

## The Development of Aggression in Early Childhood

Daniel S. Shaw

All correspondence should be directed to the first author using the following contact information:

Mailing address: Department of Psychology, 210 South Bouquet Street, 4101 Sennott Square, University of Pittsburgh, Pittsburgh, PA, 15260-0001

Telephone number: 412 624-1836

E-mail: casey@pitt.edu Fax: 412 624-8827

### Acknowledgments

Much of the research reported in this paper was supported by grants to the author from the National Institute of Mental Health, grants MH 50907, MH 01666, and MH 03876. I am grateful to the work of the staff of the Pitt Mother & Child Project and the Pitt Early Steps Project for their years of service, and to our study families for making the research possible. This work was also greatly influenced by my colleagues Thomas Dishion, Frances, Gardner, and the late Richard Bell. Finally, much of the material for this chapter originally appeared in the following volume: Shaw, D.S., Gilliom, M., & Giovannelli, J. (2000). Aggressive behavior disorders. In C.H. Zeanah (Ed.), *Handbook of Infant Mental Health*, 2<sup>nd</sup> Edition (pp. 397-411). New York: Guilford. Chapter to appear in H. E. Fitzgerald, B. M. Lester & B. M Zuckerman (Eds). (In press). *The Crisis in Youth Mental Health*, vol. 1. The organization and prevention of children's mental health problems. Greenwood Publishing Group, Inc.

## Introduction

Recent consideration of developmental trends in the onset of antisocial behavior has been focused on children who show a persistent course of conduct problems beginning in early childhood. Termed 'early starters,' such individuals have been found to show a persistent and chronic trajectory of antisocial behavior extending from early childhood to adulthood. Early starters represent approximately 6% of the population, yet are responsible for almost half of adolescent crime and three-fourths of violent crimes (Offord, Boyle, & Racine, 1991).

During the past two decades, researchers have become increasingly interested in the possibility that early-starting children can be identified at younger and younger ages. In the 1980's, studies were initiated during the preschool and school-age periods (Campbell, Pierce, Moore, Marakovitz, & Newby, 1996), while during the past decade predictors of early-starting pathways have been established beginning in the toddler period (NICHD Early Child Care Research Network, 2004). Longitudinal studies initiated during the toddler and early preschool periods have identified a group of early-starter children who go on to show the most chronic and severe forms of antisocial behavior. Despite the potential advantages of identifying early-starting children before reach school-age, there are potential pitfalls to this approach. These include:

- Intentionality, an important component of aggression and other forms of disruptive behavior, is difficult to infer among infants and young toddlers.
- Most children do not have the cognitive capacity to comprehend aggression *fully* until their 3<sup>rd</sup> or 4<sup>th</sup> year.
- For most children who show aggressive behavior prior to age 3, it is likely to be transient.
- Age 2 represents the peak incidence rate of aggressive behavior during the life course

(Tremblay, 1998), which means that the probability for predicting those children who will likely desist from showing high rates of aggression in the future is likely to be high (i.e., false positives).

- Many children who are aggressive at age 2 will find alternative conflict resolution strategies to replace its use by age 4 or 5.

Alternatively, the following points support the identification and use of preventive interventions with such children.

- Children who are *not* aggressive during the toddler period are unlikely to develop clinically-elevated levels of aggressive behavior in later childhood or adulthood.
- Very few children begin showing high rates of physically aggressive behavior after age 5.
- Toddlers have the capacity to inflict serious harm on siblings, parents, pets, and objects.
- Predictors of aggression and other forms of disruptive behavior are similar throughout early and later childhood.
- Interventions targeted at younger children have been shown to be more efficacious than those used with older school-age children and adolescents.

Despite caution being warranted, it is believed that work identifying factors associated with early-starting pathways of aggression and its prevention is merited, particularly given the greater malleability of children's behavior and parent-child relationships in early childhood. Thus, the present chapter reviews factors associated with early-starting pathways, and preventive interventions initiated during early childhood that have been associated with the prevention of such trajectories, including basic and applied studies from the author's own laboratory. From a societal perspective, as the greatest concern is associated with the prevention of physically aggressive behavior, much of the emphasis is on the development and prevention of aggressive

behavior versus other types of disruptive problem behavior, including oppositionality and hyperactivity. However, as these behaviors tend to co-occur throughout childhood, most research on the identification and treatment of antisocial behavior has aggregated together reported on multiple forms of disruptive behavior.

### *Defining Aggression*

Intentionality lies at the heart of more recent definitions of aggression. It is perhaps the primary reason for some researcher's dismay at using the term 'aggression' to describe aggressive-like behavior during infancy and the early toddler period (i.e., ages 1 to 3). Early definitions of aggression varied. Some investigators focused solely on outcome, while others established intent to injure another person as the primary criterion. More recent interpretations assume an intent to at least threaten another and a consensus that the behavior be viewed as aggressive by the aggressor, the victim, and society. For purposes of the present discussion, aggressive behavior will be defined as an act directed towards a specific other person or object with the intent to hurt or frighten, for which there is a consensus about the aggressive intent of the act.

Aggressive acts toward others are typically sub-divided into two categories: hostile and instrumental aggression. Hostile aggression refers to instances in which the major goal is inflicting injury, whereas instrumental aggression involves using force or threat of force to achieve a nonaggressive end (e.g., obtaining an object or gaining territory). Note that in both kinds of aggression, intentionality is considered to be salient in determining if a behavior is aggressive. This presents a challenge in judging whether a child has acted aggressively because of his/her limited cognitive ability and an observer's inability to interpret the meaning of the behavior.

