Externalizing Problems in Two-Year-Olds: Implications for Patterns of Social Behavior and Peers' Responses to Aggression[1]

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Abstract:

A sample of 48 two-year-old children selected on the basis of parents' responses to two administrations of the Child Behavior Checklist for two to three-year-olds was observed in peer interactions. Twenty-four of these children displayed symptoms of aggressive/destructive (externalizing) problems that were in the borderline clinical range (labelled "high risk") and 24 children displayed few such symptoms ("low risk"). The children were observed in matched dyads (one high risk and one low risk child) across four tasks designed to vary in the degree of social participation they would elicit from the children. Across all tasks, children in the high risk group displayed significantly and consistently more aggressive behavior than the children in the low risk group. However, these high risk children did not differ from other children in terms of several indices of social and nonsocial play. In addition, when children were classified as high aggressive versus average versus low aggressive on the basis of laboratory behavior, children who displayed high amounts of aggression during the play sessions did not differ from less aggressive children on these indices of social play. Finally, the responses of non-aggressive dyad partners to aggressive acts indicated that children are responsive, in relatively subtle ways, to aggression. These results are discussed in terms of the implications of early problematic behavior for later indices of maladjustment that include social competence and peer rejection.

Article:

Recently, there has been a great deal of interest in the display of externalizing behavior by very young children. Externalizing difficulties are often referred to as problems of undercontrol, implying a failure to acquire skills and abilities that support behavioral self- regulation and autonomous functioning (Campbell, 1995). Children who exhibit early adjustment problems of this sort may display a constellation of behaviors that includes aggression, disruptive behavior, defiance, impulsivity and angry, coercive interactions with parents—behaviors suggestive of difficulties controlling behavior and emotion in both social and nonsocial contexts.

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The interest in early externalizing behavior has been motivated, in part, by two observations concerning the significance of early aggressive, acting-out behavior. First, aggressive behavior appears to be quite stable, even among very young children. Preschoolers displaying aggressive, non-compliant, destructive and impulsive behaviors are likely to display such behaviors during school-age (Cummings, Ianotti, & Zahn-Waxler, 1989; Rose, Rose, & Feldman, 1989) . And, aggressive behavior in childhood is predictive of aggression in early adulthood (Olweus, 1979). The second reason for the interest in early aggression is that it carries with it the risk of developing other adjustment problems. There is clear evidence that children who are aggressive and who display aggression in peer interactions are likely to experience later difficulties related to rejection from the peer group (Coie, Belding & Underwood, 1988). Peer rejection may be problematic for both school progress and for psychosocial adjustment. Children who are rejected by their peers suffer from lower self-esteem and greater difficulties in school than do children without such problems (Patterson, DeBaryshe & Ramsey, 1989). Moreover, the combination of aggression and rejection from the peer group appear to be related to more serious forms of conduct problems at later ages than either rejection or aggression in isolation (Bierman & Wargo, 1995 ; Parker & Asher, 1987). Thus, there is good evidence that children who are displaying early externalizing behavior problems are at significant risk for poor social outcomes (Coie, Lockman, Terry & Hyman, 1992).

One assumption made about children with externalizing difficulties is that coercive patterns of interaction that are learned in the home environment, transfer to the peer environment and emerge as peer-directed aggression (Campbell, 1990; 1995; Campbell & Cluss, 1982; Patterson et al., 1989). Another hypothesis is that externalizing problems represent deficits in self-regulation and that because such regulation is crucial to successful, reciprocal interaction (Calkins, 1994; Campbell & Cluss, 1982), children with externalizing problems will be unable to engage in the kinds of behaviors that support the development of social competence. In either case, it is assumed that children displaying early difficulties managing their behavior in the home, and as reported by parents, will experience difficulties in the peer environment that will manifest themselves in the form of socially incompetent or unsuccessful behavior that may be marked by aggression, and perhaps rejection by peers. Although there are clear data supporting the notion that by the early elementary grades aggressive children are rejected by their peers, there are few data exploring peer reactions to aggression among toddlers. Indeed, although it is clear that by the preschool period, children are sensitive observers of others' social competence and group liking (Denham & Holt, 1993), the early contributors to this dynamic process are less understood. It is unclear, for example, to what aspects of the problem child's behavior peers are reacting. Are peers responding to the absence of socially appropriate behaviors like social group entry behaviors, social conversation pr cooperative play, or are they responding to the presence of more aversive behaviors such as instrumental aggression? The answers. to these question are important, given recent evidence for the influence of peers on the maintenance of externalizing problems (Kupersmidt, Burchinal & Patterson, 1995).

