences in psychological problems (Grych & Fincham, 1990) and the magnitude of risk conferred by interparental conflict is nearly twice the size of the risk associated with divorce (Grych & Fincham, 2001).

Consistent with the high social importance attached to understanding the nature of risk faced by children from high-conflict homes, emotional security theory was developed by Davies and Cummings (1994) to advance an understanding of precisely how, when, and why interparental discord is associated with individual differences in children’s trajectories of mental health. At the heart of our theory is the premise that interparental conflict poses a risk to children’s adjustment by directly undermining their emotional security in the interparental relationship and compromising parent–child attachment processes through its association with parenting disturbances. Despite some initial progress in further articulating the conceptual foundation, assumptions, and predictions of emotional security theory since its inception (e.g., Cummings & Davies, 1996), theoretical advances in emotional security have become markedly slow since the start of the twenty-first century. Accordingly, the overarching aim of this chapter is to advance the main elements of emotional security theory and address the implications of these modifications for clarifying the nature of process relations among family dynamics, children’s coping and adaptation in the family, and their social and emotional development.

Toward advancing and refining the theory in the present paper, we specifically explore the potential utility of integrating ethological theory as a basis for the propositions outlined in emotional security theory. Previous theoretical expositions of emotional security theory downplayed the explanatory value of evolutionary mechanisms in advancing an understanding of children’s adaptation to interparental discord (e.g., Cummings & Davies, 1996; Davies & Cummings, 1998). Echoing a caution in developmental psychopathology (Cicchetti, 1990), rejecting
the potentially informative nature of concepts and tools from other disciplines in theory formulation runs a considerable risk of undermining advances in knowledge. Therefore, the purpose of this chapter is to revisit the promise of ethology in articulating the substance, roots, and sequels of security goal systems in the family. As the first foray into addressing the role of ethology in emotional security theory, it is important to note at the outset that our speculative account of the advantages of a synthesis will require further elaboration and revision.

As a way of familiarizing the reader with our theory, we first provide an overview of some of the main principles of emotional security theory and hypothesized pathways among children’s exposure to forms of family discord, their emotional security in different family systems, and their psychological adjustment. Figure 1, which is used as an organizing framework, is designed to assist in this task by depicting an overview of some of the key family factors, processes, and pathways in emotional security theory. Against this backdrop, we address the broad conceptual limitations of the original formulation of emotional security theory and the potential value of integrating ethological and evolutionary concepts into emotional security theory. For the remainder of the chapter, we then address how infusing an ethological approach with emotional security theory informs the different components of the model, including (1) conceptual similarities and distinctions between security in the interparental and parent–child relationships, (2) relations among family processes and children’s emotional insecurity in the interparental relationship, and (3) the implications of emotional security for children’s trajectories of psychological adjustment.

Fig. 1. A conceptual model of the primary hypothesized pathways accounting for the risk posed by interparental conflict and child maladjustment within the emotional security theory.
I. Overview of the Principles, Processes, and Pathways in Emotional Security Theory

Although research and clinical accounts repeatedly underscored the emotion-laden family processes accompanying interparental conflict, emotional mechanisms did not assume center stage in any of the conceptual models of interparental discord formulated in the twentieth century (e.g., Emery, 1982; Grych & Fincham, 1990); emotional security theory was designed to address this gap. Emotional security theory is rooted in the functionalist perspective on emotion and, consequently, accepts the functionalist definition of emotion as: “The attempt by the person to establish, maintain, change, or terminate the relation between the person and the environment on matters of significance to the person” (Campos, 1994, p.1). However, this account does little to advance an understanding of children’s adaptation in contexts of interparental functioning without further articulation of two components of the definition. First, the broad definition does not precisely identify the “matters of significance” to the children. Stated in different terminology, it fails to specify the goals that are important to children. Second, adopting such an expansive definition of emotion does not, in itself, provide a vehicle for delineating the specific sets of relations “between the person and the environment” that are relevant to emotional development. Therefore, any theoretical application of the functionalist perspective requires further explication of the relevant contexts and goals in the lives of individuals.

A. DELINEATING THE FUNCTIONALIST GOAL IN EMOTIONAL SECURITY THEORY

Approaching the task of identifying goals, emotional security theory proposes that emotional security is a primary goal in the lives of children. Consistent with the main tenets of attachment theory, emotional security theory is a developmental theory that posits that: (1) emotional security plays a mediational role in the impact of parent–child attachment relationships on children’s normal development and developmental psychopathology (e.g., Ainsworth et al., 1978; Blatz, 1966; Bowlby, 1973; Cummings & Cicchetti, 1990) and (2) the implications of children’s felt-security in the attachment relationship extend beyond the proximal context of the parent–child relationship to affect adaptive functioning in larger family and social contexts (e.g., Bretherton, Ridgeway, & Cassidy, 1990). However, emotional security theory is different from attachment theory in its emphasis on the contexts relevant to children’s emotional security. Thus, the original contribution of emotional security theory lies in its view that it is too limiting to consider children’s emotional security as solely derived from the quality of the attachment relationship. This shift in conceptual emphasis results
in the fundamental proposition that emotional security is a primary human goal that regulates and is regulated by children’s actions and reactions across multiple family relationships. As such, children may experience emotional security in distinct ways across different family systems such as the interparental and parent–child subsystems. Pathway 1 in Figure 1 reflects the emotional security theory assumption that children’s emotional security is derived from two different goal-directed systems of security in the family. Accordingly, preserving a sense of security in the interparental relationship is proposed to be distinct in its operation and substance from preserving a sense of security in the parent–child system despite some overlap and mutual influence among systems.

B. DELINEATING THE FUNCTIONALIST CONTEXTS IN EMOTIONAL SECURITY THEORY

Given the different contexts within which the security systems in the interparental and parent–child subsystems operate, individual differences in the different types of insecurity are presumed to result from distinct experiential histories within these different contexts (Cummings & Davies, 1999; Davies & Cummings, 1994). Thus, illustrating the direct pathway component of emotional security theory, Pathway 2 posits that histories of exposure to destructive interparental conflict, characterized by hostility, disengagement, and poor resolution, directly undermine children’s security in the interparental relationship. The distinctive nature of this pathway is reflected in the hypothesis that associations between interparental discord and interparental insecurity will remain robust even after taking into account broader family characteristics such as parenting difficulties (e.g., parental unresponsiveness, rejection) (i.e., Pathway 4a). Supporting this premise, children exposed to high levels of discord between parents have compelling bases for being concerned about their safety and security, as conflicts in these homes are at elevated risk to increase tension in the family, proliferate to undermine the parent–child relations, escalate into domestic violence, and signify problems in the stability and structure of the family as a whole.

In advancing to the next step of outlining how children’s concerns about security are manifested in their short- and long-term functioning, emotional security theory draws again from the functionalist perspective and its balanced focus on articulating both the subsequent benefits and the costs of emotions for human development. Underlying this broader emphasis is the view that emotions play a role as monitoring and guidance systems in the appraisal of events and motivation of behavior in relation to goal systems. This assumption is specifically instantiated in emotional security theory through the conceptualization of emotional security as a goal-corrected system. Within this system, emotional security is a goal that regulates or governs the expression of behaviors, emotions, thoughts,
and physiological responses. Although emotional security theory postulates that concerns about security in the interparental relationship reflect an underlying, latent goal system, the relative success of children in achieving the goal of preserving emotional security can be inferred from three measurable classes of response processes, including (a) emotional reactivity, characterized by intense, dysregulated, protracted forms of fear and distress in the face of interparental difficulties; (b) regulation of exposure to interparental conflict, characterized by elevated forms of avoidance of (i.e., flight responses) or involvement in (i.e., fight responses) the discord between parents; and (c) internal representations of the implications interparental difficulties have for the welfare of the self and family.

Reflecting one component of the mutual interplay, threats to emotional security specifically trigger any number of responses within the three domains of responding (i.e., emotional reactivity, regulation of exposure to parent affect, and internal representations of family affect). Illustrating the reciprocal feedback system, the three classes of response processes are designed to preserve security through their regulative and monitoring functions in contexts of potential danger. For example, in high-conflict homes, elevated emotional reactivity may serve as affective “tags” that highlight potential danger and prime children to respond proactively to impending threat. Likewise, by providing children with maps of unfolding family processes that commonly proliferate into threatening events, negative internal representations of interparental relations assist children in scanning and responding quickly to impending stressors in the family. However, despite the proximal value of the three response classes in assisting children in monitoring and coping with threat, the prolonged operation of the emotional security system is proposed to have deleterious consequences in the long run by increasing children’s vulnerability to psychological problems (see Pathway 3 in Figure 1).

Although addressing how interparental conflict directly affects children’s functioning is a central goal of emotional security theory, considerable conceptual emphasis has also been directed to contextualizing the study of children’s coping and adjustment to interparental conflict within the broader family system. Family processes are specifically postulated to alter the mediating role of emotional security through two primary pathways. First, Pathway 4a illustrates that interparental conflict also indirectly affects children’s trajectories of adjustment through its association with other family processes, including parenting difficulties (e.g., parental rejection, unresponsiveness) and family-level perturbations (e.g., family enmeshment, coparenting struggles). In one of the more prominent pathways in the model, the mediational role of parenting difficulties in associations between interparental conflict and child developmental trajectories is theorized to be further mediated by children’s attachment security in the parent–child relationship. In this process, the frustration, preoccupation, and distress stemming from bouts of interparental discord are postulated to undermine parental emotional availability.
in parent–child interactions and, over time, erode children’s attachment security or confidence in parents as sources of protection and support.

Second, Pathway 4b further illustrates the hypothesis that mediational pathways among interparental discord, children’s emotional insecurity in the interparental relationship, and child developmental trajectories may vary as a function of family-level characteristics and attributes of children (e.g., temperament). In the role as protective or potentiating factors, these characteristics may serve to either magnify or dilute the deleterious consequences of interparental conflict and children’s difficulties in preserving security in the interparental relationship.

C. LIMITATIONS OF PRIOR TRANSLATIONS OF THE FUNCTIONALIST PERSPECTIVE IN EMOTIONAL SECURITY THEORY

Judged in the context of the current state of emotional security theory, the common core of functionalist assumptions has been a useful tool for building a model of how emotions are organized to address and resolve specific challenges posed by interparental discord (Keltner & Gross, 1999). However, the original development of emotional security theory was explicitly grounded in an account proposed by Campos and colleagues (Campos et al., 1994; Campos & Barrett, 1984) that emphasizes understanding how the development and organization of emotions serve as solutions to problems in the current environment. Emotion is, therefore, “functional” in the sense that it is captured by how individuals modify person–environment transactions to achieve proximate goals. As Campos (1994) noted, “the approach is functionalist not because it deals with evolutionary survival value, but rather because it links emotion to what a person is trying to do (p. 1).” Subsequently, early formulations of emotional security theory minimized the role of ethology and evolution in outlining the emotional security system. For example, Cummings and Davies (1996) noted that, “Although the primary emphasis on the evolutionary/ethological origins of emotional security stressed by Bowlby (1969) may apply to the parent–child relationship, it is not readily extended to children’s derivation of emotional security from the quality of interparental relations, sibling relations, [and] general family functioning” (p. 129). Guided by this analysis, we further concluded that “a change in the conceptualization of emotional security as a goal is required for a family-wide perspective” (p. 129) (also see Davies & Cummings, 1998).