At issue in inferring aggressive intent is the child's developmental status. According to Maccoby (1980), a child must understand the following principles to carry out an intentionally hurtful act:

1. that the intended victim can help or hinder the child's goals, knows what the child wants the victim to do, and knows that the victim can experience distress;
2. that the child's actions can generate distress;
3. that specific actions can cause distress in specific individuals;
4. that the child can execute distress-producing actions;
5. that distress can cause the victim to act in ways the child desires;
6. that the victim's actions can serve the child's needs.

Maccoby stresses that the child need not be conscious of these principles to act aggressively, but must have some rudimentary understanding of each to act in a fully aggressive manner. At a broader cognitive level, the young child must be able to understand the nature of the other, including the other's goals and plans. Typically, a child develops the capacities to understand fully the point of view of another person at the beginning of the preschool years; however, some investigators have found that some children under the age of 3 are capable of demonstrating these capacities when interacting with younger siblings (Dunn & Kendrick, 1982). Given that it would be unusual for a two year-old to understand the theoretical underpinnings of aggressive behavior, conservatism is warranted in interpreting the meaning of aggressive-like behavior, particularly from ages one-two. Just as 10-11 year olds who commit murder with firearms are treated as children because of their limited ability to understand the long-term consequences of their actions, infants and toddlers who cause injury to siblings, parents, or pets need to be viewed in light of their own cognitive limitations.

Despite and because of these cognitive limitations, the age span between one and two represents a watershed period in the development of aggressive-like behavior. For infants less than a year, physical immobility limits the frequency of aggressive-like behavior. Although children less than 8 months old are clearly capable of using physical force to obtain an object, their accessibility is constrained by their inability to walk and in most cases, crawl. With the onset of walking at 12 months and gradual increase in coordination during the second year, the accessibility issue becomes moot. The increase in physical mobility is of great concern to parents, as the emerging toddler now has the capacity to explore uncharted territory without the requisite knowledge base. In some ways, it is comparable to parent's predicament in handling the behavior of adolescents. In both instances, the child has the necessary "equipment" to engage in behavior that may cause harm to self or others without sufficient decision-making skills.

Two examples discussed by Maccoby (1980) capture the developmental transition children and parents undergo between age one and two. The first is from a study of one-two year-olds of three-four children in a free play activity. Both one and two year-olds showed a comparable number of disagreements over toys; however, children's emotional intensity surrounding reactions to conflicts increased with age. Two year-olds were more distressed and angry when a toy was taken from them. The loss of the toy affected the quality of the child's play after the incident, but also appeared to offend the child's very sense of self (Bronson, 1975). This study points out how the child comes to understand the term "mine." As Maccoby writes, "... between the ages of one and two years, is an increase in the intensity of involvement with objects, a staking out of claims, and an increasingly intense emotional reaction to encounters over possession" ( p. 119). As Goodenough (1931) documented over 70 years ago, angry

outbursts peak in the middle of the second year for both boys and girls. Tremblay (1998) corroborated these findings with respect to aggressive behavior, reporting that by 17 months of age, 70% of children take toys away from other children, 46% push others to obtain what they want, and 21-27% engage in one or more of the following behaviors with peers: biting, kicking, fighting, or physically attacking. Tremblay also reports that aggression occurs more frequently for infants with siblings, especially for girls (e.g., hitting, kicking, biting), providing daily opportunities for conflicts over possessions.

A second example points to the challenge parents must face in responding to a more physically mobile and potentially destructive child beginning in the second year. The process by which parents set rules has been termed an ego devaluation crisis for infants (Ausubel, 1958). This type of parenting differs markedly from the first year, when most parents serve the infant's wishes unconditionally. In the second year, parents are also more likely to interpret the infant's misbehavior as more intentional, and as such, meriting discipline. Ego devaluation is the shock an infant must contend with in responding to a formerly servant-like parent. Children begin to realize that parents are satisfying their needs because the parents want to, not because they have to. The implication is that children come to accept their role in the family as relatively powerless beings who ultimately must yield to parental authority. Thus, it is not surprising that the 2<sup>nd</sup> and 3<sup>rd</sup> years are marked by increasing negativity on the part of the infant as s/he tests the limits of adult authority in response to parents' attempts to expedite socialization. Of course, the infant's day of reckoning is not a foregone conclusion. It is quite possible that in cases in which children develop early conduct problems, a very different lesson is learned; namely, if I persist long and hard enough, I can continue to get my way. Empirical support for such a coercive process is discussed later in the chapter.

### *The Stability of Early Aggression*

Children's limited ability to understand the impact of their aggressive behavior, coupled with the developmental transitions taking place during the 2<sup>nd</sup> and 3<sup>rd</sup> years, make it important to examine its stability. As children are trained to desist from using aggressive conflict resolution strategies, rates of aggressive behavior gradually decrease from age two to five. The decrease in aggression is supported by data from our longitudinal study of 300 low-income boys. Using the same five items of aggressive behavior, maternal reports of boy's aggressive behavior decrease rather dramatically from age 2 to 6. The reasons for this lessening involve children's increasing development of language skills and increasing encouragement from parents to use alternative coping strategies for resolving conflict.

Unfortunately, there are relatively few studies of the stability of aggressive behavior beginning in infancy. Studies of slightly older children suggest that continuity is moderate from the preschool to school-age period. In one of the first studies of the latter type, peer aggression was found to show a stability of .7 over a 9-month period among 2-4 year olds (Jersild & Markey, 1935). More recently, Richman et al. (1982) identified the top 14% of 3-year-olds from a parental questionnaire of behavior problems, and followed them in comparison to a control group of children from similar backgrounds. Problems persisted in 63% of these children at age 4 compared to 11% of the control group, and 62% at age 8 compared to 22% of the controls. Similarly, Campbell and colleagues have followed two cohorts of hard-to-manage children from preschool through school-age (Campbell et al., 1996). In the first cohort, children identified at age 3 showed moderate continuity of behavior problems at ages 6, 9, and 13. Fifty and 48% of those with problems at age 3 showed clinically-significant problems at ages 6 and 9, respectively. Campbell (1994) followed a second cohort of overactive and inattentive boys and

found comparable rates of continuity from preschool to school-age.