Although social behavior and social competence are traditionally studied in school- age children, with good predictability to later adjustment (Kupersmidt, Coie & Dodge, 1990), it is clear from the developmental literature that the skills that support social competence, and the behaviors that undermine such competence, are acquired well before the child enters school. For example, once

toddlers have acquired language and locomotion, they become capable of many behaviors that define social interaction and social competence, such as cooperating with others, conversing, engaging in pretend play and establishing friendships (Bownell & Brown, 1992; Eckerman & Stein, 1982, Ross, 1982). Unfortunately, few empirical data exist that enable researchers to adequately characterize the early social behaviors of problem toddlers, and even fewer studies have examined peer responses to socially deviant or incompetent behaviors. In addition, it is clear that the issue of whether children with behavior problems engage in fewer socially appropriate behaviors (initiations, conversation, for example) has not been adequately investigated. Most studies have focused on whether children with externalizing symptoms are, in fact, more aggressive toward peers than those without such problems. For example, Rubin, Hastings, Chen, Stewart & McNichol (1998) report a modest correlation between externalizing symptoms and total aggression with a peer, but their sample of toddlers was a normative one, with very few children displaying serious externalizing problems. Campbell and Cluss (1982) reported that among a sample of hyperactive preschool children, there was a higher incidence of aggressive behavior versus a group of control children, but no differences in terms of behaviors believed to be indicative of social competence. Rubin, Coplan, Fox & Calkins (1995) observed that "dysregulated children" displayed more externalizing symptoms and more solitary active behavior (behavior characterized by physical or self-stimulating actions) when interacting with peers. Olson (1992) reports a finding of greater aggression among problem children, again with preschool children, and further notes that aggressive children very quickly become targets themselves. Olson argues that the appropriate methodology for examining the emergence and maintenance of early problem behaviors is one that includes assessment of both problem children's social and nonsocial behaviors and peer responses to aggression. Such an assessment may provide a window on what aspects of children's peer-directed behaviors are most problematic, and may shed light on how early problem behavior evolves into more serious aggression and rejection from the peer group.

The goal of the present study was to examine social interactions in toddler dyads in which one member of the dyad had been characterized by parents as displaying significant externalizing symptoms. The broad aim of the study was to compare toddlers with and without such problems in terms of several types of social, asocial (aggressive) and nonsocial (solitary) behaviors that have been of interest to those studying early peer interaction (Bronson, 1982; Howes, 1988; Rubin at al., 1998). Toward that end, matched dyads of problem and non-problem toddlers were observed in a series of play situations in the laboratory. The play situations varied from unstructured and nondemanding to highly structured and demanding.

Of interest in the examination of toddlers peer play were two questions. First, in what sorts of behaviors do problem toddlers engage when interacting with peers? In this study, we tested three hypotheses about the nature of problem toddlers' play. One hypothesis about the social behavior of problem toddlers is that it is characterized by more aggressive behavior, and perhaps, more aggressive behavior of a particular type: hostile aggression. This hypothesized pattern may be a reflection of poor regulation and difficulty managing behavior that is seen in the home, but that generalizes to the peer context (Campbell & Cluss, 1982). A second and related hypothesis is that problem toddlers are less socially competent than nonproblem toddlers. For example, they may engage in fewer social initiations, talk less, and play socially with a peer less often (Campbell & Cluss, 1982). A third hypothesis with respect to the social behavior of problem

toddlers is whether they engage in more asocial behavior. Such behavior may be classified as one of three types: solitary active behavior that may be indicative of impulsivity and high activity level (Coplan, Rubin, Fox, Calkins & Stewart, 1994); solitary passive behavior that may be well-regulated but lacking in social interest; or reticent behavior characterized by unoccupied and onlooking behavior that may be indicative of anxiety (Coplan et al., 1994). It is possible that externalizing children might display more solitary active behavior or reticent behavior, both patterns of behavior that reflect poor regulation (Rubin, Fox & Calkins, 1995). By conducting an exhaustive assessment of children's social interactive behaviors in the context of an unfamiliar peer, the goal was to isolate and examine those behaviors that may represent core social skills deficits at a very early point in development.

In addition to characterizing the social behavior of problem toddlers, a second set of questions addressed the social behaviors of children who displayed aggression in the laboratory and the response of the dyad partner to that aggression. To address these issues, we examined whether children who behaved aggressively toward an unfamiliar peer in the laboratory would display a particular pattern of social behaviors similar to those hypothesized for children with externalizing problems. Toward this end, the children whose behavior toward a peer in the laboratory was characterized by relatively greater aggression versus little aggression were compared in terms of social and asocial behaviors. Again, hypotheses about whether these aggressive children would be socially incompetent or display types of dysregulated solitary behavior (solitary active and/or reticent) were examined.

A final question that was addressed in this study was the response of the dyad partner to aggressive acts. Presumably, peer relationship problems emerge out of the dynamic interaction of child aggression and peer response to that aggression (Olson, 1992). Thus, it was of interest to examine whether, at this young age, children are receiving signals from peers that their behavior is inappropriate. Although there is little work to guide this hypothesis, it was thought that victims of peer aggression would respond to that aggression, though no specific predictions were made about whether that response would be direct and confrontational or indirect and passive.

In sum, the present investigation was designed to elucidate the components of early social interaction among a sample of children at risk for the development of later and more severe behavioral control difficulties. It is often assumed that young children bring to early peer interactions a particular problematic interactional style. By studying such young children, we can begin to understand the nature of that problematic style and how peers are likely to respond to it.