However, not all functionalist accounts eschew ethological principles and evolutionary perspectives (e.g., Bretherton et al., 1986; Keltner & Gross, 1999). Functional accounts rooted in ethology and evolution underscore that emotions are phylogenetic vestiges of adaptive solutions to problems that promoted the survival and reproduction capacities of our ancestors. Even if emotions do serve
as solutions to proximal challenges, ethological and evolutionary theories maintain that the structure and function of emotions were developed and shaped through natural selection as ways of resolving recurrent prehistoric challenges (Buss et al., 1998; Crawford, 1989; Ohman & Mineka, 2001; Tooby & Cosmides, 1990). From this perspective, simply focusing on the role of emotion in the context of current problems can be misleading because the architecture, organization, and function of any emotional–behavioral system developed over the evolutionary course of the species. Thus, examining the operation of emotional–behavioral systems in relation to proximal cues and ontogenetic history is insufficient without consideration of its interplay with phylogeny. The resulting implication is that considering the role of ethology in emotional security theory is not only theoretically viable but also may yield valuable insights into the process of further theory building. When specifically applied to the framework of emotional security theory, an ethological account would, therefore, call for a new look at how the function and sequelae of the goal-corrected system of security in the interparental relationship was shaped by natural selection and adaptations in the ecology or environment of evolutionary adaptedness faced by the long pedigree of our species. Consequently, our first step in shifting our theoretical emphasis is to address how an ethological perspective advances an understanding of the relations between security in the interparental and parent–child subsystems.

II. Distinctions between Security in the Interparental and Parent–Child Subsystems

Emotional security theory makes the assumption that children experience threats to security in the interparental relationship in ways that are overlapping with, but still distinct from, attachment security in parent–child relationships. However, emotional security theory has failed to provide an account of the overlapping and unique properties of the two emotional security systems. Neglect of this issue stemmed, in large part, from the conceptual difficulty in reconciling the different principles of emotional security theory and attachment theory within a coherent framework. For example, original ethological perspectives of the attachment system underscored the child’s behavioral goal of proximity to the caregiver (Bell & Richard, 2000). Yet, in emotional security theory, no obvious parallel to the behavioral goal of proximity-seeking in the attachment system and its corresponding evolutionarily adaptive function (i.e., protection from harm) was identified for the child’s security system in the interparental relationship. Furthermore, at the time of the formulation of our theory, attachment theorists underscored the complementary role of a child’s psychological goal of felt-security in the control system along with the behavioral goal of proximity-seeking (Cicchetti et al.,
1990; Sroufe & Fleeson, 1986; Sroufe & Waters, 1977). Thus, consistent with this trend, the original solution to the incompatibility of the behavioral systems was to adopt the functionalist perspective by Campos (1994) and strip emotional security theory of ethological influences in favor of focusing on a psychological or internal goal of felt-security in the interparental system.

However, our contention here is that by failing to incorporate an ethological perspective in emotional security theory, significant difficulties arise in reconciling emotional security and attachment theory versions of security because they are based on fundamentally different theoretical principles embraced by functionalist and ethological perspectives. Over time, the tacit assumption that the two types of emotional security reflect different systems appears to have become so ingrained that no one, to our knowledge, has attempted to address formally and explicitly the central questions of how and why security in the interparental subsystem is distinct in its substance from security in the parent–child subsystem. A corollary of this neglect is a decisive shift away from providing a descriptive account of the nature of the interplay between the two systems. In the following sections, we show how restoring the role of ethology to its rightful place in models of emotional security may address these gaps and further advance emotional security theory.

A. THE ROLE OF ETHOLOGY IN ADVANCING THEORY ON THE RELATION BETWEEN TYPES OF SECURITY

Using an ethological perspective as a guide, we believe that delving deeper into identifying the behavioral and mental products of evolution and natural selection might more effectively elucidate how and why security in the interparental relationship is similar to and different from attachment security in its composition. Within an ethological and evolutionary framework, distinct systems or modules of responding to environmental cues are postulated to have emerged and persisted based on their success in promoting survival (and ultimately reproduction) of the species in the context of intractable ecological challenges over evolutionary time (Ohman & Mineka, 2001; Tooby & Cosmides, 1990). Accordingly, the behavioral and mental processes of all, or virtually all, individuals within a species should be organized in relation to these modules. Each module or control system is also theorized to comprise integrated sets of biological, behavioral, and psychological components that operate efficiently and flexibly to achieve the goals relevant to the survival and reproduction of the species.

Guided by this control systems framework, we postulate that a primary source of discrimination and convergence between the two types of security lies with how children’s transactions within different family relationship contexts (i.e., interparental and parent–child) trigger different configurations in the operation
of adaptively evolved modules or systems. The basic premise of our reformulation is that emotional security in the interparental relationship overlaps with attachment security due to similarities in the activation of multiple control systems and corresponding behavior and mental processes. Yet, the distinctive nature of the two security systems is hypothesized to reflect differences in the comparative salience of the different control systems that stem from fundamentally different transactions between children and the interparental and parent–child subsystems.

B. ETHOLOGICAL ROOTS OF DIFFERENCES BETWEEN THE TYPES OF SECURITY

Differences in the two security systems are particularly evident in the activation and integration of six different control systems, described in Table I, that are particularly relevant in childhood: (a) attachment, (b) affiliation, (c) exploration, (d) social defense (or fear/wariness), (e) dominance, and (f) caregiving systems (e.g., Bretherton, & Ainsworth, 1974; Gilbert, 1993; Hilburn-Cobb, 2004; Sloman et al., 2002; Stevenson-Hinde & Shouldice, 1993; Trower & Gilbert, 1989). Each of these control systems can be distinguished on the basis of adaptive functions, goals, and action tendencies or strategies (Hilburn-Cobb, 2004). The adaptive function is defined as the broad advantage the system or module conferred in promoting the survival of the species over evolutionary time. As shown in Table I, adaptive functions can vary from protection against harm to acquisition of basic materials for survival (e.g., food, shelter). The goal of each control system in Table I refers to the original specific function of the module in regulating the present relation between the organism and the environment in ways that ultimately contributed the survival and continuation of the species. Finally, action tendencies are characterized by specific behavioral strategies, affective mechanisms, and ways of processing information that serve to flexibly permit the achievement of the behavioral goal.

In our ethologically influenced account of the nature of similarities and differences between the two types of security systems, felt-security is conceptualized as serving an overarching organizing goal for integrating control systems. Our model draws on the work of Hilburn-Cobb (2004) in asserting that the psychological goal of felt-security, while central to many modern derivations of attachment theory, is not simply confined to the attachment system. Rather, any number of control systems can be enlisted in the service of attainment and maintenance of felt-security. Figure 2 illustrates a conceptual representation of proposed relations between the goal of felt-security and the different control systems during childhood.

Pathway 1 in Figure 2 denotes the locus of the nexus for the attachment security system and our specific postulation that a main source of attachment security
<table>
<thead>
<tr>
<th>Control system</th>
<th>External or observed goal</th>
<th>Common strategies</th>
<th>Broad adaptive function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment</td>
<td>Maximize sensitivity and protection of caregiver</td>
<td>Distress; bids for comfort and support;</td>
<td>Protection from harm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>proximity-seeking; clinging behavior; monitor whereabouts of caregiver</td>
<td></td>
</tr>
<tr>
<td>Social Defense</td>
<td>Defuse or avoid threats and aggression by conspecifics</td>
<td>Fear; distress; vigilance; freezing; flight; fight;</td>
<td>Protection from harm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cutoff behavior (e.g., covering eyes); camouflaging behaviors (e.g., inhibiting verbal and overt emotional expressions; concealing face); heightened perceptual–cognitive sensitivity to environmental signs of danger; long-term demobilization (i.e., dysphoria, vegetative state, fatigue, inferiority, hopelessness, and helplessness); social de-escalation strategies (e.g., gaze avoidance, coy behavior)</td>
<td></td>
</tr>
<tr>
<td>Exploratory</td>
<td>Familiarization with physical world</td>
<td>Approach novel objects and settings; systematic observation and manipulation of object world</td>
<td>Access to basic survival materials</td>
</tr>
<tr>
<td>Affiliation</td>
<td>Acquire social skills and standing</td>
<td>Social interest and approach; initiation and maintenance of interpersonal ties</td>
<td>Access to basic survival materials; formation of alliances</td>
</tr>
<tr>
<td>Caregiving</td>
<td>Proximity to the dependent</td>
<td>Monitoring of dependent, sensitivity to dependent distress signals, and responsiveness to dependent needs</td>
<td>Protection of dependents</td>
</tr>
<tr>
<td>Dominance</td>
<td>Increase access to material resources and mates, eliminate adversaries</td>
<td>Anger; aggression; attention-seeking; direct gaze</td>
<td>Acquisition of basic survival materials</td>
</tr>
</tbody>
</table>
revolves around the interplay among the internal goal of felt-security and the attachment control system. Under conditions of internal (e.g., fatigue, sickness) or external (e.g., darkness, aloneness, quickly approaching or looming stimuli) cues to danger or stress, the behavioral goal of the attachment system is to increase access to a supportive, protective caregiver (Ainsworth, 1969; Bowlby, 1969; Cassidy, 1999), which is theorized to increase the fitness of humans by providing a source of protection against danger for children. As part of the control system, children have access to a large repertoire of behaviors that facilitate the achievement of the behavioral goal. For example, proximity and clinging behavior, verbal bids for comfort and support, distress expressions, and regular monitoring of the whereabouts of the caregiver are all potential means toward increasing access to a supportive caregiver (Bowlby, 1969; Hilburn-Cobb, 2004).

In contrast, Pathway 2 in Figure 2 denotes that emotional insecurity in the interparental relationship is primarily nested within a system characterized by the interplay between the social defense (or the submissiveness or subordinate) system and the felt goal of emotional security. Thus, our contention is that children’s emotional security in the interparental relationship is primarily regulated by the activation of the child’s defense system when exposed to interparental conflict. It could be suggested that bouts of conflict or discord between parents are regarded by children as external threats that activate the child’s attachment system to provide a buffer against potential harm. However, we believe that the attachment system is unlikely to be the main control system underlying emotional

Fig. 2. A theoretical representation of proposed interrelationships between the goal of felt-security in different family relationships and the multiple control systems during childhood.
security in the interparental relationship because the frightening and frightened behavior exhibited by parents during these conflicts is proposed to inhibit the salience of the attachment system. In other words, relationship difficulties between caregivers pose a dilemma for children in that caregivers, who are commonly the source of protection and solace through the operation of the attachment system, are simultaneously a cause for alarm and threat through their expressions of hostility, distress, and emotional volatility during interparental disputes. Thus, the primary solution to protect oneself against harm in the face of this dilemma may be the activation of the defense system.

As shown in Table I, the defense system shares with the attachment system the adaptive function of safeguarding against threat (Marks & Nesse, 1994). However, unlike the attachment system, the external or observed goal of the social defense system is minimizing or neutralizing conspecific threat. The specific behaviors designed to achieve this external goal and, ultimately, the internal goal of felt-security, strongly resemble the three affective–behavioral component processes of security outlined in emotional security theory. More specifically, fear, vigilance, freezing, and distress are characterized as key aspects of the emotional reactivity component in our original outline of the goal-corrected system of security (Davies & Cummings, 1994). Likewise, flight, fight, cutoff, camouflaging, and long-term demobilization behaviors within the ethological social defense system correspond to the avoidance and involvement strategies within the regulation of exposure to interparental relations component of our security system.

These proposed distinctions between attachment and emotional security systems on the basis of their primary relation to different control systems must also be translated into testable hypotheses. Although some behaviors such as distress and monitoring the whereabouts of caregivers simultaneously serve both attachment and social defense systems, specific behaviors that more consistently serve one system as opposed to the other could provide a rich foundation for hypotheses. Building on this foundation, one implication is that exposure to interparental conflict should yield a relatively higher incidence of patterns of fear, vigilance, freezing, flight, cutoff, camouflaging, and social de-escalation behaviors compared to behaviors that are primarily organized around the attachment system (e.g., bids for support, proximity-seeking, clinging).