The few longitudinal studies initiated prior to age 3 largely corroborate these results. Rose and colleagues (1989) found a correlation of .73 on a broad factor of disruptive behavior problems between the ages two and five. In a study specifically focused on aggressive behavior conducted by Cummings and colleagues (1989), the stability from age two to five was as high as  $r = .76$  for males. This study is notable because it is one of the few in which observational data were obtained at both assessment points to evaluate aggression, and because the stability was obtained while having children interact with same-age peers.

Finally, in analyzing data from our cohort of low-income boys, among boys identified at or above the 90<sup>th</sup> percentile on a broad factors externalizing symptoms at age 2, 63% remained above the 90<sup>th</sup> percentile at age 5, and 97% remained above the median. At age 6, 62% remained at or above the 90<sup>th</sup> percentile and 100% (all 18) remained above the median. False negative rates (i.e., those not identified at age 2 but who went on to show high rates at school entry) were relatively low for the same factors. Only 13 and 16% of boys below the 50<sup>th</sup> percentile on Externalizing at age two moved into the clinical range at ages five and six, respectively. When clinically-elevated groups were formed at age two based solely on items involving aggressive behavior, and the outcome variable was more narrowly focused on aggressive and destructive behavior at age 5, stability was even higher. Approximately 88% of boys identified as aggressive at age two continued to show clinically-elevated symptomatology at age 5 (false negative rate 22%). These data are comparable to those reported by Patterson (1982) concerning the stability of antisocial behavior from school-age to late adolescence. Of those identified in the top 5%, Patterson found 38.5% stayed at or above the 95<sup>th</sup> percentile and 100% stayed above the sample mean ten years later. Similar to Patterson's data with older children, the stability findings of

early childhood also suggest that there are relatively few “late-starters” who begin to show clinically-elevated rates of disruptive behavior after age two.

Taken together, the results suggest that aggression shows moderate to strong continuity beginning in early childhood. The data from our own sample indicate comparable stability of clinically-elevated scores as reported for older children. That 88% of those identified with clinically-elevated scores at age two continued to maintain clinical status three-four years later is a strong endorsement of the need for early intervention programs. It should be noted that these stability levels may be limited to other high-risk samples. Still, the results suggest that aggressive behavior is relatively stable for the most aggressive children during a period of great developmental transition.

#### *Correlates of Aggression during Early Childhood*

Several factors have been theorized to influence the course of aggression and other forms of disruptive behavior in young children. Unfortunately, relatively few studies have been undertaken to validate these hypotheses with infants and toddlers. Below we review areas that have been postulated to affect early disruptive behavior and research studies that have addressed these issues. The domains include gender and child temperament, parental attributes and support, parenting, and chronic family adversity.

#### *Sex Differences*

Recently, the issue of sex differences in disruptive behavior has been of greater interest as more is known about the prevalence rates and stability of antisocial behavior during the school-age period. The emergence of boys’ higher rates of externalizing behavior seems to occur during the latter part of the preschool period. While several investigators have documented the absence of sex differences in externalizing behaviors from ages 1 to 3 (Richman

et al., 1982), there appears to be a shift in this pattern beginning at ages 4 and 5 (Rose et al., 1989). These differences become more dramatic during the school-age period and persist into adulthood.

In a review of studies examining sex differences in the prevalence and correlates of behavior problems among young children, Keenan and Shaw (1997) propose two explanations for the emergence of sex differences beginning at ages 4-5. The first involves differential socialization practices of parents. As a result of being reinforced for sex-stereotyped behavior, girls' problems may be channeled more in the direction of internalizing difficulties. The socialization hypothesis is supported by data that during the preschool period, parents are more likely to use physical punishment with sons and more inductive techniques and reasoning with daughters (Block, 1978). Similarly, research indicates that relative to boys, mothers encourage girls to have more concern for others, to share or even relinquish toys to peers, and to behave prosocially (Ross, Tesla, Kenyon, & Lollis, 1990). Dodge and Frame (1982) have found that deficits in these affective perspective-taking skills are highly related to antisocial behavior among school-age children. It is unclear whether these differences in parental behavior initially emerge in the preschool period, or become evident at younger ages.

The second explanation attributes the greater decline in girls' externalizing problems during early childhood to their more advanced adaptive skills, which in turn, facilitate prosocial behavior. From infancy to the preschool period, girls are found to have more rapid biological, cognitive, and social and emotional development compared to boys. Boys appear more vulnerable than girls to several neurodevelopmental disorders such as mental retardation, autism, learning disabilities, and Attention Deficit Hyperactivity Disorder. Cognitively, girls appear to have greater skills in language development (Huttenlocher, Haight, Bryk, Seltzer, & Lyons,

1991), and greater ability to maintain motivation in the face of disruption (Gold, Crombie, & Noble, 1987). In the area of social and emotional development, preschool-age girls are more likely to recommend prosocial rather than aggressive strategies in resolving conflict compared to boys (Hay, Zahn-Waxler, Cummings, & Iannotti, 1992). Taken together, these findings provide tentative support for the validity of both the socialization and advanced maturity hypotheses in explaining the greater prevalence of boys' externalizing behavior problems. However, more work is needed in this area before firm conclusions can be drawn. For instance, it will be important to identify specific ages and specific practices at which parents begin treating girls and boys differently.