METHOD

Subjects

Four hundred and seventy-four 2-year-old children (M= 30 months-of-age, 248 boys and 226 girls) from a small southeastern city were recruited for behavior problem screening. Sixty-five percent of the families were European American, 30% were African American and the remaining 5% were Asian; Hispanic or mixed-race. The families were classified into SES groups based on employment information provided by the parents on the screening questionnaire. Sixty-one percent of the families were classified as middle class, 25% as lower class and 14% as upper class. The racial and SES characteristics are representative of the county where recruitment took place. The parents of the larger recruitment sample were contacted through local childcare

centers, pediatricians' offices and county health and human services facilities. Parents completed a behavior problem questionnaire, or were assisted in completing the form if they had reading difficulties, and a subset of the 474 children was selected for participation in the laboratory portion of the study. Procedures for selection of the target sample are described below.

Target Sample Selection

Of the larger screened sample a total of 121 children were initially selected for follow-up assessment on the basis of parents' responses to items on the Child Behavior Checklist (CBCL, 2-3 version, Achenbach, Edelbrock, & Howell, 1987). The CBCL is a 99-item parent report measure that yields broadband scores of externalizing symptoms (aggression and destructive subscales combined) and internalizing symptoms (anxiety and withdrawal combined), as well as a total behavior problem score. To identify a group of children at high risk for problems with aggressive behavior, the externalizing scale score for all 474 children was computed. Next, following from Achenbach (1992), a t-score cut-off of 60 was established. This represented the borderline clinical range in Achenbach's (1992) study; children scoring in this range were 10 times more likely to have been referred for clinical services than children below this point. This cutoff represented the 80th percentile in the screened sample (the mean t-score for the entire screened sample was 52). As a contrast low risk group, children whose t-score on the externalizing scale was 50 or below were selected. This represented the 50th percentile in the screened sample. Because not every child who was screened and met these criteria could be included in the study (e.g. the child was three years old by the time the questionnaire was scored, the family refused to participate or repeatedly missed appointments, or the family could not be contacted for an appointment), and because attempts were made to match the two risk groups in terms of race, SES, sex and age, the initial selected sample consisted of 121 children (70 high risk and 51 low risk).

The 121 children were assessed in an individual laboratory session as part of the original study. A subsample (80) of this 121 was also seen in an assessment of peer play, the results of which are discussed in the present report. There were no differences between the eighty children seen in the peer play assessment and those not seen on measures of race, SES, or sex. The subsample of children (40 high risk, 40 low risk) was matched by dyad, with one child from each risk group in each dyad. Although this procedure resulted in pairing each child with an unfamiliar agemate, a procedure that clearly differs from observing children in familiar dyads, and likely influence the kinds of social and nonsocial behaviors observed, it was the most appropriate way to control the construction of the dyads.

Given the possibility that the screening process identified children with only transient behavior problems, a second assessment of externalizing problems was conducted when the parent and child came to the laboratory for the individual assessment. Analysis of the two scores indicated they were highly correlated ($r = .78$, $p < .0001$). However, there was a significant change (decrease) in level of problem behavior among the high risk group, but not among the low risk group, $F(1) = 22.01$, $p < .001$ for the interaction term. This decrease in problem behavior scores among the high risk group likely reflects the fact that for some two-year-olds, externalizing problems are transient, while for others, they are more stable (Campbell, 1995). For this reason, the selected sample of children was adjusted by using the mean of the two CBCL scores. Thus, the final sample consisted only of children whose mean score across the two-month period was

60 or above or 50 or below. The dyads for which both children met this criteria were included in the analysis of the peer data. Thus, the final sample consisted of 48 children (14 males, 10 females in each risk group). The two groups were balanced racially (17 European American and seven African American children in each risk group) and had similar Hollingshead scores (42 for the low risk, 40 for the high risk).

Procedures.

During the second assessment, the children were observed in pairs with a second child of the same sex from the other risk group whose birthdate was within three months of the child. Each mother-child pair was met by a research assistant and taken to a private room for informed consent. Following informed consent, each mother-child pair was brought to the playroom and introduced. Mothers were asked to sit on a sofa in the playroom and work on questionnaires while the children played. They were asked not to initiate interaction with the children, but to respond to the children as they normally would. The mothers were told that they could interact quietly with one another if they wished. Mothers' presence may have altered the dynamics of the children's interactions, but, given the age of the children, it was preferable to removing them and increasing the likelihood of anxiety and separation distress on the part of the children. The experimenter left the mothers and children alone in the room after placing the materials for each task in front of the children. The visit was videotaped for coding at a later date. Among the tasks in which the children were observed were:

Freeplay. Several age-appropriate toys were placed throughout the room and the children were encouraged by the experimenter to play with the toys. This episode lasted for 10 min.

Cooperation task The examiner placed a teeter-totter in the center of the room and briefly explained how it worked. She then encouraged the children to try the teeter-totter and left the children in the room. This episode lasted for 4 min.

Structured play task The children were given a plastic set of kitchenware with several pieces with which to play. This episode lasted for 4 min.

