The three preceding chapters provide distinct yet overlapping perspectives on the relation between anger and aggression in children and adolescents. To integrate these perspectives, we divide this commentary into three broad sections designed to follow the overarching themes of this edited volume. In the first section, we focus on the relation between aggression and emotion in children and adolescents. In the second section, we narrow this focus to examine the link between aggression and the specific emotion of anger. Finally, the third section emphasizes applications of our knowledge of the anger–aggression relation to intervention programs for aggressive children and adolescents.

THE RELATION BETWEEN AGGRESSION AND EMOTION IN CHILDREN AND ADOLESCENTS

Until the past 10 to 15 years, researchers did not pay much attention to emotion when striving to understand and treat children’s and adolescents’ aggressive behavior disorders. Instead, our field was driven by the social information-processing (SIP) model originally posited by Dodge, Pettit, McClaskey, and Brown (1986). This model provided an incredibly useful and strongly evidenced-based conceptualization of the importance of social cognitive mechanisms in children’s aggressive behavior.

1For the sake of simplicity, hereafter, both children and adolescents are referred to as “children.”
More recently, we have seen a dramatic shift toward examining the emotional mechanisms, in addition to the social cognitive mechanisms, that underlie children’s aggressive behavior. However, this shift has been characterized by a continuing reliance on the SIP model, with researchers fitting emotion constructs into the SIP framework. For example, Crick and Dodge (1994) incorporated emotion constructs into their reformulation of the SIP model, particularly in the affect-laden database, which they hypothesized develops through an accumulated history of social experiences and influences each step of social information processing. A few years later, Lemerise and Arsenio (2000) expanded on this idea by describing explicitly how emotion constructs could function as part of each step of the SIP model. Interestingly, in each of the three preceding chapters, the authors continue to integrate emotion into the SIP model. Bierman as well as Snyder and colleagues emphasize that emotional arousal, and perhaps anger arousal in particular, makes adaptive social information processing more difficult. Conversely, Borduin stresses that maladaptive social information processing (particularly hostile attributional biases) is, at least in part, responsible for children’s angry feelings.

Integration of emotion constructs into the SIP model is clearly an important goal for our field. Such an integrated model may more adequately describe the multiple mechanisms driving children’s aggression. However, it is our belief that we also need to “think outside the SIP box” in considering how emotion and aggression may relate. Emotion may influence children’s aggression in ways that are unrelated to social information processing. Consideration of the relation between emotion and aggression, independent of social information processing, has been called for by several researchers and interventionists (e.g., Denham & Burton, 2004; Greenberg, Kusche, & Speltz, 1991), as Bierman (chap. 9, this volume) noted. Additionally, the work of prominent emotions theorists supports the idea that emotion is not necessarily inherently intertwined with cognition. For example, in a highly influential paper, Izard (1993) posited that emotion is not always activated by cognition, and he specified three systems (neural, sensorimotor, and motivational) that he believes activate emotion independent of cognition.

In considering the relations between emotion and aggression independent of social cognition, it is useful to begin with a model that lays out the essential components of children’s emotional functioning. One such theory is the model of affective social competence (ASC) proposed by Halberstadt, Denham, and Dunsmore (2001). In a recent chapter, we reviewed components of the ASC model that have been solidly empirically linked to children’s aggressive behavior (Hubbard & Dearing, 2004). In brief, we found strong empirical support for the hypothesis that aggressive children have difficulties with emotion regulation, in that they
are more likely than their peers to be physiologically reactive to emotion-evoking social situations, to express negative emotions, and to display high levels of negative emotionality. We also found that there are several areas in which more research on the links between aggression and emotional functioning are needed. In particular, relatively little empirical work has related aggression to children’s understanding of emotion. Existing research on the connection between aggression and emotion understanding is highlighted in Bierman’s chapter. Overall, though, this work is scarce and our empirical knowledge base on the relation between emotion and aggression could clearly benefit from more attention to this important area.