Testing these novel hypotheses will also hinge on collecting descriptive data drawn from observations and analysis of children's responses to interparental conflict. Diary and observational assessments of interparental conflict have been undertaken in some cases (e.g., Cummings et al., 2002; Cummings, Goeke-Morey, & Papp, 2004; Cummings, Zahn-Waxler, & Radke-Yarrow, 1981; Davies et al., 2006a; Garcia O'Hearn, Margolin, & John, 1997). However, the main units of analysis in these investigations have generally been confined to broad emotional (e.g., fear, anger, distress) and behavioral (e.g., involvement) variables
that do not readily correspond to attachment and defense constructs in ethological theory. Therefore, these measurement and data analysis strategies do not yield attachment and defense variables necessary to authoritatively tease out the behavioral patterns associated with each of the control systems.

Interpreted with this important qualification in mind, findings from earlier studies provide some tentative support for our predictions. For example, maternal and paternal reports in daily home diaries reveal a relatively high percentage of children who exhibit flight, fear, and intervention behaviors during conflicts between parents (Garcia O'Hearn et al., 1997). However, the lack of comparable assessments of behaviors relevant to the attachment system precludes any analysis of the relative propensity of interparental conflict to activate the two systems. Any future comparisons of the behaviors of the two systems must also carefully craft a design to capture characteristics of the interparental relationship that are proposed to activate the defense system in our theory. Specifically, the defense system is theorized to be primarily activated when parents display frightening (e.g., hostility, aggression, threats, yelling) or frightened (e.g., fear, cowering, freezing) behavior in their conflicts. Thus, comparing patterns of attachment and defense behavior in the context of constructive forms of conflict between parents does not provide a sufficient test of the hypotheses. Consistent with this hypothesis, Garcia O'Hearn et al. (1997) reported that children exposed to physical violence between parents were most consistently apt to leave the room and display fear or sadness than were children exposed to low or verbally aggressive conflict.

C. ETHOLOGICAL ROOTS OF SIMILARITIES BETWEEN THE TYPES OF SECURITY

Any account of the differences between the security systems must also be balanced by a consideration of the similarities. The attachment and defense systems do not operate in isolation from each other. Rather, as illustrated by the bidirectional arrows in Figure 2, they are tethered with each other and other control systems by the overarching goal of felt-security which, more specifically, reflects a homeostatic condition characterized by the successful coordination of emotional, cognitive, and neurobiological regulation (Hilburn-Cobb, 2004). Given their ties with each other, qualitatively different patterns of behavior would also be hypothesized to emerge from the interplay of the defense and attachment systems. Although the parent–child attachment system, at an evolutionary level, is geared toward reducing threat to children by drawing them toward caregivers in times of stress, this tendency is counteracted by the frightening and frightened behaviors exhibited by distressed caregivers during episodes of interparental discord. Thus, the natural basis for allaying fear in conflict situations is also a source of their threat (Lyons-Ruth & Jacobvitz, 1999).
The virtual "draw" between attachment and defense systems is theorized to produce the prevalence of freezing, bizarre, aimless, and overtly contradictory behaviors (e.g., simultaneous or sequential approach and avoidance displays toward the angry caregivers) during interparental conflict.

These response patterns may be commonly interpreted as signs of disorganized, disoriented (i.e., type D) attachment in parent-child contexts. However, we maintain that they also provide telling information about threats to children's emotional security in the interparental relationship because the reaction pattern is the direct product of the defense system in response to interparental conflict. The attachment system, in this context, is a secondary strategy of achieving security that serves the more prominent defense system and its role in achieving felt-security in the interparental subsystem. Accordingly, though we propose that the achievement of felt-security in the interparental and parent-child attachment relationships is rooted in different ethological control systems (i.e., defense, attachment), the mutual interplay between the two systems is likely to yield similarities in some profiles of security across the interparental relationship and parent-child attachment relationship.

The remaining bidirectional arrows among the systems in Figure 2 reflect the constant coordination of the attachment and defense systems with the other control systems. For example, the exploratory and affiliation systems evidence a dialectical relation with the attachment and defense system (Ainsworth, 1972; Cassidy, 1999). The natural curiosity to explore the physical and social world within the exploratory and affiliation systems shares the adaptive function of acquiring knowledge and skills about the environment necessary for basic survival (see Table I). However, exploration without balanced appreciation for potential danger was likely to result in significant reductions in survival advantage over evolutionary time. According to evolutionary theory, the consequence of this adaptive problem was the smooth coordination of the attachment and defense systems with the exploratory and affiliation systems.

Commonalities in the interdependency between the attachment and defense systems and these other systems provides another basis for expecting similarity in the elements of the response patterns underlying attachment security and emotional security. For example, reductions in exploration, play, and sociability commonly signify activation of the defense system and, in certain configurations, perturbations in the attachment system. Reflecting the conjoined nature of the defense system with exploratory and affiliation systems, social withdrawal (e.g., social unresponsiveness or disinterest) and disruption in the child's natural exploratory and play activities (e.g., preoccupation) in response to interparental conflict are regarded as potential signs of insecurity in the interparental relationship. Thus, evaluating attachment security and emotional security in the interparental relationship is facilitated by the respective analyses of the attachment and defense control systems within the broader organization of the other control systems.
The bidirectional pathways between the attachment and defense systems and other control systems in Figure 2 also underscore that children may resort to other secondary strategies for achieving felt-security in family relationships when the more direct strategies within attachment and defense systems are ineffective. The predominant reliance on middle class samples in the Western world does not adequately capture the normative threat, suffering, and danger faced by the vast majority of children in the world in contemporary times or throughout our ancestral history (Crittenden, 1999). Preservation of safety and security under varied environmental niches is likely enhanced through flexible enlistment of the lower-order systems when defense or attachment systems do not provide sufficient solutions to the problem (see Figure 2). Thus, patterns of attachment security can be derived from individual differences in the propensity of children to co-opt other control systems in the service of the attachment system and its respective external and internal goals of gaining access to a protective caregiver and the attainment of felt-security (Hilburn-Cobb, 2004). For example, hostile, aggressive behavior within the dominance system may be recruited as a secondary strategy to achieve some modicum of felt-security in the face of significant perturbations in the attachment system (e.g., Crittenden, 1992, 1995; Hilburn-Cobb, 2004). Similarly, attaining felt-security in the interparental relationship under conditions of extreme ecological threat, prior experiential histories, proximal characteristics of the child, or some combination thereof may require more than simply the efficient activation of the defense system. Therefore, patterns of insecurity in the interparental relationship may be gleaned from response processes of the defense system and other systems recruited to support children's coping with threat in the interparental subsystem.

In summary, we propose that an ethological perspective provides cogent justification for explicating the nature of the relation between attachment security in the parent–child subsystem and security in the interparental subsystem. Distinctions between the types of security are proposed to be rooted in different underlying goal-corrected control systems. Whereas individual differences in attachment security in the parent–child relationship are theorized to reflect, in large part (but not exclusively), variations in the operation of the attachment system, differences in security in the interparental relationship are posited to result primarily from the operation of the defense system. Similarities in patterns of responding between the two types of security are hypothesized to result from (a) the common overarching goal of felt-security, (b) overlap in how mental and behavioral patterns facilitate the achievement of behavioral or external goals within control systems, and (c) comparability in the interrelationships among the defense and attachment systems and other control systems (e.g., exploration, affiliation). In the next section, we take our ethological analysis of the emotional security system one step further by explicating the implications of the social
defense system for identifying individual differences in children’s emotional security in the interparental relationship.

D. TOWARD A PATTERN-BASED APPROACH TO EMOTIONAL SECURITY IN THE INTERPARENTAL RELATIONSHIP

Developing a formal, ethologically based system for identifying patterns of insecurity in the interparental relationship is premature at this early stage of theory development. However, some of the potentially prominent patterns of security may be posited in rough outline. If security in the interparental relationship is closely intertwined with the defense system, then response patterns indicative of prolonged activation of the defense system may be one of the predominant profiles of insecurity in the interparental relationship. As Table II shows, this may result in a multiplicity of different strategies that are activated by innate rules or algorithms based on the nature of the threat (Gilbert, 2000, 2001). A primary insecure pattern of organizing responding in the face of destructive interparental conflict is hypothesized to consist of prolonged use of more basic mobilizing strategies that are shared between the social defense and the nonsocial (e.g., predatory) defense systems, including elevated distress, freezing, perceptual sensitivity to threat in the family unit, and flight or fight (i.e., involvement) behavior (Gilbert, 2000; Johnston & Roseby, 1997; Marks & Nesse, 1994; Ohman & Mineka, 2001). Given the mutual, dialectical relation between the defense system and the exploration and affiliation systems, chronic reductions in ongoing, developmentally salient activities (e.g., play in childhood) and interpersonal interactions should also be evident. Despite the dearth of research designed to identify profiles of reactivity to interparental conflict (Cummings & Davies, 2002), there is some support for the prevalence of the mobilizing-insecure profile. For example, Davies and Forman (2002) identified a “preoccupied” group of children who experienced a pattern of responding characterized by high levels of distress, involvement or avoidance, and negative appraisals and interpretations of interparental conflict for themselves and the family.

Although the prolonged activation of the defense system may correspond to a preoccupied style of responding to interparental conflict, the flexibility of the control system is reflected in the use of other defensive subroutines for preserving felt-security. A second primary reaction pattern may involve the use of camouflage strategies characterized by the effortful deactivation of overt expressions of fear and distress and regulation of distance from parents despite experiencing high levels of subjective alarm and apprehension (Gilbert, 2001; Marks & Nesse, 1994; also see Table I). In accordance with our camouflage-insecure category, emotional security theory has proposed an insecure profile of
<table>
<thead>
<tr>
<th>TABLE II</th>
<th>A Summary of the Putative Family and Developmental Conditions Predicting the Social Defense Strategies for Achieving Security</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interparental</strong></td>
<td><strong>Family level</strong></td>
</tr>
<tr>
<td>1. Secure</td>
<td>Negligible to mild hostility Resolution Postconflict harmony</td>
</tr>
<tr>
<td></td>
<td>Family harmony Parental warmth Parental emotion coaching Secure parent–child attachment</td>
</tr>
<tr>
<td></td>
<td>Family enmeshment Moderate parental warmth Parental psychological control/criticism Inconsistent parental care Secure parent–child attachment</td>
</tr>
<tr>
<td></td>
<td>Resistant parent–child attachment Family instability, violence Parental abuse potential Parental rejection</td>
</tr>
<tr>
<td></td>
<td>Physical violence Parental intolerance of affect expression Disorganized attachment</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Conflict escalation Child-related</td>
</tr>
<tr>
<td>2. Mobilizing</td>
<td>Hostility Verbal aggression Physical violence Conflict escalation Child-related</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Physical violence Conflict escalation Child-related</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td>3. Camouflaging</td>
<td>Hostility Verbal aggression Physical violence Conflict escalation Child-related</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td>4. Demobilizing</td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td>5. Dominant</td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Poor resolution Disengagement</td>
</tr>
<tr>
<td>6. Caregiving</td>
<td>Hostility Verbal aggression Physical violence Inept, vulnerable displays Dysphoria, crying</td>
</tr>
<tr>
<td></td>
<td>Hostility Verbal aggression Physical violence Inept, vulnerable displays Dysphoria, crying</td>
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<td>Hostility Verbal aggression Physical violence Inept, vulnerable displays Dysphoria, crying</td>
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<td>Hostility Verbal aggression Physical violence Inept, vulnerable displays Dysphoria, crying</td>
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responding to interparental conflict characterized by low levels of overt displays of distress and involvement, elevated avoidance, and high levels of subjective feelings of distress and negative appraisals of interparental conflict (Davies, Winter, & Cicchetti, 2006b). Preliminary research on adult anger provides some support for the existence of this profile (e.g., Cole, Michel, & Teti, 1994; Cummings, 1987; Cummings & El-Sheikh, 1991; Davies et al., 2006b; Maughan & Cicchetti, 2002; Shipman et al., 2000), but more research is needed to draw more definitive conclusions.