Freeplay with limited resources. The examiner brought in two toys, a toy phone that played several voices, and a four-piece wood puzzle. The toy phone successfully elicited the most attention from all the children, whereas the wood puzzle was the least desired of the two toys and was often only played with as a last resort. This episode lasted for 4 min.

Measures

Play behaviors. The children's behaviors during the four play episodes were scored for several types of play. Of particular interest were the amount and type of social, nonsocial and antisocial behaviors observed during the peer play assessment. Coding criteria were similar to those used by Howes (1988) and Rubin (1989) for these broad categories of behavior, and are briefly described, with examples, in Table 1.

The behaviors were scored from the videotapes in ten-second intervals. During each epoch, the major behavior engaged in for the majority of the epoch was scored; these play behaviors were mutually exclusive from one another. The measures of each type of behavior reflect the

proportion of 10-second epochs spent in that activity. For the first freeplay, this resulted in 60 coded intervals. For the cooperation episode, structured play and freeplay with limited resources, the scoring was done on 24 intervals.

In addition to recording the majority behaviors engaged in during the 10 sec epoch, the frequency of several behaviors which are associated with the major behaviors were recorded (that is, frequency of specific types of social, nonsocial and antisocial behaviors). The categories of behaviors that were coded for frequency of occurrence appear in Table 2.

Proximity. The child's proximity during the majority of each epoch was recorded. Proximity was defined as occurring when the child was within 3 ft of the other person. The target child could be proximal to no one, the peer, the Mom, or the peer and Mom for a given proportion of time. Proximity scores were used to examine changes in the child's location relative to the peer in epochs following peer aggression.

Reliability. Two coders were involved in the scoring of the play data. The coders trained to reliability by working together on 10% of the videotaped sessions, and independently scoring an additional 10% of the videotapes for the purpose of calculating reliability. Cohen's kappa was calculated for both major play behaviors and proximity for the 10 percent of videotapes coded by both coders. Mean Cohen's kappa for the major behaviors was .78 (range from .72 to .90) for play behaviors and .94 (range .84 to .98) for proximity. Correlations were conducted for the frequency behaviors across coders. Correlations ranged from 1.00 for instrumental aggression to .72 for hostile aggression.

Responses to Aggressive Acts. To examine the pattern of responses of children to aggressive acts, the partner's ten-sec interval immediately following the aggressive act of an initiator was examined and classified along two dimensions: proximity and play. A determination of change versus no change was used to characterize responding on each dimension. The type of change was also noted. For proximity, this meant characterizing the child as moving away from the peer to be in proximity to no one or to the mother. For the play behavior, this meant characterizing the change to some other type of social play, some other type of solitary play, noncooperative play, or to interacting with mom. In addition, whether the child engaged in a retaliatory aggressive act in response was also noted. For example, if one child engaged in a stop action while the partner was engaged in simple social play and in the next 10-sec interval the victim moved away from the aggressive peer and began to interact with the mother, but did not respond aggressively to the peer's aggressive act, then the proximity was scored as a change (toward mother), the play was scored as a change (toward interaction with mother) and aggression was scored as none.

Table 1.

Behaviors Recorded as Proportion of Time During Dyad Interactions

CODE	DEFINITION	EXAMPLE
ANTISOCIAL BEHAVIORS		
Noncooperative Play	Interacts with the other child, physically or verbally in a negative, nonsocial or uncooperative manner.	The target child tries to avoid and keep a toy away from the persistent non-target child.
SOCIAL BEHAVIORS		
Cooperative Play	Engages in the same activity as the other child and takes turns or responds positively or contingently.	The children play with a pop-up toy together, with one child pushing all the buttons to open compartments while the other child then shuts all the compartments again.
Simple Social Play	Talks, smiles or plays with the other child without sharing a goal or taking turns with other child.	While playing with plastic kitchenware, the target child smiles and offers dishes to the other child while maintaining an independent play area.
Parallel Play	Engages in the same or similar activity and is proximal to the other child, but is not interacting with the other child in any manner.	The two children sit near each other playing with kitchenware without talking to each other or exchanging toys.
Social Active Play	Engages in play with the other child in a physically active manner.	The children chase each other around the room.
Nonproximal Aware	Maintains eye contact with the other child from a distance.	The children "check-out" each other from a distance without making any social approach, but not avoiding eye contact.
NONSOCIAL BEHAVIORS		
Reticent Behavior	Observes the activity of the other child without being involved (onlooking), OR maintains a lack of focus or intent towards any person, thing or activity (unoccupied).	The target child stares at the non-target child who is playing alone on the far side of the room OR the target child walks around the room slowly looking briefly at many toys or posters around the room.
Solitary Passive Play	Engages in quiet constructive or exploratory play without interacting with anyone else or being in proximity to peer.	The target child plays alone with blocks in the corner of the room without talking or being near anyone.
Solitary Active Play	Engages in physically active play without interacting with anyone else or being in proximity to peer.	The target child rolls across the floor for several feet by himself.
Interact with Mom	Talks or plays with the mother.	The target child carries some plastic dishes over to his mother and pretends to make her a meal, offering several dishes which she accepts.