THE RELATION BETWEEN AGGRESSION AND ANGER IN CHILDREN AND ADOLESCENTS

Although we began by focusing on the relation between aggression and emotion in general, the topic of the current book is more narrowly focused on the relation between aggression and anger specifically. The findings presented in the Snyder chapter (chap. 8, this volume) are an important contribution to furthering our understanding of this relation. In particular, Snyder and his colleagues demonstrated that when a child displays anger, this display increases the likelihood that he or she will receive coercive feedback from others, which in turn increases the likelihood that the child will respond by behaving aggressively. These data suggest that anger and aggression occur in the context of dynamic and transactional relationships between two or more individuals, a theme that is repeated throughout all three preceding chapters. Moreover, the data suggest that anger and aggression are actually linked through sequential dyadic relationship processes, involving feedback that is elicited from others in response to the display of anger. Thus, if children’s displays of anger are met with negative or antagonistic responses, then children are likely to escalate from anger to aggression. Conversely, if anger displays are not matched with coercive responses, then it is less likely that this escalation will occur. These relational sequences make intuitive sense; however, these findings are actually quite novel for our field and thus hold significant importance in advancing our understanding of the link between anger and aggression in children.

Snyder’s data remind us of an important point that Averill (1982) made years ago about the relation between anger and aggression, a point that has guided much of the work in our own laboratory. In his essay, Averill stressed that not all anger results in aggression, and that not all aggression is the result of anger. Snyder’s data clearly fit with the first half of this
idea, in stressing the importance of coercive feedback in children’s spiral from anger to aggression.

The second concept, that not all aggression is the result of anger, brings to mind the distinction between reactive and proactive aggression (Dodge, 1991; Vitaro & Brendgen, 2005). Reactive aggression is anger-driven, defensive, retaliatory, and in response to real or perceived provocation. Proactive aggression, on the other hand, is displayed to reach a goal, whether the goal involves material or territorial gain (proactive instrumental aggression) or social dominance (proactive bullying aggression). Throughout the years, researchers and theorists have used different labels to describe this distinction. Their terms have included hostile/instrumental, retaliatory/predatory, and the effectual/ineffectual distinction mentioned by Bierman (chap. 9, this volume). However, each of these pairs of labels refers to the same basic idea. Essentially, across all of these labels, researchers are recognizing that, when children (or adults or even animals) display aggression, their behavior sometimes seems driven by anger and impulsivity, whereas at other times, they seem cool, deliberate, and purposeful.

In our opinion, the distinction between reactive and proactive aggression is critical to understanding the relation between anger and aggression. This distinction suggests that some episodes of children’s aggressive behavior are strongly driven by anger, whereas other instances of aggressive behavior are markedly lacking in anger, being driven instead by a desire to achieve an instrumental or social goal. Thus, learning more about the distinction between reactive and proactive aggression is essential to developing a greater understanding of the complex relation between anger and aggression.

Researchers originally hypothesized that distinct groups of aggressive children existed, with one group displaying primarily reactive aggression and the other group displaying primarily proactive aggression (Dodge, 1991). However, in most studies to date, the correlation between reactive and proactive aggression ranges from .65 to .80. These strong correlations imply that if proactive and reactive aggression are subtypes of aggression, then they at least co-occur, with most aggressive children displaying some degree of both reactive and proactive aggression. In other words, the subtypes of aggression are most accurately conceptualized as continuous dimensions that exist to varying degrees in each child, rather than as categories into which children are exclusively placed.

Important to note, a number of unique correlates have been identified for both reactive and proactive aggression. These findings suggest that children’s level of reactive aggression is related to variations in their level of particular behavioral, social cognitive, social, emotional, and physiological variables (e.g., hostile attributional biases, peer rejection, depression).
At the same time, their level of proactive aggression is related to variations in the level of other, quite distinct, variables (e.g., positive outcome expectations for aggression, instrumental goal orientation, deviant friendships). Cronbach (1951) argued that two measures that do not relate to other variables in the same way must represent distinct constructs, even when they are highly correlated. Thus, this growing literature on the differential correlates of the subtypes of aggression provides one indication that the distinction between reactive and proactive aggression is valid, despite their high correlation.

The correlate most relevant to the current volume is anger. A number of researchers have found that anger is related to reactive aggression, but not to proactive aggression (Dodge & Coie, 1987; Hubbard et al., 2002; Little, Brauner, Jones, Nock, & Hawley, 2003; Little, Jones, Henrich, & Hawley, 2003; Price & Dodge, 1989). In these studies, anger has been assessed through adult ratings, peer ratings, observations, and even psychophysiological methods.