Analysis of the large repertoire of strategies available in the control system also raises the likelihood of the existence of undiscovered patterns of insecurity (see Gilbert, 2000, for more details). For example, evolutionary perspectives suggest that the use of long-term demobilization strategies characterized by disengagement, worry, dysphoria, anhedonia, self-blame, lethargy, helplessness, and hopelessness in the face of interparental conflict may coalesce into a demobilizing-insecure pattern (see Table I; also Gilbert, 2001; Gilbert & Allan, 1998; Marks & Nesse, 1994; Sloman et al., 2006). However, prior studies that were designed to capture individual differences in the organization of children’s response patterns to conflict failed to disentangle signs of demobilization (e.g., dysphoria, disengagement, coy or ingratiating behavior, appraisals of hopelessness) from other higher-order composites of emotional reactivity, involvement, avoidance, or negative internal representations. Therefore, identification of the presence and prevalence of this demobilizing-insecure pattern of responding hinges on more fine-grained measurements of children’s reactivity to interparental discord.

In addition to proposing that groups of insecure children may largely be identified by individual differences in the operation of defense system (see Table I), Figure 2 specifically illustrates two other potential patterns of insecurity in the interparental relationship. The first possibility, depicted by the bidirectional arrow between the defense and the dominance systems, is that strategies within the dominance system may be solicited in the service of the defense system and the goal of attaining felt-security in the interparental relationship (Gilbert, 2001; Hilburn-Cobb, 2004; Marks & Nesse, 1994). Consistent with the other insecure patterns, children exhibiting a dominant-insecure pattern of responding are posited to show signs of wariness and fear indicative of the workings of the defense system. However, the dominant system and its accompanying anger and aggression are designated to help overcome the threat. Subjective feelings of vulnerability (e.g., fear, worry) and hypersensitivity in processing danger cues are hypothesized to be effortfully suppressed by the enlistment of the dominance system. Minimizing the experience of fear, distress, and worry may help sharpen the focal activity of defeating threats through aggressive displays (Dixon, 1998; Gilbert, 1993). Consequently, a dominant-insecure pattern of insecurity may be exhibited by: (a) noticeable expressions of overt distress and anxiety that reflect
a high degree of ambivalence between fight and flight tendencies; (b) elevated hostility, anger, aggression, and loss of self-control; and (c) relatively low levels of subjective distress and appraisals of threat in the face of interparental conflict.

Comparable patterns of responding to interparental or interadult conflict have been identified in prior research. For example, Cummings and colleagues identified a group of “ambivalent” children who exhibited high levels of behavioral distress and aggression in response to adult anger and low levels of subjective negativity and impulses to intervene or avoid the anger (e.g., Cummings, 1987; Cummings & El-Sheikh, 1991; El-Sheikh, Cummings, & Goetsch, 1989; Maughan & Cicchetti, 2002). Likewise, Davies and Forman (2002) identified a group of “insecure-dismissing” children who displayed overt signs of elevated behavioral distress and dysregulation (e.g., aggression, yelling) in conjunction with low levels of subjective distress and threat. However, thoroughly exploring the correspondence between our proposed dominant-insecure pattern and these earlier classifications of children’s reactivity to adult conflict will require sharper measurement batteries tailored to an ethological perspective.

The bidirectional pathway between the defense and the caregiving systems in Figure 2 also suggests the possible occurrence of another insecure pattern. Although the caregiving system is theorized to reach full maturation during adulthood when care and protection of offspring is a stage-salient task (Bell & Richard, 2000), childhood and adolescence can be viewed as important training periods for acquiring caregiving skills and strategies (Hilburn-Cobb, 2004). Thus, the defense system may become coupled with the precocious activation of the caregiving system under some adverse family conditions. Children exhibiting an insecure-caregiving pattern of responding to interparental difficulties are theorized to exhibit high levels of distress, fear, and preoccupation with the activation of the defense system as well as high levels of involvement in interparental problems that require considerable forethought, concern, and even risk on the child’s part. Role reversal or parentification is one possible result as children take on the caretaking role of their dependent parents by acting as a confidante, therapist, and mediator for one or both of the parents (Davies, 2002). Clinical and empirical work has documented the occurrence of destructive forms of parentified involvement in high-risk families in which children engage in excessive, developmentally inappropriate emotional caretaking responsibilities (Byng-Hall, 2002; Jurkovic, 1998; Jurkovic, Morrel, & Thirkield, 1999; Solantaus-Simula, Punamaki, & Beardslee, 2002). For example, cluster analyses of children’s responses to parental negative moods yielded a group of “emotionally overinvolved” children who reported elevated fear and distress, while assuming the formidable responsibility of comforting and seeking help for the parents (Solantaus-Simula et al., 2002).

As a final example, a secure pattern of responding to interparental conflict may be characterized by the efficient operation of the defense system. Even though
conflicts between parents from time to time may increase the operation of the
defense system and its accompanying displays of fear and distress, secure children
can be distinguished from insecure children by their well-regulated, mild forms
of concern and distress. For example, Davies and Forman (2002) identified a
group of secure children who exhibited mild and relatively brief bouts of reac-
tivity to conflict that were characterized by low levels of emotional reactivity,
avoidance, involvement, and negative internal representations of interparental
relationships across two studies. Although many of these children experienced
some distress, concern, and impulses to intervene in parental conflicts, the broader
organization of well-regulated responding and high levels of confidence in par-
ents to manage disputes in ways that maintain family harmony suggests that the
distress is organized around empathetic concern for the parents rather than
defense and self-preservation. Confidence in the identification of a secure pro-
file is bolstered by its close resemblance to the empirical delineation of “con-
cerned” patterns of responding to anger between adults (e.g., Cummings, 1987;
El-Sheikh et al., 1989) and “active empathy” patterns of responding to negative
parental moods (Solantaus-Simula et al., 2002).

III. Family Origins and Correlates of Emotional Security

Another litmus test in judging the value of ethology for emotional security
theory is to examine its capacity to identify the family correlates and origins of
individual differences in security in the interparental relationship. Toward this
goal, Pathway 2 in Figure 1 depicts that repeated exposure to interparental con-

cflict characterized by elevated hostility, indifference, and difficulties resolving
anger progressively undermines children’s emotional security in the interparental
relationship as manifested in greater emotional reactivity, regulation of exposure
to interparental difficulties, and negative internal representations of interparental
relations. This prediction is rooted in the sensitization hypothesis, which is shared
with multiple theories of family conflict (e.g., Crockenberg & Langrock, 2001;
Davies & Cummings, 1994; Grych & Fincham, 1990). According to this hypothe-


affective responses to conflict remain even when the proximal parameters of conflict in assessments of child reactivity to conflict are held constant (Davies & Cummings, 1998; Duggan, O’Brien, & Kennedy, 2001; Grych, 1998; Grych, Wachsmuth-Schlaefer, & Klockow, 2002).

However, beyond this general hypothesis, little headway has been made in increasing the specificity and precision of predictions about the relation between experiential histories with properties of interparental interaction and the component processes of emotional security. As a consequence, important issues necessary for theoretical progress remain unaddressed. First, what are the specific dimensions or patterns of responding that are set in motion by destructive interparental conflict? Second, are there specific stimulus characteristics of interparental conflict that are particularly potent in engendering insecurity and the activation of the underlying defense system? Third, what is the underlying nature of the relation between exposure to destructive interparental conflict and signs of children’s emotional insecurity? Finally, what interparental family processes may affect the development of individual differences in broader patterns of insecurity in children? In the following sections, we address how ethology and evolution may provide significant leads in answering these questions.

A. THE NATURE OF THE INTERPLAY BETWEEN INTERPARENTAL CONFLICT AND CHILDREN’S REACTIVITY TO CONFLICT

The sensitization hypothesis and its incarnations in family conflict theories leave open several qualitatively different interpretations for the development and course of the relation between interparental conflict and child reactivity to conflict. Evolutionary and ethological explanations of the operation of the defense or fear module provide two useful conceptualizations for sharpening our understanding of the relation (Ohman & Mineka, 2001).

First, as a narrower, more specific formulation than the sensitization hypothesis offered in the family conflict literature, the selective sensitization hypothesis within evolutionary psychology specifically proposes that arousal or provocation under stressful conditions serves to prime defense responses (e.g., fear) to threatening stimuli in the environment. The selective component of the hypothesis refers to the notion of a genetic or biological disposition to respond to specific stimuli that were significant threats to survival (e.g., angry faces), whereas the sensitization component of the hypothesis suggest this biological disposition to respond with fear to specific stimuli is only amplified by an existing state of arousal or threat. No prior history of learning or conditioning is necessary. Instead, the process is characterized by arousal or co-occurring stressful conditions that prime the defensive responses to stimuli that signified threats (e.g., angry faces) in typical environments over evolutionary time (Gray, 1987; Lovibond, Siddle, & Bond, 1993).
Translated to the study of interparental conflict, the selective sensitization hypothesis would postulate that children exposed to high levels of destructive conflict experience progressively more distress and reactivity to subsequent conflict because they are more likely to be in a preexisting, temporary state of arousal or fear by virtue of their exposure to contemporaneous family conflict. Learning or conditioning is not the process that leads children to become increasingly vigilant in the context of destructive interparental conflict. Rather, history of exposure to interparental conflict is a distal variable indirectly associated with greater reactivity to conflict through its co-occurrence with a constellation of family stressors and its resultant effect on increasing the threat, arousal, and reactivity to conflict.

Second, the selective association or preparedness model is comparable to the selective sensitization hypothesis in assuming that evolution has forged a legacy that results in a constitutional bias toward processing and reacting to certain environmental cues (e.g., angry faces) with fear. However, in contrast to selective sensitization, the "association" component of the model suggests that some form of learning is the operative mechanism underlying the effects of greater exposure to interparental conflict (Hofmann, Moscovitch, & Heinrichs, 2004). Tests of the viability of this theory in the link between interparental conflict and increased child reactivity to conflict must, however, be sensitive to the multitude of underlying response processes proposed within different versions of the selective association model. For example, repeated exposure to stressful events such as interparental conflict may result in sensitization in neurobiological mechanisms, including increased reactivity of excitatory neurotransmitters and stress hormones such as norepinephrine, dopamine, and corticotrophin-releasing factor (e.g., Monroe & Harkness, 2005; Post, 1992). Likewise, social-cognitive formulations might translate to the hypothesis that schemas comprising constellations of cognitions (e.g., perceived threat) and affect (e.g., fear) become increasingly integrated and coupled together with repeated exposure to stressful interparental events (e.g., Segal, Williams, Teasdale, & Gemar, 1996). From this perspective, sensitization is conceptualized as a product of progressively greater reciprocal influences among multiple dimensions of negative responding as children are repeatedly exposed to interparental conflict (see Monroe & Harkness, 2005, for other models).

Although the tenets of the sensitization model proposed within the interparental conflict literature are more closely linked with evolutionary versions of the selective association hypothesis than the selective sensitization hypothesis, no studies have systematically examined the relative potency of the various mechanisms that are proposed to mediate the sensitization process across the models. Moreover, concurrent arousal processes in the selective sensitization model and the biopsychological changes resulting from histories with parental conflicts in the selective association model may both account for a proportion of the sensitization process.
For example, Cummings and Zahn-Waxler (1992) proposed that history of exposure to interparental conflict may lead to persistent arousal and emotional dysregulation under certain conditions (also see Zillmann, 1983).