Note. These codes are mutually exclusive from each other and indicate the major behavior seen during a 10 sec epoch. These behaviors can be coded in conjunction with any multiple frequency behaviors (Table 2).

Table 2.

Behaviors Recorded as Frequency of Occurrence During Dyad Interactions

CODE	DEFINITION	EXAMPLE
ANTISOCIAL BEHAVIORS		
Stop Action	Knowingly stops the actions of the other child without being obviously aggressive.	When the non-target child's mother suggests that he plays with a toy, the target child, who was attending to the conversation, runs over and grabs the same toy.
Instrumental Aggression	Physically expresses anger in an effort to secure a toy from the other child.	The target child grabs a toy that the other child is playing with and aggressively pulls it from the other child's hand.
Hostile Aggression	Physically harms the other child for no reason except to express some negative emotion.	The target child hits the other child on the back and then walks away.
Rejection of Peer	Turns away from a clear social initiation from the other child, or verbally or nonverbally indicates to the other child that she no longer wishes to play together.	After the non-target child offers a toy to the target child, the target child turns away and continues to play alone with the toy she has.
Verbal Aggression	Expresses displeasure towards the other child verbally only.	When the non-target child tries to join the target child on the teeter-totter, the target child yells, "No, it is mine!"
SOCIAL BEHAVIORS		
Conversation	Attempts to communicate with the other child verbally or is clearly listening and responding to the other child's conversation.	While playing together with the plastic kitchenware, the children begin discussing what kind of food and drink they are making.
Social Initiation	Attempts to join the other child's solitary activity or play by offering toys, starting a conversation or starts playing with the same toy.	The target child sits near the other child, who is playing alone with a toy bus. The target child then picks up a passenger for the bus and offers it to the other child.
NONSOCIAL BEHAVIORS		
Approach Mom	Approaches mom with the direct intention of interacting for comfort, help or play.	The target child approaches her mom and tells the mother that the other child has a toy that the target child wants.

RESULTS

To address the questions posed earlier regarding the social behaviors of children with early-parent-identified behavior problems, several analyses were conducted. Each of these analyses involved using repeated measures ANOVA's to evaluate group differences in clusters of types of behaviors (nonsocial, asocial and social) across the four different tasks. A second set of analyses examined the pattem of social behavior of children who were aggressive during the laboratory session and the effects of their aggressive behavior on the dyad partner. In addition, because the

groups were matched on race and sex of child, these factors were not considered in the present report. However, exploratory analyses including both factors, first using sex and risk group and then using race and risk group, did not reveal a pattern of results that differed significantly from that which is reported below.

It should be noted that the analysis of dyadic interaction data typically poses the problem that one individual's behavior drives another individual's behavior. Often this difficulty is dealt with by treating the dyad as the unit of analysis. We opted not to do this for three reasons. First, given the small sample size, this approach would have reduced the power to identify complex interaction effects. Second, the dyad analysis would obscure the individual differences we were attempting to identify. Third, in the current paradigm, the dyads were carefully matched so that each dyad was similarly composed, thus equalizing across dyads the potential effect of one child's behavior on another child.

A. Social interactive behaviors of parent-identified problem children versus low risk children Risk group differences in types of antisocial behaviors. To address the question of whether the high risk children would display more peer-directed antisocial behavior in the laboratory play sessions and to examine whether they would engage in a particular type of aggressive behavior more than other types and in particular contexts, we conducted a repeated measures ANOVA examining the frequencies of the five types of aggressive behavior (stop action, instrumental aggression, hostile aggression, rejection of peer, and verbal aggression) across the four tasks. For the three tasks following freeplay (cooperation, structured play and freeplay with limited resources), the frequencies were adjusted by multiplying by a constant of 2.5 in order to make the four tasks time equivalent. Means for these five measures across the four tasks appear in Table 3.

Of primary interest in this analysis was the group main effect and the group, task and type interactions. The analysis revealed a main effect for group, $F(1,46) = 4.75$, $p < .05$, but no interaction effects (of type or task) involving risk group. Across all four tasks and all five types of aggressive behavior, high risk children displayed more antisocial behavior than did low risk children. This effect, using the adjusted frequencies and summing across the five types of aggressive behaviors, is depicted in Figure 1.

In addition to the group main effect, there was a main effect for type of aggression ($p < .001$) and task ($p < .001$), and a type by task interaction ($p < .001$). As Table 3 and Figure 1 indicate, across both groups of children, aggressive acts increased across the four play periods, and stop action was the most common type of aggressive behavior, particularly during the final freeplay.

The second analysis of antisocial behavior examined the proportion of time spent in noncooperative play (for the majority of a 10 sec epoch) across the four tasks by the two

Table 3.