Unfortunately, this work linking anger uniquely to the reactive subtype of aggression is lacking in several important areas. Our first concern is that new measures of reactive and proactive aggression are sorely needed. Existing measures, including adult rating scales and laboratory-based measures, are psychometrically weak, lack face validity, do not adequately reflect theory, and confound the two subtypes of aggression with each other or with correlates. For example, by far the most commonly used measure of reactive and proactive aggression is a six-item teacher-rating scale developed by Dodge and Coie (1987). One primary concern that we have with this scale is that the reactive aggression items describe anger as much as they describe aggression. This approach may inflate the relation between anger and reactive aggression that is found across many studies that use the scale.

Our second concern is that longitudinal studies of reactive and proactive aggression are scarce. Only five published studies of reactive and proactive aggression have used a longitudinal design, and they were drawn from only three data sets (Brendgen, Vitaro, Tremblay, & Lavoie, 2001; Dodge, et al., 2003; Dodge, Lochman, Harnish, Bates, & Pettit, 1997; Vitaro, Brendgen, & Tremblay, 2002; Vitaro, Gendreau, Tremblay, & Olligny, 1998). Unfortunately, none of these studies assessed the subtypes of aggression at more than one time point. Assessments of reactive and proactive aggression across time are needed, because the temporal stability of the subtypes of aggression has never been examined in a published study. Moreover, multiple measures over time of both the subtypes of aggression and their correlates would allow us to (a) examine developmental changes or consistency in the correlates of the subtypes of aggression, (b) partial out the effects of earlier aggression or correlates when
examining longitudinal relations between the two, and (c) investigate whether correlates function more strongly as precursors or outcomes of the subtypes of aggression.

Our third concern is that very little empirical work has examined the psychophysiological profiles associated with reactive and proactive aggression. When theorists describe the subtypes of aggression, they use terms such as “hot-headed” to refer to reactive aggression and “cold-blooded” to refer to proactive aggression. Thus, differing physiological underpinnings are central to theory, with reactive aggression characterized by sympathetic arousal and proactive aggression characterized by low-baseline physiological activity (Dodge, 1991; Dodge & Pettit, 2003; Vitaro & Brendgen, 2005). Empirical evidence of this characterization would greatly bolster support for the validity of the distinction between reactive and proactive aggression. Unfortunately, though, only one study of the psychophysiology of the subtypes of aggression has been conducted (Hubbard et al., 2002, 2004).

Clearly, researchers face many challenges and considerable work before we will fully understand and effectively use the distinction between reactive and proactive aggression. However, in our view, this distinction may be the critical link in untangling the complex web of relations between anger and aggression.

THE ANGER–AGGRESSION RELATION AND INTERVENTIONS FOR CHILDREN AND ADOLESCENTS

In the final section of this commentary, we would like to provide some thoughts on integrating our knowledge of the anger–aggression relation more fully into intervention and prevention programs for aggressive children and adolescents. The original idea behind this book was that incorporation of current empirical work on the anger–aggression relation may improve the efficacy of intervention and prevention programs for violence and aggression. This idea makes great intuitive sense to us, and in this section, we describe some of the issues and challenges we foresee with this integration.

A good place to start is by recognizing that empirical support for the multisystemic therapy (MST) intervention described in Borduin’s chapter (chap. 10, this volume) is undeniably impressive. The results of numerous efficacy and effectiveness trials are particularly striking because Borduin and his colleagues work with the most entrenched violent adolescent offenders and because they achieve results on objective outcomes such as recidivism rates.

Unfortunately, and paradoxically, we have not been as successful in preventing and treating developing aggressive behavior problems in
younger children. In the 1970s and 1980s, efforts to intervene with aggressive children produced disappointing results (see Kazdin, 1987, for a review), at least partially because the interventions were usually short-term and involved only a single component (e.g., social-skills training, parent management training). However, in the past decade, long-term, multicomponent interventions have been developed, and these treatments have shown more promise (see, for reviews, Catalano, Arthur, Hawkins, Berglund, & Olson, 1998; Elliott, Hamburg, & Williams, 1998; Greenberg, Domitrovich, & Bumbarger, 2001).

These successes have brought some measure of hope to researchers invested in developing effective preventive treatments for aggressive children. However, there is general agreement that room for improvement exists in several respects. First, although these interventions have demonstrated effects on some constructs, these effects are by no means pervasive across all constructs assessed or even across different sources of data for the same construct. Furthermore, even those effects that are obtained are sometimes not maintained at future assessments. Finally, the amount of time, money, and labor required to obtain these effects is quite significant.