Despite suggesting mechanisms underlying the vulnerability of children exposed to interparental conflict, ethological accounts are vague in generating hypotheses about the form of the relation between interparental conflict and children’s reactivity. It might be assumed that the sensitization process follows, at least in rough form, some dose–response relation. However, if human response systems are guided by a complex set of algorithms to cope with the multiplicity of prehistoric environmental niches (Klein et al., 2002), then the association between interparental conflict and child reactivity may not be linear in form. For example, the challenge model in developmental psychopathology specifies that stressful conditions, especially in small or moderate doses, may actually have “steeling” effects that enhance coping and adjustment and inoculate individuals against subsequent psychological insult (Garmezy, Masten, & Tellegen, 1984; Rutter, 1985, 1987), particularly when the aversive consequences following the challenge are minimal or easily avoided (Nesse, 2005). By extension, exposure to destructive interparental conflict may trigger children to develop more effective skills for coping and adjusting to adversity if bouts of conflict are relatively infrequent.

As another illustration, the stress autonomy model is consistent with the selective sensitization and association models in its hypothesis that greater exposure to stressors such as destructive interparental conflict may progressively increase children’s reactivity to subsequent bouts of problems between parents in the early stages. However, it diverges from the earlier models by suggesting that over longer periods of time, interparental conflict may set in motion other mechanisms that supersede the direct risk conferred by interparental conflict on children (Monroe & Harkness, 2005). Therefore, following a dose–response relation between interparental conflict and child conflict reactivity in the early stages of exposure, the curvilinear nature of the relation may be evident in an asymptote signifying progressively weaker associations between interparental conflict and child functioning in latter stages of exposure. In summary, documenting the form of the relation (e.g., linear, curvilinear) between interparental conflict and children’s reactivity to conflict still requires further research.

B. SELECTIVITY IN THE SENSITIZATION PROCESS: STIMULUS CHARACTERISTICS OF INTERPARENTAL CONFLICT

Only destructive forms of conflict between parents are hypothesized to undermine children’s security in the interparental relationship, but destructive ways of expressing conflict vary widely. Whereas some couples may display their discord through physical violence, other couples may engage in bouts of verbal aggression
(e.g., insults) or yelling. Discord in other couples may manifest itself in disengagement, indifference, withdrawal, sulking, dysphoria, or the silent treatment. Subsuming different forms of conflict under a broad definition of destructive conflict provides an insufficient base for sharply identifying how conflict threatens children’s emotional security.

How might a focus on evolution allow us to identify destructive forms of conflict more precisely? Many evolutionary models of the evolved adaptive defensive system or module share the assumption that humans are biologically or genetically predisposed to respond in fearful and defensive ways to specific stimuli that were significant threats to our ancestors’ survival (Lovibond et al., 1993; Ohman & Mineka, 2001; Seligman, 1971). Cues evoking genetically primed fear responses can range from very specific interspecies (e.g., moving sinusoidal shapes indicative of snakes) and intraspecies (e.g., angry human faces) stimuli to more abstract, but nonetheless potentially dangerous, stimuli (e.g., loud noises; fast-approaching or looming objects or organisms) (e.g., Bowlby, 1969; Hofmann et al., 2004; Marks & Nesse, 1994). Of these, intraspecies stimuli are particularly relevant for identifying specific elements of interparental conflict that are particularly threatening to children. More specifically, the selective, biologically hard-wired, sensitivity of the defense module to angry faces corresponds more closely with the hostile, angry, and aggressive patterns of interparental conflict than the more dysphoric, withdrawn, and indifferent categories of conflict. Likewise, the ability to decipher fearful expressions among conspecifics holds particular adaptive significance as another mechanism for detecting environmental peril. Accordingly, witnessing anger or fear among conspecifics, especially two attachment figures, may be particularly likely to pose a threat to children’s emotional security and, over time, their psychological and physical well-being.

However, an evolutionary perspective does not necessarily relegate dysphoric or disengaged forms of conflict to an insignificant status as risk factors. Many evolutionary models propose that social-cognitive mechanisms were incorporated onto the preexisting template of the fear or defense module and served important adaptive functions for coexisting safely in groups or families of conspecifics (described in the next section). These social-cognitive mechanisms are proposed to yield algorithms for identifying the probability of deleterious consequences of various interpersonal interactions within social groups (Hofmann et al., 2004). In evolutionary models, dysphoria and disengagement signify abandonment, rejection, and interpersonal struggle within the social hierarchy (Gilbert, 2001). Therefore, repeated exposure to these conflict properties may undermine children’s security in the interparental relationship (Dixon, 1998). However, given evidence supporting a biological proneness to respond defensively to conspecific anger and fear (Ohman & Mineka, 2001), it follows that exposure to parental hostile and fearful displays during conflict should be a more prominent risk factor in undermining children’s sense of security.
The dearth of research designed to carefully contrast children’s reactions to interparental hostility and fear with other dimensions of conflict (e.g., dysphoria, disengagement) make it difficult to draw any conclusions about the viability of this hypothesis. Some notable studies have begun to discriminate between different forms of conflict and their implications for children’s coping and reactivity. However, in the few studies that distinguish hostile or fearful expressions of conflict from other forms of conflict between parents, the analyses failed to test directly the conditions necessary to test our hypothesis (e.g., Cummings et al., 2002; Davies et al., 2006a). Complicating the empirical task of disentangling the impact of types of interparental conflict are findings indicating that some forms of conflict (e.g., disengagement) are natural outgrowths of prior forms of conflict (e.g., hostility) in the deterioration of adult relationships (Katz & Woodin, 2002). Moreover, as we document in the next section, the greater potency of some forms of conflict to undermine children’s emotional security may be limited to specific domains of child responding.

C. DOMAINS OF CHILD REACTIVITY IN THE FACE OF INTERPARENTAL CONFLICT

Evolution and ethology also point to the significance of considering the multidimensional properties of interparental conflict in tandem with the plurality of response processes in the social defense system. Survival hinged on the evolution of a fear module designed to rapidly prioritize recurrent environmental threats and supplant the salience of any competing or interfering processes (Hofmann et al., 2004; Ohman & Mineka, 2001). Rapid reactivity to threatening cues is specifically achieved through the direct, automatic levels of processing that are outside the conscious awareness of the organism (i.e., automaticity), whereas the ability of the fear module to resist potential input from other systems (including conscious processing) in processing the threat indicates encapsulation. By design, these criteria point to the identification of neural circuitry for processing threats that are specialized, resistant to the influence of other processes, and located in the more ancient structures of the brain. Indeed, considerable research supports the automaticity and encapsulation of the processing of cues deemed to pose considerable threat to humans during evolution, including processing of aversive conspecific stimuli (i.e., angry faces) relevant to the social defense system (Ohman & Mineka, 2001).

Complementing these findings is neurobiological evidence for the role of the amygdala in the processing of fear-relevant stimuli (Rothbart & Posner, 2006). The amygdala is a limbic structure located in the phylogenetically older regions of the brain. It is regarded as a primary neural structure that rapidly processes input for emotional significance and fear relevance through multiple pathways
(Amaral et al., 2003; Barrett & Wager, 2006). In one of these pathways, perceptual input appears to bypass the neocortical regions of the brain, thereby leading to rapid, unrefined processing of potential fear stimuli that is relatively resistant to cognitive awareness or control (LaFreniere, 2005; LeDoux, 1996). The identification of other pathways involving the amygdala further supports the automatic and encapsulated nature of fear-processing stimuli in the limbic system. The amygdala sends more information to the cortex than it receives. A common conclusion of these findings is that fearful reaction patterns tend to regulate cognition (e.g., appraisals, expectancies) more strongly than cognition regulates fearful affect (for more detailed neurobiological accounts, see LeDoux, 1996; Ohman & Mineka, 2001).

What are the implications of automatic and encapsulated processing of threatening cues for advancing emotional security theory? One proposition is that it helps to bolster the underlying foundation for emotional security theory. Although the conceptual premium placed on children's automatic patterns of responding to interparental conflict is a key characteristic that distinguishes emotional security theory from other theories of interparental conflict (Davies et al., 2006b), evidence for this assumption was restricted primarily to qualitative accounts of how processes evolving from rudimentary sensorimotor systems of children may develop into stable patterns of child reactivity in high-conflict homes (Davies et al., 2006b; Johnston & Roseby, 1997). Moreover, these clinical accounts were limited largely to infancy and the preschool years, raising questions about the applicability of the conceptualization to broader developmental periods. In contrast, evolutionary analyses provide compelling empirical evidence for the automatic, encapsulated nature of the social defense system across broader developmental periods. In our theory, automaticity and encapsulation are reflected in scripts that, in the words of Johnston and Roseby (1997) "can initially be formed from schema of preverbal and perceptual experience ... long before the child has access to language to encode the experience" and, as a result, "frightening scenes of family conflict and violence may never be available for cognitive recall but can continue to manifest themselves in scary dreams and anxious feelings" (p. 59). However, our reformulation builds on the framework of Johnston and Roseby (1997) by maintaining that automatic and encapsulated fear components of the social defense system may evidence plasticity across broader developmental periods than early childhood.

Our evolutionary-based reformulation emphasizes unconscious or semiconscious components of the emotional security system and thereby distinguishes our theory from other theories in its exposition of the unfolding sequence and interplay of children's responses to interparental conflict. The other established theories of interparental conflict—the cognitive–contextual framework (Grych & Fincham, 1990) and specific emotions theory (Crockenberg & Langrock, 2001)—both posit that children's cognitive appraisals of an interparental conflict event
mediate the link between that event and their emotions. Thus, as a first response, cognitive appraisals, which are largely (i.e., specific emotions theory) or exclusively (i.e., cognitive-contextual framework) accessible to consciousness, produce and regulate the subsequent course of affective responses to and coping with the conflict. Emotional security theory differs from these theories in operating from the evolutionary premise that fearful affect plays a more primary role as a cause than a consequence of cognition in the defense system (Ohman & Mineka, 2001).

In the first step of the process shown in Figure 3, exposure to an episode of destructive interparental conflict is theorized to activate the security system by eliciting affective-physiological reactions that are largely reflexive and outside the awareness of the child. Reactivity to the threatening interparental event may therefore initially develop into relatively automatic, primitive expressions of fear, distress, freezing, and flight and fight responses. In its rapid and imprecise form, the automatic, affective processing and reactivity to threatening interparental cues (e.g., hostility) would, in turn, organize constellations of responding that can vary widely along a continuum from no to full conscious awareness. Thus, the original unconscious, automatic affective response is increasingly supplemented by forms of reactivity that are under some cognitive control as the information processed by the amygdala and other neural pathways is transmitted to various regions of the cortex. Through this process, the initial automatic affective responses help to organize and direct attentional focusing and shifting of

![Diagram](image_url)

Fig. 3. A process-oriented overview of the nature of the direct associations among characteristics of interparental conflict and multiple domains of children's reactivity to conflict within an ethological and evolutionary perspective.
conscious internal representations or appraisals (e.g., expectancies about the meaning conflict has for children), subjective experience of emotions, effortful strategies to regulate the overt displays of affect (e.g., amplifying or inhibiting emotion), and more sophisticated forms of regulating exposure to the interparental conflict (e.g., serving as a confidante or mediator).