Descriptive Statistics (Frequencies) for Antisocial Play Categories for Low Versus High Risk Children

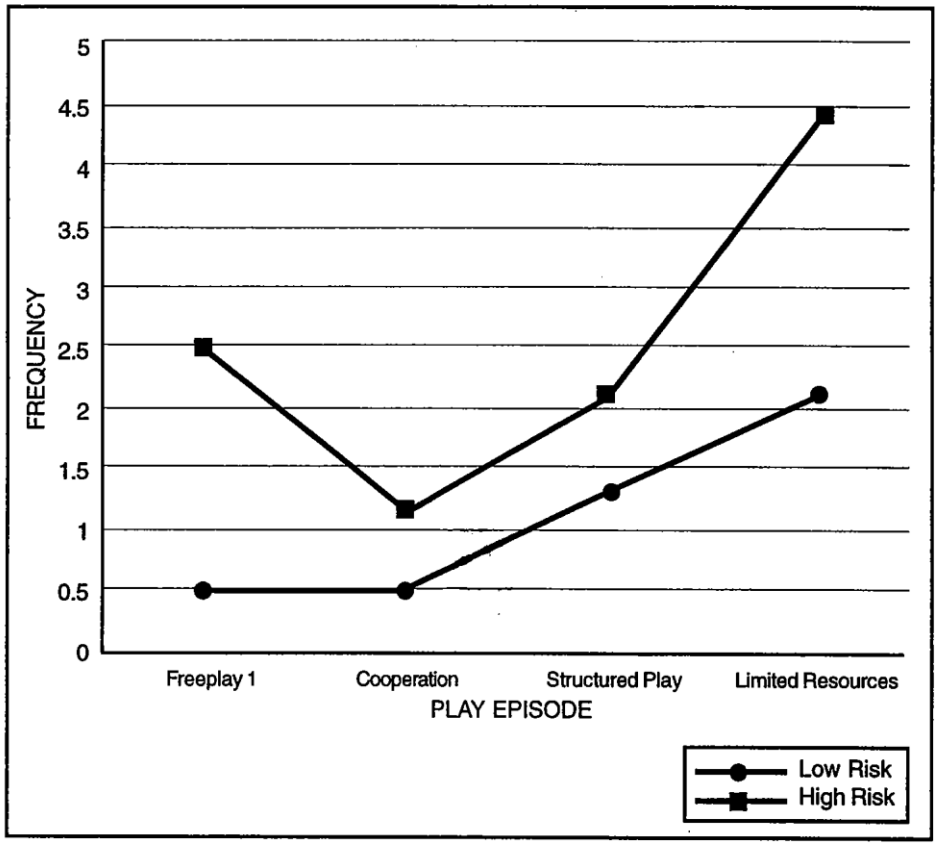
		Low Risk		High Risk	
		M	SD	M	SD
FREEPLAY 1	Stop Action	.33	.76	.88	1.33
	Instrumental Aggression	.00	.00	.50	1.44
	Hostile Aggression	.00	.00	.04	.20
	Rejection of Peer	.13	.45	.17	.48
	Verbal Aggression	.04	.20	.67	2.10
COOPERATION	Stop Action	.10	.51	.42	1.12
	Instrumental Aggression	.10	.51	.31	1.12
	Hostile Aggression	.10	.51	.31	.51
	Rejection of Peer	.10	.51	.00	.00
	Verbal Aggression	.10	.51	.10	.51
STRUCTURED PLAY	Stop Action	1.04	2.54	.63	1.53
	Instrumental Aggression	.00	.00	.42	1.20
	Hostile Aggression	.10	.51	.42	2.04
	Rejection of Peer	.10	.51	.21	1.02
	Verbal Aggression	.10	.51	.42	1.59
FREEPLAY 2– LIMITED RESOURCES	Stop Action	1.25	2.21	2.19	2.98
	Instrumental Aggression	.21	.71	.73	1.56
	Hostile Aggression	.10	.51	.00	.00
	Rejection of Peer	.31	1.12	.10	.51
	Verbal Aggression	.21	.71	1.35	2.44

groups of children. This repeated measures ANOVA revealed no significant group or group x task effects. Means for these measures by group were .02, .03, .03 and .07 for the low risk group for the four tasks (freeplay, cooperation, structured play, and freeplay with limited resources) versus .03, .02, .05, and .09 for the high risk children.

Risk group differences in types of social behaviors. To address the question of whether the high risk children would display more or less peer-directed social behavior in the laboratory play sessions, we conducted a repeated measures ANOVA examining the frequencies of the two types of social behavior (conversational turns, social approaches)

Figure 1.

Total aggressive acts (adjusted frequencies) across four play episodes by risk group (high versus low).



across the four tasks using adjusted frequencies for the cooperation, structured play and freeplay with limited resources. Of primary interest in this analysis was the group main effect and the group, task and type interactions. There were no group differences across type or task, nor were there any interaction effects involving risk group. Means for these two measures across the four tasks appear in Table 4.The second analysis of social behavior examined the proportion of time spent in types of social play (simple, cooperative, parallel, non-proximal aware, and social active play) across the four tasks by the 2 groups of children. This analysis revealed no significant group or group x task effects. Means for these measures by group are presented in Table 4.

Table 4.