### *Child Temperament*

Several investigators have examined the relation between early temperamental attributes and conduct problems. Most studies have focused on infant negative emotionality (Sanson et al., 1991), although more recent research has begun to focus on attention-seeking behavior, the expression of anger, and behavioral inhibition (Shaw et al., 2003). Negative emotionality is thought to be directly related to later oppositional and aggressive behavior, and indirectly through its effects on parenting. Studies examining direct links between infant temperament and later aggression have shown modest to moderate predictive validity (Sanson et al., 1991). However, interpretation of these findings must be tempered by the use of maternal report to assess infant difficulty *and* later behavior problems. In the few studies using multiple informants, relations between maternal report of infant difficulty and later externalizing problems have been modest or nonsignificant (Belsky et al., 1998). This indicates that the direct association between infant temperament and later externalizing problems may be at least partially due to the parent's stable perception of the child rather than the child's behavior.

However, such a bias may still have a significant, albeit indirect, effect on child antisocial outcome. Mothers who perceive their infants as high on negative emotionality may be less responsive to their requests for attention and use more harsh discipline strategies in response to their behavior.

In our own work, we have sought to understand the relation between infant attention-seeking, maternal unresponsiveness, and early conduct problems using an interactive measure of attention seeking. Employing an observational measure developed by Martin (1981), infants are placed in a high-chair with nothing to do, while mothers are instructed to complete a questionnaire *and* attend to the infant's needs. Persistent attention-seeking is assessed by coding infant bids for behavior following initial bids that are unresponded to by the caregiver. Viewed from an interactional context, persistent attention-seeking is likely to be aversive to the caregiver who is initially unresponsive to the infant. Thus, attention-seeking may be a direct precursor of disruptive problems, but also indirectly lead to disruptive behavior by influencing caregiver's perceptions and parenting of the child. Attention-seeking assessed observationally between 10 and 12 months has been directly related to conduct problems in between the ages of 2 and 3.5 in three studies, including observed and maternal report of aggression at age two (Martin, 1981; Shaw, 1998a).

A related interest has grown in exploring individual differences in infant's expression of anger, stemming from work on the affective bases of aggression. It has been hypothesized that infants who respond to goal frustration with intense and prolonged anger may be at elevated risk for aggressive behavior problems (Calkins, 1994). Longitudinal studies from infancy to early childhood provide preliminary support for this premise. Zahn-Waxler and colleagues (1990) examined relations between aggression at age two and subsequent behavior problems in the

offspring of well and depressed mothers. Both normative (object struggles, rough play) and dysregulated (hostility toward adults, out-of-control behavior) forms of infant aggression were identified. Only dysregulated aggression predicted externalizing problems reported by mothers at age 5 and children's reports of problem behavior at age 6. Similarly, several noncompliance strategies used by two year-olds, including passive noncompliance, simple refusal, direct defiance, and negotiation, have been identified (Kuczynski & Kochanska, 1990). Of these subtypes, only direct defiance, that is, noncompliance accompanied by poorly controlled anger, predicted externalizing problems at age 5. These studies indicate that the long-term consequences of aggressive, noncompliant behavior may depend on concomitant patterns of emotion regulation.

Finally, we recently identified a group of toddlers who showed a persistent pattern of aggressive and oppositional behavior based on low levels of behavioral inhibition at age 2 (Shaw et al., 2003). Mothers and sons participated in an hour-long assessment during which time they were placed in a number of stressful (e.g., clean-up) and nonstressful (e.g., free play) tasks. In one such task, children were exposed to a tape-recording of gorilla sounds emanating from a cabinet on the other side of the room from where parents and children were stationed. Only a small percentage of children approached the cabinet, but a majority of these uninhibited children showed a persistent course of conduct problems from ages 2 to 8.

#### *The Family Environment: Parental Attributes, Conflict, and Support*

Parental characteristics, interparental conflict, and parental support have been hypothesized and found to influence the development of child aggression in multiple ways (Shaw et al, 1998b). At an environmental level, parental maladjustment, interparental acrimony, and low social support within and outside the family may compromise parenting. In addition,

these factors tend to co-occur and exacerbate one another, as parents who are impaired by psychopathology are more likely to model maladaptive problem-resolution strategies with their children and one another, engage in more verbal and physical aggression in resolving family disputes, and less actively use and seek social support from sources outside of the nuclear family. These vicious cycles further impairing their own well being, compromise parent's ability to care for their children, and in the case of family violence, model and condone the use of aggression as a coping strategy. From a genetic perspective, maladaptive characteristics may be passed on to children, including such traits as impulsivity and low frustration tolerance. Among older children, conduct disorder and delinquency are associated with antisocial personality characteristics in both mothers and fathers (Robins et al., 1975). This relationship has since been corroborated in three samples of young children. Keenan and Shaw (1994) found that familial criminality was related to boys' aggression at age 2, after controlling for aggression at 18 months and maternal age – a result we have replicated in an independent and larger cohort of low-income boys (Shaw et al., 1998b). In a large sample of 17-month olds, Tremblay (1998) also found father's report of antisocial behavior *before the birth of the child* to be related to infant aggression.