Bidirectional arrows between the response processes in Figure 3 further illustrate the transactional influences among the domains of responding that comprise the emotional security system. For example, patterns of attentional focusing and shifting to threat cues structured by the initial automatic affective response to the conflict may modulate subjective feelings of distress. Subjective distress, in turn, may further direct and sharpen vigilance to possible signs of interpersonal danger. However, in drawing again from analyses of the neural circuitry of the social defense system, we are not postulating that all the domains of responding in Figure 3 affect each other equally. Instead, as indicated by the solid arrow running from automatic affective arousal to the other responses, we propose that automatic affect initially organizes the responding of the other response domains and continues to modulate the nature and course of children’s reactivity to conflict for the duration of the event. Conversely, by virtue of its encapsulated nature, the reflexive affective reaction is relatively more resistant to alteration by the other response processes. Accordingly, the dotted arrow feeding back from the constellation of responses to the reflexive affective reaction indicates that the automatic affective reaction to the conflict runs its course with modest sway from the other response domains.

D. FAMILY ROOTS OF INDIVIDUAL DIFFERENCES IN PATTERNS OF SECURITY

Figure 3 is also designed to illustrate how an appreciation of evolution and ethology advances an understanding of family sources of individual differences in relations among the response domains within the security system. Although natural selection likely equipped individuals with many ways of coping with threats in the family, dispositions to adopt a particular strategy are a complex function of both current ecological conditions and developmental histories, particularly in the context of interpersonal stress (Belsky, 2005; Ellis, Jackson, & Boyce, 2006; Gilbert, 2001). Translated to emotional security theory, the pathway between the proximal interparental conflict characteristics and children’s responses underscores the notion that a child’s response to parental discord depends in part on the nature of the parameters of the proximal conflict. In this manner, some degree of flexibility in tailoring responses to the specific challenges of the ongoing conflict is expected to emerge from the long histories of coping in the multiple niches within evolutionary environments. However,
against this backdrop of lawful intraindividual plasticity and fluctuation, the arrow running from the characteristics of family history and background to the link between proximal characteristics of the interparental conflict and children’s patterns of responding illustrates our premise that stable patterns of security are likely to emerge from histories of experience within adverse family niches and trajectories of intrapersonal vulnerability (i.e., temperament).

In the remainder of this section, we address how social defense strategies for achieving security (mobilizing-insecure, camouflaging-insecure, demobilizing-insecure, dominant-insecure, caregiving-insecure, secure) can be conceptualized as evolved regulatory schemes for coping with specific types of recurrent threats in the family and developmental risks (see Table II for details). However, at the outset, it is important to note that we are not proposing that prolonged exposure to specific family conditions will inevitably engender specific patterns of security in an absolute sense. Any specific dimension of interparental or family adversity can present varied and multiple challenges to children and are part of an open system in which other family and extrafamilial factors may alter the meaning of the specific adverse dimensions in the social defense system (Davies & Cicchetti, 2004; Keller & Nesse, 2006). Therefore, our formulation is geared toward identifying family and developmental cues that increase the probability that children will adopt a specific pattern of security.

1. Secure Pattern

Secure children are hypothesized to have confidence in their parents in a way that maintains family harmony. Therefore, they exhibit little or mild distress in a form that is well regulated and expressed mainly in the form of empathy (Davies & Forman, 2002; Davies et al., 2006b). The underlying pattern of confidence of secure children is specifically theorized to evolve, in part, from witnessing well-managed parental disputes in the context of cohesive interparental and family relationships. Stable, supportive patterns of family and parent–child relationships may help to offset the negative impact of even occasional bouts of destructive interparental conflict on children’s concerns about security in two primary ways. First, children in supportive family systems are likely to develop expectancies that the family system is strong enough to weather the storm of intermittent interparental conflict without protracted relational damage (Davies et al., 2002). Second, parental abilities to dedicate resources to helping children process and understand their negative emotions and the stress of family adversity (e.g., emotion coaching) may also help to facilitate their coping and ability to efficiently preserve their security. Although research has yet to characterize the family histories of secure children, patterns of conflict reactivity fitting the secure profile are associated with higher levels of interparental harmony, parent–child attachment security, and family cohesion and lower levels of family adversity (Cummings & El-Sheikh, 1991; Davies & Forman, 2002; Maughan & Cicchetti, 2002).
In evolutionary terminology, the predominance of family-level support suggests that the possibility of harm is negligible in the wake of any danger cues that accompany interparental discord in the homes of secure children. Thus, over time, the benign ecological niche likely requires few allostatic adjustments in the sensitivity of the defense system; the only likely change is lower levels of reactivity to subsequent threat to decrease unnecessary expenditure of resources (Nesse, 2005). In addition, temperamental characteristics reflecting advanced executive functioning (e.g., planning, inhibitory control, working memory, soothability) and a high threshold for negative affect are theorized to be constitutional differences that bias the operation of the defense system toward developing a secure profile (e.g., Davies & Windle, 2001; Martín, Wisenbaker, & Huttunen, 1994).

2. Mobilizing and Camouflaging Patterns

Reactivity patterns reflecting progressive increases in the sensitivity of the social defense system are theorized to develop in response to frequent danger in intraspecific ecological environments (Nesse, 2005). Within our reformulation of emotional security theory, children with mobilizing and camouflaging profiles of insecurity may share both an elevated sensitivity to interparental difficulties and a reliance on active defense strategies that reflect high arousal and fear. Accordingly, Table II shows that both profiles of insecurity are hypothesized to have many common etiological roots. In evolutionary models, the social defense system responds prepotently to conspecific anger and aggression (Hofmann et al., 2004; Ohman & Mineka, 2001). Accordingly the elevated distress, fear, and vigilance experienced by mobilizing and camouflaging children are postulated to reflect the hyperactivation of the defense system and result from repeatedly witnessing anger, aggression, and violence between their parents (Sloman et al., 2006). Likewise, common constitutional dispositions to experience negative affect, inhibition or shyness, and perceptual sensitivity in both groups of children may also further heighten the sensitivity of social defense system and concerns for preserving the goal of felt-security (Davies & Windle, 2001; Gilbert, 2001).

However, if mobilizing and camouflaging are distinct patterns of insecurity in the interparental relationship, then these groups should differ in their developmental histories. The mobilizing strategy is likely to emerge from a history of contending with recurrent hostile threats without ample opportunity to disengage or escape. Within evolutionary models, these ecological niches produce intense, prolonged distress across multiple response domains (Sloman et al., 2006). By extension, we propose that mobilizing strategies are most often utilized when interpersonal and intrapersonal processes immerse children in the threatening interparental subsystem. At the interpersonal level (see Table II), family characteristics signifying enmeshed parent–child relationships (e.g., psychological control, resistant parent–child attachments), blurred boundaries between interparental and
parent–child subsystems (e.g., child-related conflicts between parents, coparenting difficulties), and some degree of family cohesiveness (e.g., parental warmth) are conceptualized as further fueling children's mobilizing strategies by emotionally pulling or coaxing them into interparental difficulties (Davies & Forman, 2002). At the intrapersonal level, constitutional dispositions reflecting difficulties regulating negative affect may also amplify mobilizing patterns. Supporting these hypotheses, preliminary findings indicated that children exhibiting high levels of distress and hypervigilance experienced multiple signs of family enmeshment, including elevated child-rearing disagreements, parental psychological control, and simultaneously elevated experiences of investment, worry, and disengagement in their families (Davies & Forman, 2002).

In contrast, camouflaging strategies may be used in more dire ecological niches. Agonic conspecific relationships, which are defined by high levels of coercion and oppression by dominants, present a dilemma for organisms (Dixon, 1998). On the one hand, mounting fear, terror, and vigilance of victims of bullying by a dominant are likely to engender strong impulses to flee on the part of the subordinate. Yet, on the other hand, flight behaviors within these repressive environments are also likely to draw the attention and ire of the aggressive dominant. Thus, without the opportunity to escape, a primary solution is to remain within the social group but reduce salience as a target of aggression through freezing, inhibiting overt distress and escape behaviors, and maintaining safe distance from the dominant. Translated to our framework, "agonic" families bound together by rigidity, intimidation, and violence are particularly likely to engender a camouflaging strategy (Dixon, 1998).

Table II specifically shows that high levels of domestic violence and volatility (e.g., interparental aggression, family instability), agonic parent–child interactions (e.g., parent–child aggression, disorganized attachment), and repressive socialization practices (e.g., intolerance of child emotional expression) are proposed to play a key role in the genesis and maintenance of a camouflaging strategy. Children exhibiting high levels of inhibitory control may be more likely to employ camouflaging by virtue of their relatively greater aptitude to suppress prepotent responses (i.e., distress) that violate the strict norms of the repressive family system. In support of our hypothesis, children from highly atypical and adverse family (e.g., violence) contexts are at greater risk for using camouflaging techniques characterized by dissembling or masking overt expressions of distress (Cole et al., 1994; Davies et al., 2006b; Shipman et al., 2000). However, empirical identification of the family and developmental correlates of a camouflaging pattern of insecurity awaits future research.

3. Demobilizing Pattern

A demobilizing or "involuntary defeat" strategy is conceptualized in evolutionary models as a response of last resort and is thought to develop out of
chronic arousal of the social defense system as individuals face challenges characterized by (a) lack of ecological resources and opportunities for escape from the threat, (b) inability to generate alternative solutions to escape the threat, and (c) high demand by others to comply (Dixon, 1998; Gilbert & Gilbert, 2003; Gilbert, 2004; Trower & Gilbert, 1989). Some of the properties of the ecological niches that lead to demobilizing strategies are postulated to be comparable to the origins of mobilizing and camouflaging strategies (e.g., lack of opportunities to withdraw or escape from threat; oppressive, coercive environment), but one difference is in the lack of any resources that might serve as a solace from threat (i.e., elements of condition "b" above). Applied to the interparental and family context in emotional security theory, this unique contextual factor may be manifested in critical, rejecting, cold, and indifferent family interactions that collectively belittle and disparage the child (Gilbert, 2001). Without any source of solace in the form of social support in the family, the "last resort" strategy of disengagement, anhedonia, dysphoria, and demobilization serves multiple functional roles of reducing the salience of the children (i.e., conspecific subordinate) in the face of possible threats by hostile, rejecting, and cold caregivers (i.e., aggressive dominant) and inhibiting motivation to explore and acquire resources in a competitive, threatening, and impoverished family context (Sloman et al., 2002, 2006).

4. Dominant Pattern

The dominant strategy of conflict reactivity is characterized by high levels of behavioral distress, loss of control, dysregulation, and aggression in conjunction with low levels of subjective distress and appraisals of threat (e.g., Cummings, 1987; El-Sheikh et al., 1989). Children resorting to this strategy experience elevated levels of intense, poorly resolved interparental conflict, family disengagement, interparental dissatisfaction, parental dysphoria, avoidant parent–child attachment, and parental physical abuse and neglect (Cummings & El-Sheikh, 1991; Davies & Forman, 2002; Maughan & Cicchetti, 2002). Theory addressing how and why these family and developmental conditions breed dominant patterns remains undeveloped. However, Davies and Forman (2002) proposed that dominant (or, in their model, "dismissing") patterns were particularly likely to be utilized by children when interparental conflict was part of a broader pattern of disengaged family relationships that promote, from the child’s perspective, a view of the family as a global source of stress rather than support.

This conceptualization is supported by the elevated levels of disengagement, neglect, and dysphoria in interparental and family relationships seen in children with the dominant pattern. However, the profile of the family, at least on the surface, closely resembles the family configuration theorized to underlie the demobilizing pattern. Thus, exclusive reliance on the explanation by Davies and Forman (2002) does not disentangle the unique family or developmental conditions that distinguish dominant children from demobilizing children. Evolutionary theory
may provide a promising base from which to develop a more refined and discriminating model of security. If children co-opt other systems or modules when the defense system does not protect against threats in the family, then a key task is to identify the sources of the perturbations in the defense system. One possibility is that temperamental difficulties characterized by impairments in inhibitory control, working memory, and perceptual sensitivity may conspire to undermine children’s ability to identify, process, and generate a coherent plan to cope with interparental conflict. Thus, elucidating constitutional and neuropsychological bases of dominant strategies is a central direction for future work (Gilbert, 2001).