A long-term goal for our field is to develop intervention and prevention programs for aggressive children that demonstrate greater efficacy, and at the same time that are cheaper, shorter, and easier to administer. Another way to think about this goal is that we should strive to keep as many children as possible from developing into adolescents in need of interventions such as MST. Admittedly, this is a huge task. However, one possible pathway toward enhancing current intervention and prevention efforts for aggressive children may be to incorporate our knowledge of the anger–aggression relation into these programs. What follows are our preliminary ideas for how to do so.

In keeping with the importance of the SIP model as a driving force in basic research on the mechanisms underlying childhood aggression, many current intervention and prevention programs for aggressive children have a strong social cognitive focus. This emphasis is clearly appropriate and important, given the wealth of empirical support for the role of social cognitive processes in children’s display of aggressive behavior. In addition, as research on emotional mechanisms underlying childhood aggression has emerged, interventionists have worked to incorporate emotion into intervention and prevention programs for aggressive children, with both emotion understanding and emotion regulation processes playing central roles. Lochman’s Coping Power Program (e.g., Larson & Lochman, 2002) and Greenberg’s PATHS program (Greenberg & Kusche, 1993, 1998) are important examples of this shift.

In part, the inclusion of emotion in these programs is in the service of enhanced social information processing. If children have well-developed
emotion understanding skills, they will likely interpret social situations more accurately, particularly social situations that are ambiguously provocative. Similarly, if children have strong emotion regulation capabilities, they may be able to “cool down their angry feelings,” allowing for more effortful and adaptive social information processing. However, if emotion indeed influences childhood aggression, independent of its connection to social information processing, then the inclusion of emotional-skills training in intervention and prevention programs may play a role in reducing children’s aggression that extends beyond the impact of emotion on social information processing.

One possible way to incorporate the anger–aggression relation more fully into treatments for childhood aggression may be to develop differential interventions for reactive aggression and proactive aggression. Separate interventions for reactive and proactive aggression have been suggested by numerous researchers (e.g., Brown & Parsons, 1998; Crick & Dodge, 1996; Dodge, 1991; Dodge & Coie, 1987; Dodge & Schwartz, 1997; Larson, 1994; Little et al., 2003; McAdams, 2002; Phillips & Lochman, 2003; Poulin & Boivin, 1999; Salmivalli & Niemenen, 2002; Vitaro & Brendgen, 2005; Vitaro et al., 2002; Waschbusch, Willoughby, & Pelham, 1998; Weinshenker & Siegel, 2002). These treatment packages could target the specific correlates of each subtype of aggression. For example, a reactive aggression intervention could emphasize anger regulation training, hostile attributional bias reduction, social problem solving, improved peer relations and social skills, and reductions in internalizing symptoms. In contrast, treatment for proactive aggression could stress the negative consequences of aggressive behavior, the importance of social goals, and the development of empathy for others. Aggressive behavior may be decreased more effectively if the specific behavioral, social, social-cognitive, emotional, and physiological underpinnings of each subtype of aggression are targeted separately.

Given the high correlation between the subtypes of aggression, many aggressive children might benefit from both treatment packages. However, a differentiated approach to the treatment of the subtypes of childhood aggression may make sense not only for those aggressive children who display primarily one subtype of aggressive behavior, but for those children who display both subtypes as well. The idea is that careful targeting of the mechanisms driving each subtype of aggression may enhance the efficacy of our intervention efforts with all aggressive children.

Within an intervention for reactive aggression, we would be wise to include a strong element of exposure to anger, as Bierman (chap. 9, this volume) so soundly suggests. Thus, after children have been taught basic skills for regulating their angry feelings, situations should be structured
within the context of the intervention group that will purposefully elicit angry feelings in the children. Adult leaders can then encourage children to practice their developing anger regulation skills, while coaching and supporting as much as is necessary. The “taunting circles” that Lochman uses in his Coping Power Program (Larson & Lochman, 2002) probably come closest to Bierman’s concept of exposure to anger. Other examples would be to ask children to negotiate the allocation of scarce resources or to play competitive games. If a group of aggressive children must divide up too few snacks, decide who gets to play with a Gameboy first, or handle losing a game, the opportunity to practice anger regulation skills will arise almost without fail.