Parental mood disorders have also been examined as risk factors for early conduct problems. However, the majority of these studies have ascertained child disruptive behavior during preschool age or thereafter. When young children with disruptive behavior problems are compared to normal controls, mothers of children with externalizing problems report more depressive symptomatology, and these differences persist at follow-up (Campbell, 1994). Depressed parents have been found to be more passive and more critical, and less positive in responding to their children's needs, a tendency that would be expected to be exacerbated during

the toddler period in the face of a more mobile, aggressive, and noncompliant child. In fact, in our own work, maternal depressive symptoms, assessed when children were 18 and 24 months old, were stronger discriminators of teacher's reports of clinically-elevated conduct problems at age 8 than maternal perceptions of aggressive behavior at ages 2-5 or maternal depression at ages 5 or 5.5. These findings suggest that the quality of the *early* caregiving environment may play a special role in influencing the course of school-age children's disruptive behavior.

In addition to examining parental personality and adjustment, investigators have identified sources of stress and support within and outside the family system that are related to the occurrence of child behavior problems. Again, the majority of these studies begin at preschool age. Among preschoolers and school-age children, marital conflict has been found to be associated consistently with externalizing problems, particularly when conflicts involve disagreements over childrearing practices (Dadds & Powell, 1991). This finding has been corroborated repeatedly with very young children (Shaw et al., 1998b) beginning with assessments of marital satisfaction/conflict at ages 1-2. In addition, quality of maternal social support outside the family has been positively related to responsive parenting, and negatively related to maternal depressive symptoms and child disruptive behavior in the first two years (Shaw et al., 1998b).

#### *Parenting and the Family Socialization Process in Developmental Context*

Parenting practices associated with child behavior problems vary with development; however, common themes persist across development that focusing on parental involvement and engagement. For example, involvement is a construct that is equally valid in early childhood, middle childhood, and adolescence, taking different forms across these three developmental time periods (e.g., knowing where your children are out of the home in adolescence and monitoring

children's whereabouts and his/her activities in the home during the terrible twos). In early childhood, initially the focus is on affective processes (i.e., attachment), with the advent of the terrible twos increasing the significance of behavior management practices.

Central to the emergence of early conduct problems are weak or disorganized family management practices, which can result in coercive parent-child interactions. As the child's aversive behaviors increase in intensity and frequency, the parent acquiesces, unwittingly reinforcing those behaviors (Shaw & Bell, 1993). As the child becomes increasingly irritating, the parent further escalates power assertion techniques. These cycles eventually lead to the child's open defiance or behavior problems that, in later development, include being away from home excessively, lying, stealing, and engaging in more serious behaviors such as fire-setting. Patterson, Capaldi, and Bank (1991) formalized the "early starter model," one of two pathways by which children may emerge as chronically offending delinquent adolescents and antisocial adults. According to this model, families provide direct training in antisocial behavior for young children through their family management practices.

While the study of coercive interactions has yielded significant data about the onset of early conduct problems (Shaw et al., 1998a), there is a growing body of research showing the importance of early positive interactions between caregiver and child. For example, among 3- to 4-year-olds with conduct problems, Gardner (1987) showed that only 20% of the child's time was spent in conflict with parents. We would expect that the quality of positive interactions during the 80% of quieter time would have a preventive effect on early conduct problems. Consistent with this notion, Pettit and Bates (1989) found the amount of play and social contact in the first and second years to be associated with fewer conduct problems at age 4.

While a predominately positive and responsive caregiver would be expected to influence the course of conduct problems during the first year, retaining a positive stance becomes a greater challenge in the second year. At this stage, parents need to minimize the toddler's exposure to forbidden and dangerous situations, which in turn prevents oppositional behavior and conflict. In the first year, contingent responsivity to the infant's bids for attention may suffice, however, greater anticipatory awareness is needed to minimize conflict with the mobile and emotionally labile toddler. Although normative increases in parent-child conflict would be expected during the "terrible twos," evidence suggests that proactive strategies to prevent aversive exchanges in the short-term would improve child outcome in the long-term. In particular, a mother's skills in scaffolding the child's activities predict improvements in conduct problems over time (Gardner, 1989).

By age 3, mothers involved in coercive dyadic sequences, which are also marked by low levels of positive behavior and structuring of the child's environment, would be expected to be inconsistent and inflexible administrators of discipline. Mothers who initially persist in their requests for compliance may not be consistent in enforcing these demands as their children demonstrate that such efforts have little effect. They may resort to open hostility to gain submission from their children, sacrificing any semblance of a positive emotional bond. It is also reasoned that these children would be noncompliant, negative, and unenthusiastic toward their parents. The children might not trust their parents to adequately care for them or their needs. Even if some mothers are able to maintain a consistent firmness in dealing with their children, they are likely to meet greater resistance than with the average child, who would have more to lose by maintaining noncompliant behavior (i.e., loss of love). Furthermore, it is likely that these parents view their children as hostile, based on their original perceptions of the child and on the

child's increasingly noncompliant behavior. The children, in turn, may come to interpret neutral or even friendly behavior as hostile. The mother's use of ineffectual disciplinary techniques fail to produce the desired outcome, reinforcing a fatalistic attitude, setting up a self-fulfilling prophecy: "He always was, and always will be, a bad child."

During the age period from 3.5 to 6 years, dyadic processes (including responsiveness and coercion) between parent and child become consolidated and extend to other family members. Coercive patterns of interaction (Patterson, 1982) become entrenched, where parents attempt to insist on certain behaviors, the child resists, conflict escalates, and the parent acquiesces, thereby reinforcing the child's problem behavior. Gardner's (1989) detailed home observational study found that this coercive pattern of reinforcement involving parental acquiescence was much more common in conduct-problem compared to nonproblem children, providing strong support for coercion theory during this developmental stage.