Another source of perturbations in defense-system function may be that the pernicious nature of interparental problems overwhelms the capacity of the social defense system. By extension, dominant children are likely to experience some of the same sources of family violence, rejection, and disengagement as demobilizing children. In fact, the blunting of subjective distress and threat is a hallmark of both insecure strategies and may reflect an “analgesic” response to pain under inescapable conditions of threat (Dixon, 1998; Gilbert, 2001; Gilbert & Allan, 1998; also see Davies & Forman, 2002). However, this still does not address the question of why, at a family level, the blunting of affect may become organized around a system of responding that is aggressive, domineering, and dysregulating.

Guided by evolutionary theory, one possibility is that dominant patterns of responding are most likely to be enlisted when there are perturbations in the hierarchical structure of the social group. Collapses in the social structure of the group eliminate guidelines for access to resources and mean that individuals in the dominant role do not deter subordinates’ conduct violations (Sloman et al., 2006). Applied to our family process model, dispositions to utilize dominant strategies may be specifically amplified under conditions that reflect breakdown in the roles of parents as “dominants” in monitoring and managing their “subordinate” children’s conduct and activities (e.g., lax supervision and discipline; neglect).

Another possibility derived from evolutionary theory is that dominant and demobilizing strategies simply reflect different stages in the developmental progression of adjusting to threatening ecological contexts. Models of social defense systems have consistently conceptualized a demobilizing profile as a strategy of “last resort” that temporally follows dominant patterns (e.g., Bowlby, 1969/1982; Dixon, 1998; Gilbert & Allan, 1998; Sloman et al., 2002). Accordingly, the primary locus of discrimination between dominant and demobilizing strategies may not lie as much in the emotional and hierarchical configuration of family relations as in the length of exposure to adversity. Although definitive tests of this hypothesis await longitudinal delineation of the developmental course demobilizing and dominant strategies, the consistent empirical documentation of aggressive behavioral patterns as developmental precursors of dysphoric and depressogenic functioning
provides indirect support for the developmental progression hypothesis in evolutionary frameworks (Capaldi, 1992; Moffitt et al., 2002; Wiesner, Kim, & Capaldi, 2005).

5. Caregiving Pattern

In ethological terminology, a caregiving pattern of insecurity in the interparental relationship reflects the use of “reverted escape” strategies within the social defense system that are further elaborated by the premature enlistment of the caregiving system (Gilbert, 2000; Hilburn-Cobb, 2004). Thus, the pattern is largely organized around a submissive approach to defending the self against harm, as parents in these family systems do not commonly abdicate their power to structure relationship processes (e.g., criticism) in a way that gives children little choice but to maintain their role as the primary caretaker of the family (Hilburn-Cobb, 2004). Thus, in addition to experiencing destructive properties of interparental conflict (e.g., hostility, aggression) that are similar in form to those experienced by other insecure children, children exhibiting an insecure profile may also be exposed to interparental problems that signify parental vulnerability and ineptness. Parental expressions of vulnerability (e.g., crying, fear) during or following interparental conflict are specifically theorized to be distinct risk factors in the development of a caregiving pattern because they highlight the dependent status of a family member (see Table I). Signs of parental weakness and defenselessness are postulated to be evident through active seeking of support from the child, parental psychopathology (e.g., alcoholism, substance use), and poor parental limit setting and guidance. Enmeshed, blurred boundaries within the family may further intensify patterns of caregiving by ensnaring children into the dysfunctional family unit and limiting opportunities to escape or disengage from the family (Gilbert, 2000).

In support of our proposal, qualitative, clinical accounts of high-risk families indicate that children are at greater risk for assuming the role of emotional caretaker and confidante in the face of interparental difficulties when parents repeatedly express their overt fear, worry, and vulnerabilities, not only in the interparental subsystem (e.g., conflicts), but also through their reluctance and ultimate failure to assume the role of the dominant in the family (Byng-Hall, 2002; Wallerstein & Resnikoff, 1997). However, despite some research on the etiology of children’s general tendencies to exhibit role reversal in the parent–child subsystem (e.g., Chase, Deming, & Wells, 1998; Locke & Newcomb, 2004; MacFie et al., 1999; MacFie et al., 2005; Maysless et al., 2004), empirical analyses of the family processes associated with the insecure pattern of caregiving in the interparental relationship have yet to be conducted. Toward this goal, future research would do well to explore multivariate models that also address the developmental and child characteristics. As illustrated in Table II, our main premise is that the probability of adopting an insecure caregiving pattern is likely a function of children’s exposure
to repeated displays of vulnerability as well as intrapersonal attributes (e.g., working memory, inhibitory control) that endow children with the constitutional building blocks necessary to formulate complex, sophisticated strategies of intervening in complex adult problems.

IV. Emotional Insecurity and Children’s Developmental Trajectories

Having outlined how an ethological perspective informs an understanding of the operation, origins, and correlates of children’s patterns of security in the interparental relationship, our final step is to address how behavioral systems may help elucidate the implications of children’s emotional security for their development and functioning. In this section, we first discuss why, at a broad level, prolonged activation of the defense system in response to chronic interparental discord may lead to children’s adjustment difficulties. In the remaining section, we illustrate how the identification of specific strategies of the social defense system (e.g., mobilizing, demobilizing) may afford a new level of precision in identifying individual differences in trajectories of specific forms of adjustment and maladjustment.

A. GENERAL MECHANISMS OF EFFECT

Although assessments of emotional insecurity in the interparental relationship have been shown to mediate partially children’s vulnerability to interparental discord (e.g., Cummings et al., 2006; Davies & Cummings, 1998; Davies et al., 2002), emotional security theory is in the preliminary stages of identifying why emotional insecurity in the interparental relationship is associated with children’s problems. To address this gap from an ethological perspective, we need to examine the process by which chronic activation of children’s defense systems in the context of interparental disputes may translate into children’s psychopathology. Activation of the defense system yields behavioral (e.g., escape, freezing), neurobiological (e.g., neuroendocrine reactivity), and cognitive (e.g., negative internal representations highlighting implications of threat cues) outputs that were exquisitely designed through natural selection to offer protection from harm (Marks & Nesse, 1994). The protracted operation of the social defense system is specifically theorized to set in motion multiple processes and pathways requiring considerable expenditure of biopsychological resources that ultimately increase children’s risky behavior and mental health problems. Accordingly, difficulties preserving felt-security in the interparental relationship are hypothesized to create deviations in the homeostatic balance and efficient psychobiological resource allocation that reverberate across multiple levels of functioning.
Reflecting one class of putative pathways, children’s patterns of cognitive processing and interpreting of threats are proposed to vary as a function of their concerns about security in the interparental relationship and, in the process, affect how they appraise and interpret challenging contexts in the future. Distribution of threat within ecological niches over time was unlikely to be random across evolutionary history. Rather, threat (e.g., agonistic conspecific relations) was likely to be relatively stable over the life course of our ancestors. Therefore, within evolutionary frameworks, cognitive scripts within the social defense module are theorized to serve an adaptive function of identifying, processing, and interpreting subtle or early cues of threat in the environment that afforded proactive utilization of action tendencies (e.g., avoidance) to reduce exposure to mounting threat (Hofmann et al., 2004; Ohman & Mineka, 2001). Applied to emotional security theory, recurrent threatening cues accompanying destructive interparental conflict are proposed to undermine children’s felt-security and specifically lead children to form negative internal representations of interparental relationship quality and their implications for the self and family. In turn, children are theorized to use these cognitive schemas as guides for interpreting and responding in other social settings. Dispositions to use these scripts may specifically be amplified in novel, stressful, or developmentally challenging (e.g., peer contexts in preschool; dating relationships in middle adolescence) contexts, as children simplify complex stimuli by checking new settings for old dangers.

At another level of analysis, prolonged concerns about security and its accompanying operation of the defense system may also undermine development by altering the functioning of neurobiological processes within the limbic–hypothalamic–pituitary–adrenocortical (LHPA) axis, sympathetic–adrenomedullary system, and neurotransmitter functioning (Gilbert, 2001; Repetti, Taylor, & Seeman, 2002). For example, the LHPA axis and one of its hormonal products (i.e., cortisol) are components of the neuroendocrine system that may play a key role in shaping the developmental sequelae of children’s insecurity in the family. Cortisol is a hormone produced from the reciprocal interplay among components of the LHPA axis in response to environmental stress. In contexts of threat, the LHPA axis marshals physical and psychological resources through allocation of resources to biological systems (Lopez, Vazquez, & Olson, 2004). Healthy functioning consists of the efficient onset and termination of the LHPA system tailored to meet the demands of the context without significantly disrupting homeostatic functions. However, exposure to family and interparental discord is theorized to disrupt progressively the operation of the LHPA system; the resulting wear and tear harms children’s mental and physical health (e.g., Cicchetti & Rogosch, 2001; Davies, Sturge-Apple, Cicchetti, & Cummings (in press); Granger et al., 1998). However, a broader analysis of multiple psychobiological processes is necessary to understand accurately the implications of defense system activation for the development of psychopathology.
A third interlocking component of the mediational process linking defense system activation and development of adjustment difficulties and psychopathology is reflected in impairments in children’s neuropsychological and psychological mechanisms necessary to regulate emotion and behavior effectively in the face of developmental and social challenges. Attention focusing and shifting, task persistence, response inhibition, problem-solving, and organization of effective responses to challenge require particularly large reservoirs of biopsychological resources. Consequently, prolonged expenditure of energy accompanying protracted concerns about security may be particularly likely to disrupt these dimensions of functioning (Fearon & Belsky, 2004). The collective perturbations in these domains of functioning may, in turn, be manifested in emotion dysregulation, impulsivity, and risk-taking behaviors that underlie the development of several forms of psychopathology, including both internalizing and externalizing problems (e.g., Posner et al., 2003; also see Davies et al., 2006b).

B. SPECIFICITY IN THE SEQUELAE OF PATTERNS OF SECURITY

We believe that experiences of specific forms of psychopathology and adjustment difficulties hinge partially on individual differences in how children’s emotional insecurity is expressed and the explanatory mechanisms involved in the development of psychopathology. Specifically, our ethologically informed reformation of emotional security theory generates predictions about which organizational patterns of defense activation in the service of security are precursors to different forms of psychological adjustment. The patterns of security are specifically regarded as response processes that, as a general rule, evidence moderate consistency across time within the specific relational context of the interparental subsystem. Moderate stability also reflects that dynamic change is possible, with discontinuity commonly regarded as a lawful product of changes in family circumstances experienced by children. However, plasticity and change in the defense system become progressively more limited as children continue along a given development course of security (Cicchetti & Cohen, 1995; Cummings, Davies, & Campbell, 2000; Waddington, 1957). Thus, despite the ongoing potential for change, increasing tendencies to respond in specific ways to interparental conflict are theorized to serve as useful guides for interpreting and responding to new, challenging interpersonal contexts and, in the process, crystallize into forms of maladjustment that persist across time and settings (Davies & Cummings, 2006). To advance our tentative system for characterizing different response patterns further, we briefly address how each of the six patterns of insecurity in the interparental relationship may inform an understanding of child developmental psychopathology.
1. Mobilizing Pattern

Extended bouts of heightened vigilance, proneness to distress, physiological arousal, and primed negative appraisals experienced by mobilizing-insecure children closely correspond to the defining features of anxiety and social withdrawal difficulties. According to evolutionary conceptualizations, acute awareness to potential interpersonal threat, preoccupation with the analysis of the impact of the one’s own behavior on social contexts, and submissive, appeasing (e.g., coy) behaviors are evolved mobilizing strategies for reducing harm in the face of conspecific threat (Gilbert, 2001; Wakefield, 1999). Yet, the cost of the progressive intensification and proliferation under highly stressful family circumstances is the oversensitivity of the defense system and resulting difficulties with social anxiety and withdrawal (Gilbert, 2001; Marks & Nesse, 1994). Consequently, relatively stable mobilizing patterns are proposed to be most strongly and consistently linked with the development of internalizing difficulties such as generalized anxiety, social anxiety, and social withdrawal symptomatology.