Exposing children to actual anger-inducing experiences provides them with an opportunity to practice their anger regulation skills online. Roleplays and other forms of simulated practice are important in the initial stages of teaching children skills and techniques for regulating anger. However, Bierman believes, and we agree, that we should also challenge children to use their emerging anger regulation skills online in situations where they experience high levels of angry arousal.

Creating interventions that incorporate these types of anger-inducing situations will require substantial innovation, planning, foresight, and courage. And, clearly, opportunities for children to practice anger regulation skills online would need to be accompanied by considerable support, coaching, and scaffolding. We believe, though, that this sort of real-world practice is at the heart of what is missing from current approaches to teaching children how to regulate their anger. And, it may be the key to obtaining faster and longer-lasting generalization of anger regulation skills from the treatment setting to home and school environments.

Why, then, have we shied away from exposing children to their strong angry feelings in the context of our intervention programs? One possibility is that the taboo against anger that exists in our society is being perpetuated by the very researchers who study and treat children’s aggression. In spite of encouraging children to believe that “all feelings are okay,” many of us do not feel comfortable with children’s anger, especially if we feel responsible for it. We may even believe that the goal of our intervention programs is to prevent children from ever becoming angry, rather than teaching children adaptive ways of coping with the anger that they all experience. Snyder’s data (chap. 8, this volume) speaks eloquently to this point, by providing clear evidence of just how normative anger is in interactions between children and both their parents and their peers. If children indeed experience anger many times a day, then our goal should be to help children learn effective and constructive ways to manage angry feelings, rather than pursuing the unrealistic goal of banishing angry feelings altogether.
It is also likely that we have avoided giving children full-fledged opportunities to practice their anger regulation skills in our interventions because we worry about the ethics and pragmatics involved in doing so. When children become angry, they are sometimes going to resort to aggression, no matter how much coaching and scaffolding we provide. How do we keep all of the children in our intervention groups safe under these circumstances? Many of us are already doing so. Anyone who has worked with groups of aggressive children has experience in planning for the disagreements and scuffles that inevitably result. Most of us use as much scaffolding, praise, and support as possible, but we also use as many time-outs and as much “safe holding” as necessary. We also make sure that our groups are adequately staffed to allow for individual attention when children require it. Planning for exposure to anger is not really any different from planning for these naturally occurring altercations; in fact, it is in some ways easier, because we can more readily predict when aggressive episodes may occur.

The risks involved in exposing children to anger are obvious. However, in our opinion, the benefits may well justify these risks. Only when children are placed in actual anger-provoking situations are they allowed the opportunity to practice their anger regulation skills, to learn that they can actually control their angry feelings, and to experience the power of feeling angry but not resorting to aggression. In the cognitive-behavioral tradition, these experiences may fundamentally change the meaning of anger for aggressive children. Through success experiences such as these, aggressive children may learn that anger is something that they can control, not something that controls them. For all of these reasons, we fully agree with Bierman’s suggestion that interventions for aggressive children would do well to include greater exposure to angry feelings.

Finally, as described previously, increasing attention is being paid to the importance of including anger in the child component of intervention and prevention programs for aggressive children. However, Snyder makes the important point that little attention has been paid to incorporating a focus on anger into work with the parents of aggressive children. Parent-focused interventions are still largely behavioral, with emphasis on training parents to spend positive time with children, praise positive behaviors, ignore minor misbehaviors, give clear and consistent commands, and use time-out effectively. As Snyder (chap. 8, this volume) suggests, two means of incorporating anger constructs into work with parents come readily to mind. The first approach would be to train parents to coach children in emotion understanding skills and anger regulation techniques. The second approach would be to train parents in effective ways to manage their own angry feelings when interacting with their children. Both of these ideas seem like logical extensions of the work that is being done with children. Furthermore, it is likely that these approaches would serve to increase the
generalizability of children’s own anger regulation skills from the intervention setting to homes and neighborhoods.

**CONCLUSION**

In conclusion, the authors of the three preceding chapters have given us much to think about when considering the importance of the relation between anger and aggression in understanding and treating children’s aggressive behavior problems. The distinction and connection between anger and aggression has long been misunderstood. We believe, though, that consideration of the complex interplay between these two constructs is essential to moving forward in our work with violent children and adolescents. We hope that our comments have provided some additional insight into this work, and we look forward to a continuing focus on the anger–aggression relation in our own research and in that of our colleagues.

**REFERENCES**