Other relevant normative changes during this period involve the child's increasing ability to function, both outside and inside the home, and to handle interpersonal and cognitive problems. Parents maintain the coercive intervention strategies used earlier, but now the conflict is more intense, with vacillation between ignoring rule violations and employing harsh or threatening punishments. At this stage, there is also continuity in the mother's image of her child as hostile, noncompliant, aggressive, and much more difficult to handle. At the same time, the child is applying the established pattern of aggression at home to the preschool setting, which results in complaints from teachers about the level of disruptive behavior. Equally important to the development of later antisocial behavior and deviant peer influence on substance use is that there is little internalization of parental and societal standards, even when compliance is secured. Rewards are infrequent and are used as a means of controlling behavior. All the at-risk child

assimilates from infrequent conformity to authority is an extrinsic motivational system. The child performs when there is an authority figure nearby.

From follow-ups in the author's laboratory of children at risk for poor socioemotional outcomes, it is clear that coercive parent-child relationships measured in the toddler period are associated with child conflicts with peers and teachers at age 6 and trajectories of persistent conduct problems from ages 2 to 8, fueled by a child who tends to be fearless and a parent who tends to be rejecting and hostile. These results suggest that an intervention tailored to improve parenting in high-risk families at ages 2 to 3 may prove effective in preventing the problem behavior at school that is so predictive of adolescent delinquency.

### *Chronic Family Adversity*

A number of investigators have noted that the accumulation of risk factors is related to several types of child problem behavior, including disruptive behavior problems (Sameroff et al., 1987). Rutter and colleagues (1975) were perhaps the first to suggest that the presence of multiple familial stressors may be a better predictor of child behavior problems than any specific factor alone. Consistent with this hypothesis, several investigators have found that the likelihood of behavior problems increases with the number of stressors present (Sameroff et al., 1987). In the past decade this hypothesis has been corroborated with young children (Sanson et al., 1991). In two studies of chronic family adversity assessed when children were between 1-2 years of age, consistent relations were found with later disruptive behavior problems between ages 2 to 3.5. Relations were more robust for externalizing versus internalizing problems. In addition, when groups were dichotomized based on clinical symptomatology, families with stressors present from 4 different domains had a 15 times greater probability of having clinically-elevated scores than those with 0 stressors present. Stressor domains included maternal adjustment,

family climate, parental aggressivity, and sociodemographic risk. The findings on chronic family adversity raise issues about the need to intervene with families at levels beyond the door of the therapist's office. It is also a reason the stability data are likely to be "inflated" in samples from impoverished backgrounds because of the number and type of stressors facing such families. Preventionists and interventionists need to consider these nonpsychological factors that affect parenting ability, including social support within and outside the family, overcrowding in the home, neighborhood dangerousness, and family income.

### *Alternative Child Care*

As more and more young children spend increasing amounts of time in day care settings, it has become increasingly important to determine if the quality of such environments have short or long-term impact on the development of aggressive behavior. Early studies were mixed in both the quality of the methods used and the results found. The most recent and by far the most comprehensive study of day care effects (e.g., sample size of greater than 1,000 children) on early conduct problems found that more hours spent in any kind of nonmaternal child care from infancy to age 54 months was associated with higher ratings of externalizing problems, more so for ratings made by alternative caregivers and teachers than parents (NICHD Early Child Care Research Network, 2003). It should be noted that these effects, albeit statistically significant, tended to be modest magnitude and did not predict trajectories of clinically-meaningful problem behavior. Quality of early child care has also found to discriminate conduct problems in a large sample of low-income children whose parents were in welfare-to-work programs (Votruba-Drzal et al., 2004). Results indicated that many hours of day care in low quality care was associated with higher conduct problems at school entry, whereas high-quality care served a protective function. Overall, hours spent in care and its quality have both been found to

influence the course of conduct problems, and these effects are likely to be more pronounced in contexts of high risk.

### *Prevention and Intervention*

While knowledge of the course and correlates of aggression in early childhood has increased dramatically over the past decade, relatively few psychosocial interventions that target this problem have yet to be evaluated empirically. Below after reviewing potential targets for preventive interventions, we review a few approaches that appear to show promise for preventing early-starting pathways.

First, early aggressive behavior must be considered within the interpersonal context in which it occurs. The research discussed above suggests that aggression in early childhood originates in and is maintained by multiple, interacting factors in the caregiving milieu, including characteristics of the child and his or her parents, as well as environmental pressures that impinge on the parent-child relationship. We assume that the reduction of child aggression requires identifying and addressing major etiological influences that are co-operating in a particular case. Hence, the focus of intervention must be broadened beyond the child to include factors such as the emotional quality of parent-child interactions, the ways in which parents respond to their child's misbehavior, and stressors that impair parents' ability to provide adequate care.

Second, aggression should be viewed from a developmental perspective. A developmental framework dictates that clinicians approach aggressive behavior in light of the salient issues of a given age period. For example, the establishment of an effective attachment relationship is a central goal of the first year of life. Aggressive behavior may be a result of an attachment relationship that is characterized by anger and frustration. Similarly, the

development of autonomy is a primary task in year two, while the establishment of flexible self-regulation is a critical issue in the third year and beyond. Aggression may occur when factors within the child or family prevent the realization of these age-specific goals. It is critical that the timing and content of treatment be attuned to the developmental status of the child.

The centrality of family in general and parenting in particular suggests that interventions that focus on the family would be effective in preventing the early starting pathway, particularly those that account for individual differences in child attributes and other risk factors that compromise caregiving quality. The last three decades have seen an increase in the number of family-based interventions developed for working with children and adolescents with conduct-related problems (e.g., Dishion & Kavanagh, 2003).

Prime examples of these efforts with young children is the work of Olds and colleagues (Olds, 2002) and Webster-Stratton (Webster-Stratton & Hammond, 1997). The Olds' model engages mothers during pregnancy and immediately following the delivery of their infant, to promote maternal health and quality of the infant-parent relationship. Working with three samples in different regions of the United States, Olds and colleagues have documented consistent improvements in children's antisocial behavior extending from preschool through adolescence as a result of the home-visitation program.