Depressive and dysthymic symptoms are also postulated to be relatively common sequelae of the mobilizing pattern. However, within our model, the depressogenic process is posited to be mediated by the role of demobilizing patterns of insecurity. As we discussed in Section III D, demobilizing patterns are theorized to evolve from mobilizing patterns of insecurity under unmanageable conditions such as chronic exposure to destructive interparental conflict and comorbid forms of family adversity (Sloman et al., 2002, 2006). Thus, consistent with this indirect pathway, we expect that the mobilizing pattern will be a consistent, but relatively weaker, predictor of depressive symptoms than anxiety and social withdrawal difficulties.

2. Camouflaging Pattern

Dispositions of camouflaging children to suppress behavioral outputs of distress, escape, or defensive hostility in the face of conspecific threat are viewed through the lens of ethology as enclosed avoidance strategies that reflect underlying impairments in approach mechanisms (Chance & Jolly, 1970; Gilbert, 2001). In contrast to the blocked escape strategies comprising the demobilizing pattern, enclosed avoidance does not involve attempts to withdraw or disengage from the social context. Rather, enclosed avoidance is reflected in high arousal and vigilance that are thought to take a considerable toll on the neurobiological functioning of the individual. Supporting this prediction, Spangler and Grossman (1993) reported that infants with avoidant attachment, who are conceptualized as employing strategies of enclosed avoidance in the parent–child relationship (exhibiting low overt distress), evidenced elevated heart rate and cortisol levels during separations and reunions. The stress of maintaining a high state of arousal coupled with dampened behavioral reactivity can be pathogenic and is hypothesized
to lead to social withdrawal and defensive avoidance of social signals and interpersonal disengagement. Empirical work has also suggested linkages between social distancing and avoidance as a defensive strategy in response to interpersonal conflict and the occurrence of depressive symptomatology (Allan & Gilbert, 1997).

3. Demobilizing Pattern

Demobilizing patterns are likely to hold the adaptive function of providing a mechanism for inhibiting challenges for resources following repeated social defeats in highly threatening settings. In the context of interparental conflict, the old remnants of this system may be manifested in several response domains. Behavioral outputs of disengagement and inhibition of exploratory behavior are proposed to have the adaptive function of signifying to conspecifics the low threat value of demobilizing individuals (Gilbert, 2006; Sloman et al., 1994). Helplessness, dysphoria, anhedonia, and lassitude resulting from exposure to interparental discord serve to exacerbate and maintain the behavioral signs of demobilization (Gilbert & Allan, 1998). Given their striking resemblance to the diagnostic criteria for depression and dysthymia, characteristics of a demobilizing pattern of insecurity in the interparental relationship are particularly likely to intensify into broader constellations of mood disorders.

Important questions, however, remain about how this pattern increases vulnerability to depressive symptoms. For example, the social rank model suggests that representations of the self as socially trapped, defeated, and in an unwanted subordinate position are the primary mechanisms mediating the development of mood difficulties (e.g., Gilbert, 2001; Gilbert et al., 2002; Sloman et al., 2002). Alternatively, the situation–symptom congruence hypothesis suggests that the mechanisms mediating associations between demobilization in the interparental relationship and the development of depression may depend on the fit between the child’s specific response pattern and the interpersonal context (Keller & Nesse, 2006). Sadness, dysphoria, and pining for social support may be operative depressogenic mechanisms within some family circumstances (e.g., social loss), whereas fatigue, rumination, and learned helplessness may spawn depression in other family situations (e.g., goal failure). The situation–symptom congruence hypothesis raises the further question of whether specific strategies comprising a “demobilizing” pattern of responding may each have their own adaptive function that promoted ancestral fitness within different contexts. Although dysphoria and disengagement are conceptualized in the social rank model as holding the adaptive function of reducing harm by “laying low” and signaling submissiveness to conspecifics (Gilbert, 2006; Sloman et al., 1994), other strategies comprising the demobilizing pattern may have increased ancestral fitness in other contexts by increasing energy conservation or soliciting social support (Keller & Nesse, 2006; Sheeber et al., 1998).
Our prediction that a demobilizing strategy is a particularly strong predictor of mood disorders should not be misinterpreted to suggest that it should be unrelated to other psychopathology. According to social rank theory, because long-term demobilization strategies are employed in response to recurrent threat, high levels of arousal, vigilance, and worry are not uncommon experiences (Sloman et al., 2002). Thus, demobilizing strategies may also confer greater vulnerability to anxiety symptoms.

4. Dominant Pattern

Dominant-insecure children’s attempts to suppress the experience of vigilance, distress, and fear by enlisting the service of the dominant system is theorized to result in a wide range of mental health difficulties, particularly externalizing forms of maladjustment. Coping by blunting subjective distress involves defensively downplaying the value of close family relationships. Reliance on the dominance system serves to breed further children’s ill regard for the family unit and as a training ground for elaborating and refining aggressive patterns of responding. For example, enlisting the dominance system may be a useful method for seizing attention and control in the context of perturbations in the interparental (Emery, 1989) or the parent–child attachment relationship (Greenberg et al., 1997). Over time, hostile views of the social world, growing social disenfranchisement, callousness, and the rigid, reflexive use of a wide repertoire of aggressive behaviors in new social settings (e.g., peer settings) are likely to coalesce into broader patterns of conduct problems, delinquency, and antisocial symptomatology (Davies & Forman, 2002). Evocative reactions by peers and adults in school settings may further intensify children’s aggressogenic patterns and likely limit their selection of peer affiliations to antisocial networks. Anxiety and distress that are organizational cornerstones of the dominant-insecure pattern may also promote, to a less robust degree, internalizing symptoms such as social withdrawal, anxiety, or, ultimately, depressive symptoms in the face of recurrent social rejection (e.g., Capaldi, 1992; Moffitt et al., 2002; Wiesner et al., 2005).

5. Caregiving Pattern

Many characteristics of the caregiving-insecure pattern—including involvement, role reversal, and parentification—are thought to engender a short-term benefit of upholding some degree of stability and predictability in a family replete with vulnerable and inept adults. Nevertheless, recurrent employment of the strategy is likely to carry several long-term pathological consequences. At a broad level, forms of parentification (e.g., as acting as a confidante, peacekeeper, protector) reflect considerable emotional investment, forethought, and preoccupation with adult problems. These are likely to inhibit the development of skills and allocation of resources necessary to approach other important developmental
tasks, thereby resulting in failure to resolve successfully stage-salient tasks and developmental trajectories of broad psychological incompetence (e.g., Davies, 2002; Macfie et al., 2005). By sacrificing their own developmental needs in favor of their parents’ welfare, children may have particular difficulty with stage-salient tasks of autonomy, individuation, and identity development (Chase, 1999; Fullinwinder-Bush & Jacobvitz, 1993). Impairments in identifying and pursuing goals and the repeated failure to manage entrenched adult troubles successfully are also theorized to engender high levels of anxiety, mood, and self-disorders (Byng-Hall, 2002; Jacobvitz & Bush, 1996; Wells & Jones, 2000).

However, forms of parentification are not always consistently associated with children’s adjustment problems (e.g., Byng-Hall, 2002; Jacobvitz & Bush, 1996; Jurkovic, 1997; Mayseless et al., 2004). For example, Tesak (2005) found that children’s parentified involvement in interparental conflict did not significantly predict parent or teacher reports of child internalizing and externalizing symptoms 1 year later. This work highlights the broader value of identifying the intrapsychal and family attributes that may serve as sources of heterogeneity in the modest, inconsistent pathways between parentification and child psychological problems (i.e., Path 4b in Figure 1). The risk posed by caregiving patterns to children’s development may vary as a function of the pattern and organization of the insecure-caregiving pattern in the family. For example, spousification—in which the child is called upon by the parents to serve the role of the partner in fulfilling their intimate needs—is theorized to be particularly damaging to children, setting the stage for a wide range of psychological difficulties, including inattentive, overactive, and impulsive symptoms consistent with attention and defiant problems (e.g., Carlson, Jacobvitz, & Sroufe, 1995; Jacobvitz & Sroufe, 1987; Kasius et al., 1997; Macfie et al., 2005). In contrast, insecure caregiving manifested in other forms or settings (e.g., when parents acknowledge and value children’s caretaking efforts) may have a benign impact on the mental health of children (e.g., Jacobvitz & Bush, 1996; Mayseless et al., 2004). At the level of child characteristics, high levels of working memory, inhibitory control, and perceptual sensitivity are proposed precursors of the caregiving-insecure pattern (see Table II); yet, they may actually serve to buffer or protect many caregiving-insecure children from any psychological damage associated with parentification.

6. Secure Pattern

Confidence in the parents to manage their own disputes effectively in a way that preserves or improves family confidence is a defining feature of the secure pattern that guarantees that concerns about felt-security and the operation of the defense system become salient only under the most threatening and dire of family circumstances (Davies & Forman, 2002). Therefore, the relatively high activation threshold and efficient preservation of the defense system likely promote psychological and physical health by permitting the efficient distribution of
biopsychosocial resources to stage salient tasks (e.g., close friendship formation during childhood) and shielding the integrity of biological systems against wear and tear caused by the corrosive effects of stress (e.g., LHPA system; Gilbert, 2001; Repetti et al., 2002). Likewise, as part of the profile of security, positive representations and patterns of responding are likely to promote a wider array of coping and problem-solving strategies that serve as prototypes for adaptability to novel and challenging social tasks (Thompson & Calkins, 1996). Accordingly, representations of secure children are not characterized simply by the absence of constricting, negative representations for progressively limiting coping patterns and resulting opportunities to resolve interpersonal challenges (Johnston & Roseby, 1997). Rather, within evolutionary theory, positive affect and representations underlying secure patterns are postulated to facilitate flexibility in adjusting to novelty and stress in interpersonal contexts by permitting children to safely explore and experiment with variations in response patterns that are increasingly tailored to the specific characteristics of the task or environment (Gilbert, 1993).

V. Conclusion

In closing, novel theoretical contributions in advancing and refining emotional security theory have been progressively waning since its inception. To advance both the precision and the scope of emotional security theory, the main theme of our chapter was to introduce a reformulation of emotional security theory cast within an ethological framework. Prior accounts of emotional security theory regarded evolutionary assumptions and concepts as unnecessary theoretical baggage. In contrast, our overarching aim here has been to address how an ethological framework provides some conceptual direction in addressing four major unaddressed questions in the theory including: (1) How and why is emotional insecurity in the interparental relationship similar to, but distinct from, attachment security in its form and function? (2) Can different patterns of insecurity in the interparental relationship be lawfully deciphered based on the organization of children’s responding to interparental conflict? (3) How and why are specific forms of interparental conflict and broader configurations of family functioning associated with various ways of responding to conflict and profiles of security? (4) Can we achieve greater precision in delineating the multiple pathways and mechanisms in associations between differences in children’s organization of responding to conflict and their trajectories of mental health and illness?

Many of our assumptions and predictions are speculative in this early stage of theoretical development, but our incorporation here of an ethological perspective in emotional security theory has generated significant gains in theoretical leverage, power, and precision. Therefore, we view an ethological perspective as an
indispensable catalyst rather than useless deterrent in future conceptual refine-
ment and empirical testing of the emotional security theory.

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