Descriptive Statistics (Proportion of Time and Frequencies) for Social Play Categories for Low Versus High Risk Children

		Low Risk		High Risk	
		M	SD	M	SD
FREEPLAY 1	Cooperative Social Play	.00	.01	.00	.02
	Simple Social Play	.17	.17	.15	.16
	Parallel Play	.19	.14	.20	.19
	Social Active Play	.00	.00	.00	.00
	Nonproximal	.00	.01	.00	.01
	Conversation	4.96	8.97	4.33	6.60
	Social Initiation	1.17	1.24	1.29	2.05
COOPERATION	Cooperative Social Play	.24	.26	.25	.26
	Simple Social Play	.26	.22	.25	.22
	Parallel Play	.08	.10	.09	.15
	Social Active Play	.00	.02	.00	.01
	Nonproximal	.00	.01	.01	.03
	Conversation	4.17	4.84	3.21	4.76
	Social Initiation	.42	1.24	.13	.45
STRUCTURED PLAY	Cooperative Social Play	.00	.00	.00	.00
	Simple Social Play	.27	.23	.29	.25
	Parallel Play	.26	.19	.26	.17
	Social Active Play	.00	.00	.00	.00
	Nonproximal	.01	.02	.00	.01
	Conversation	5.38	5.24	5.64	5.25
	Social Initiation	.29	.46	.46	.59
FREEPLAY 2– LIMITED RESOURCES	Cooperative Social Play	.00	.02	.00	.00
	Simple Social Play	.34	.18	.28	.22
	Parallel Play	.22	.21	.31	.23
	Social Active Play	.00	.00	.00	.00
	Nonproximal	.00	.00	.00	.00
	Conversation	2.12	2.71	2.08	1.67
	Social Initiation	.13	.45	.13	.34

Risk group differences in types of nonsocial behaviors. To address the question of whether the high risk children would display more or less nonsocial behavior in the laboratory play sessions, we conducted a repeated measures ANOVA examining the proportion of time the child spent in the four types of nonsocial behavior (reticent, solitary passive, solitary active, and interaction with Mom) across the four tasks. There were no group differences across type or task, nor were there any interaction effects involving risk group. Means for these two measures across the four tasks appear in Table 5.

Table 5.

Descriptive Statistics (Proportion of Time) for Nonsocial Play Categories for Low Versus High Risk Children

		Low Risk		High Risk	
		M	SD	M	SD
FREEPLAY 1	Reticence	.11	.12	.09	.15
	Solitary Passive	.37	.22	.37	.22
	Solitary Active	.00	.00	.00	.00
	Interact with Mother	.09	.10	.09	.10
COOPERATION	Reticence	.04	.06	.07	.12
	Solitary Passive	.14	.19	.06	.10
	Solitary Active	.01	.02	.02	.06
	Interact with Mother	.16	.15	.17	.23
STRUCTURED PLAY	Reticence	.05	.09	.05	.08
	Solitary Passive	.14	.22	.15	.20
	Solitary Active	.02	.07	.01	.03
	Interact with Mother	.18	.19	.15	.16
FREEPLAY 2– LIMITED RESOURCES	Reticence	.07	.09	.04	.08
	Solitary Passive	.13	.21	.13	.17
	Solitary Active	.02	.07	.00	.01
	Interact with Mother	.13	.13	.09	.14

No differences between the two groups were found on the measure of approach mother. Finally, a repeated measures ANOVA of social proximity (to Mom, peer, no one or peer and Mom) also revealed no group differences or group by task or type interactions.

B. Aggression in the laboratory

Differences between aggressive toddlers and nonaggressive toddlers. To identify children whose behavior in the laboratory play session could be characterized as aggressive, the distribution of total aggression scores (the sum of the unadjusted aggression frequencies across the five types of aggressive behaviors and the four tasks) was examined. This distribution revealed that 25% of the sample displayed no aggressive acts across the four tasks, 50% displayed between 1 and 5 aggressive acts, and 25% displayed 6 or more aggressive acts. Based on this distribution, the children were classified as low, average and high aggressive. The characteristics of these groups (sex, race, and CBCL problem group status) are presented in Table 6.

Table 6.

Characteristics of Low, Average, and High Aggressive Children
(Based on Laboratory Aggression)

	AGGRESSION GROUP		
	Low	Average	High
LOW RISK	5	16	3
HIGH RISK	7	7	10*
MALE	6	12	10
FEMALE	6	11	3
CAUCASIAN	9	16	9
A.A.	3	7	4

* $p < .02$

As the Table indicates, there was no significant association between laboratory aggression group and race or sex. As expected, there was a significant association between risk group status and laboratory aggression group, $r(2) = 7.62$, $p < .01$. Children who were members of the high aggression group were likely to be rated by parents as displaying externalizing behavior problems.

The three groups of children were compared in terms of social, nonsocial and proximity behaviors using a repeated measures ANOVA strategy identical to that which is described above. No differences emerged among the three groups on any of the measures of social initiation or types of social behavior. This analysis revealed a significant interaction between group and type of nonsocial behavior, $F(6, 135) = 2.46$, $p < .05$ with low aggressive children displaying significantly more reticence than either of the other two groups, $F(2,45) = 4.39p < .01$. No other differences among the three groups emerged on the measures of solitary behavior. No differences emerged among the three groups in terms of measures of social proximity.