Work by Webster-Stratton and colleagues focuses on parent management strategies with preschoolers and young school-age children, and has also been associated with substantial improvements in antisocial outcomes. A central focus in parent management training is helping caregivers to avoid the development of coercive interactions, wherein parent and child each employ increasingly aversive behaviors in an attempt to control the outcome of discipline encounters. In service of this goal, parents learn to observe their child's behavior in an

objective, unemotional manner and to implement appropriate consequences in response to aggression.

Despite the empirical validation of these programs for infants and preschoolers, respectively, the development of family centered intervention programs specifically designed to meet the needs of parents with *toddlers* has been lacking. Recently, we sought to fill this void by adapting Dishion's Family Check Up for toddlers (Shaw, Dishion, Supplee, Gardner, & Arnds, 2004). The Family Check Up (see Dishion & Kavanagh, 2003) is a brief intervention designed to motivate parents to promote more consistent parent management practices and increase their engagement and involvement in caregiving. In addition to emphasizing behaviorally-oriented behavioral management issues for parents with toddler-age children, the Family Check Up addresses a recurring problem of many family-centered interventions: parents' motivation to change. Initially developed by Miller and colleagues to meet the demands of problem drinkers (Miller & Rollnick, 2002), motivational interviewing is used to provide families with actuarial-based data on the likely course of problem behavior should change not occur. If change is desired, families are then offered a flexible menu of change strategies to achieve the desired reductions in problem behavior. Dishion successfully adapted principles of the check up for families with adolescents before applying it to families meeting the challenges of the terrible twos. Our initial findings using the Family Check Up with toddlers show promise. Using 120 male toddlers at extreme risk for early starting pathways based on the presence of sociodemographic, family, and child risk factors, those families randomly assigned to the Family Check Up showed reductions in destructive and aggressive behavior at ages 3 and 4, and increased parental involvement with their child from ages 2 to 4. We are currently attempting to

validate these findings with a sample of 720 boys *and* girls from urban, rural, and suburban areas of the United States, the results of which should be forthcoming in the next few years.

### **Summary**

This chapter has described the current state of knowledge on the development of aggression and its prevention in early childhood. Despite cognitive limitations in fully understanding aggression and the high frequency of the behavior, aggressive behavior in early childhood show comparable stability and similar correlates to aggressive behavior at older age periods during childhood. These findings suggest that prevention and intervention efforts should be directed at similar targets as they are for older children, with special attention to parent-child relationships and factors that compromise the quality of the caregiving environment. Preventive interventions that are targeted to address developmental transition points are recommended to capitalize on parental anxieties in handling the demands of a rapidly changing child. Examples include Olds' work during infancy and our ongoing work addressing the challenges of the terrible twos.

## References

- Ausubel, D.P. *Theory and problems of child development*. New York: Grune & Stratton.
- Belsky, J. Hsieh, K., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents of boys' externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience? *Development and Psychopathology*, *10*, 301-320.
- Block, J.H. (1978). Another look at sex differentiation in the socialization behavior of mothers and fathers. In J. Sherman & F. L. Denmark (Eds.). *The psychology of women: Future directions of research*. New York: Psychological Dimensions.
- Calkins, S. (1994). Origins and outcomes of individual differences in emotion regulation. In N. A. Fox (Ed.), *The development of emotion regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development* (pp. 53-72). Chicago: University of Chicago Press.
- Campbell, S.B. (1994). Hard-to-manage preschool boys: Externalizing behavior, social competence, and family context at two-year-follow-up. *Journal of Abnormal Child Psychology*, *22*, 147-166.
- Campbell, S. B., Pierce, E. W., Moore, G., Marakovitz, S., & Newby, K. (1996). Boys' externalizing problems at elementary school: Pathways from early behavior problems, maternal control, and family stress. *Development and Psychopathology*, *8*, 701-720.
- Cummings, E.M., Iannotti, R. J., & Zahn-Waxler, C., (1989). Aggression between peers in early childhood: Individual continuity and developmental change. *Child Development*, *72*, 887-895.
- Dodge, K.A., & Frame, C.M. (1982). Social cognitive biases and deficits in aggressive boys. *Child Development*, *53*, 620-635.

Dadds, M.R., & Powell, M.B. (1991). The relationship of interparental conflict and global marital adjustment to aggression and immaturity in aggressive and nonclinic children. *Journal of Abnormal Child Psychology, 19*, 553-567.

Dishion, T. J., & Kavanagh, K. (2003). *Intervening in adolescent problem behavior: A family-centered approach*. New York: Guilford Press.

Dunn, J., & Kendrick, C. (1982). *Siblings: Love, envy, and understanding*. Cambridge, MA: Harvard University Press.

Gardner, F. E. M. (1987). Positive interaction between mothers and conduct-problem children: Is there training for harmony as well as fighting? *Journal of Abnormal Child Psychology, 15*, 283–293.

Gardner, F. E. M. (1989). Inconsistent parenting: Is there evidence for a link with children's conduct problems? *Journal of Abnormal Child Psychology, 17*, 223–233.

Gold, D., Crombie, G., & Noble, S. (1987). Relations between teachers' judgements of girls' and boys' compliance and intellectual competence. *Sex Roles, 16*, 351-358.

Goodenough, F.L. (1931). *Anger in young children*. Minneapolis: University of Minnesota Press.

Hay, D.F., Zahn-Waxler, C., Cummings, E.M., & Iannotti, R.J. (1992). Young children's views about conflict with peers: A comparison of the daughters and sons of depressed and well women. *Journal of Child Psychology and Psychiatry, 33*, 669-683.

Huttenlocher, J., Haight, W., Bryk, A. Seltzer, M., & Lyons, T. (1991). Early vocabulary growth: Relation to language input and gender. *Developmental Psychology, 27*, 236-248.

Jersild, A.T., & Markey, F.V. (1935). Conflicts between preschool children. *Child Development, 21*, 170 - 181.

Keenan, K., & Shaw, D.S. (1994). The development of aggression in toddlers: A study of low-income families. *Journal of Abnormal Child Psychology*, 22, 53-77.

Keenan, K., & Shaw, D.S. (1997). Developmental influences on young girls' behavioral and emotional problems. *Psychological Bulletin*, 121, 95-113.

Kuczynski, L., & Kochanska, G. (1990). Development of children's noncompliance strategies from toddlerhood to age 5. *Developmental Psychology*, 26, 398-408.

Maccoby, E.E. (1980). *Social development*. New York: Harcourt Brace.

Martin, J. (1981). A longitudinal study of the consequences of early mother-infant interaction: A microanalytic approach. *Monographs of the Society for Research in Child Development*, 46, Serial Number 190.

Miller, W. R., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior*. New York: Guilford.

NICHD Early Child Care Research Network (2003). Does the amount of time spent in child care predict socioemotional adjustment during the transition to kindergarten? *Child Development*, 74, 976-1005.

NICHD Early Child Care Research Network (2004). Trajectories of physical aggression from toddlerhood to middle childhood: Predictors, correlates, and outcomes. *Monographs of the Society for Research in Child Development*, 69, Serial Number 278.

Offord, D. R., Boyle, M. H., & Racine, Y. A. (1991). The epidemiology of antisocial behavior in childhood and adolescence. In D. J. Pepler & K. H. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 31-54), Hillsdale, NJ: Lawrence Erlbaum Associates.

Olds, D. (2002). Prenatal and infancy home visiting by nurses: From randomized trials to community replication. *Prevention Science*, 3, 153-172.

- Patterson, G. (1982). *Coercive family processes* (Vol. 3). Eugene, OR: Castalia.
- Patterson, G. R., Capaldi, D. M., & Bank, L. (1991). An early starter model for predicting delinquency. In D. Pepler, & R. K. Rubin (Eds.), *The development and treatment of childhood aggression*. Hillsdale, NJ: Erlbaum.
- Pettit, G., & Bates, J. (1989). Family interaction patterns and children's behavior problems from infancy to 4 years. *Developmental Psychology, 25*, 413–420.
- Robins, L., West, P., & Herjanic, B., (1975). Arrests and delinquency in two generations: A study of black urban families and their children. *Journal of Child Psychology and Psychiatry, 16*, 125-140.
- Ross, H., Tesla, C., Kenyon, B., & Lollis, S. (1990). Maternal intervention in toddler peer conflict: The socialization of principles of justice. *Developmental Psychology, 26*, 994-1003.
- Richman, M., Stevenson, J., & Graham, P. J. (1982). *Preschool to school: A behavioral study*. London: Academic Press.
- Rose, S.L., Rose, S.A., & Feldman, J.F. (1989). Stability of behavior problems in very young children. *Development and Psychopathology, 1*, 5-19.
- Rutter, M., Cox, A., Tupling, C., Berger, M., & Yule, W. (1975). Attainment and adjustment in two geographical areas: 1. The prevalence of psychiatric disorder. *British Journal of Psychiatry, 126*, 493-509.
- Sameroff, A.J., Seifer, R., Barocas, R., Zax, M., & Greenspan, S. (1987). IQ scores of 4-year-old children: Social-environmental risk factors. *Pediatrics, 79*, 343-350.
- Sanson, A., Oberklaid, F., Pedlow, R., & Prior, M. (1991). Risk indicators: Assessment of infancy predictors of pre-school behavioural maladjustment. *Journal of Child Psychology*

*and Psychiatry*, 32, 609-626.

Shaw, D. S., & Bell, R. Q. (1993). Developmental theories of parental contributors to antisocial behavior. *Journal of Abnormal Child Psychology*, 21, 493–518.

Shaw, D.S., Dishion, T. J., Supplee, L., Gardner, F., & Arnds, K. (2004). A family-centered approach to the prevention of early-onset antisocial behavior: Two-year effects of the family check-up in early childhood. Paper submitted for publication.

Shaw, D.S., Gilliom, M., Ingoldsby, E.M., & Nagin, D (2003). Trajectories leading to school-age conduct problems. *Developmental Psychology*, 39, 189-200.

Shaw, D.S., Keenan, K., & Vondra, J.I. (1994). Developmental precursors of externalizing behavior: Ages 1 to 3. *Developmental Psychology*, 30, 355-364.

Shaw, D.S., Winslow, E.B., Owens, E.B., & Hood, N. (1998b). Young Children's Adjustment to Chronic Family Adversity: A Longitudinal Study of Low-Income Families. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 545-553.

Shaw, D.S., Winslow, E.B., Owens, E. B., Vondra, J.I., Cohn, J.F., & Bell, R.Q. (1998a). The development of early externalizing problems among children from low-income families: A transformational perspective. *Journal of Abnormal Child Psychology*, 26, 95-107.

Tremblay, R. (1998). On the origins of physical aggression. Presented at the meeting of the Life History Society, Seattle, WA.

Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology*, 65, 93-109.

Votruba-Drzal, E., Coley, R. L., & Chase-Landsdale, P. L. (2004). Child care and low-income children's development: Direct and moderated effects. *Child Development*, 75, 296-312.