A second analysis examined whether the aggressive behavior observed among high aggressive children would reflect the fact that the child was a member of an aggressive dyad, rather than simply that the child was highly aggressive. We examined the dyad pairs that contained a highly aggressive child ($n = 13$). In no case were these children paired with a child also displaying high aggression. Rather, the partners of high aggressive children were statistically equally likely to be paired with a low ($n = 4$) or average child ($n = 9$).

Response of the dyad partner to aggressive acts. To address the question of what effect aggression has on the peer victim, we identified the 13 partners of the 13 highly aggressive children. The proximity, play and aggressive responses of these children were examined using paired t-tests comparing proportion of responses that involved a change versus no change, and comparisons of the types of change. These responses are presented in Table 7.

Table 7.

Responses of Nonaggressive Dyad Partners to Aggressive Acts of High Agression Children (Proportions)

	No Change			Change	
	M	SD		M	SD
PROXIMITY	.62	.29		.38	.29
			Mother	.25	.30
			No One	.13	.10
PLAY BEHAVIOR	.31	.21		.68	.21*
			Noncooperative	.35	.24
			Interact with Mother	.22	.31
			Solitary Passive	.11	.12
	No Retaliatory Aggression			Retaliatory Aggression	
AGGRESSION	.94	.27		.06	.32***

*** $p < .001$; * $p < .01$

As Table 7 indicates, there was no significant difference in the proportion of victim responses that involved maintaining proximity to the peer versus changing the proximity. However, as the table also indicates, the victim was likely to change the activity in which he or she was engaged, $t(12) = 3.04$, $p < .01$. There was no significant difference in terms of the type of activity they were likely to change to (noncooperative play versus solitary passive play versus interaction with Mother). In addition, victims were highly unlikely to respond to an act of aggression with a retaliatory aggressive act, $t(12) = 8.12$, $p < .001$.

DISCUSSION

The goal of this study was to examine the social behavior of two-year-old children with early parent-identified externalizing behavior problems, in comparison to two-year- old children not displaying such problems. It was hypothesized that these young children would show deficits in their social behavior such that they would engage in more aggression and less cooperative social behavior, less conversation and less social initiations, and more solitary active play. It was also hypothesized that the responses to their behavior would be characterized by early signs of rejection--including a propensity on the part of the victim to retreat to the safety of the mother. The data indicate that there is partial support for the notion that children with early-onset externalizing problems display deficits in social skills, and that these socially-problematic behaviors are responded to by peers.

The most significant finding from this study of problem toddlers is that they displayed more aggressive behavior toward peers across a variety of structured and unstructured tasks. Across all children in the study, there were task differences in the amount of aggression displayed in different situations, with aggression increasing over the course of the play session and there were type differences, with children displaying relatively more stop action behavior, regardless of

problem group status. However, the high risk children could only be distinguished from low risk children in terms of the overall amount of aggression displayed. Although such a finding is not surprising given that several items on the Child Behavior Checklist explicitly ask parents to rate the frequency of aggressive acts directed at others, it does confirm that parents are rating their children on a dimension of problematic behavior that transcends the family environment and the parent-child relationship. That is, whether problematic behavior emerges as a consequence of relationship difficulties is largely irrelevant when these problems begin to distinguish children from others in the peer setting. Presumably, if we can observe a significantly different pattern of behavior in the laboratory on one relatively brief occasion, such differences will be readily apparent in the childcare or preschool setting.

In contrast to the differences that emerged between risk groups in terms of aggressive acts, there was no difference in the amount of noncooperative behavior. This lack of a group difference may have reflected the fact that to be engaged in noncooperative behavior, both partners had to be involved. Data on children's responses to negative behaviors on the part of the partner, to be discussed in greater detail below, suggest that often aggressive acts are not escalated by the peer, thus decreasing the likelihood that the dyad will interact reciprocally, but noncooperatively.

Despite efforts to utilize a coding system that allowed quantification of both periods of time the children engaged in types of social behaviors, as well as discrete behaviors that would be indicative of social competence, no group differences emerged on indices of social competence. One problem may be that the base rates for some of the behaviors (notably social initiation and cooperative behavior) were quite low. This is likely due to the young age of the subjects. Although early signs of social competence and social skills are emerging during this period, they may be either fleeting or simply low occurring. Eckerman and colleagues (Eckerman et al.,1975) examined the emergence of social play using a cross-sectional sample of children and found that over the course of the second year of life, social play increased to the point where it exceeded the time children spent in solitary play. However, mere social interaction with a peer may or may not include cooperative social play, a hallmark of the third year of life. Howes (1988) studied the development of social competence in children with early out-of-home childcare experiences and found that, although complimentary and reciprocal play emerges during the third year of life, it did not comprise a majority of children's play with peers. Eckerman & Stein (1982) observed that cooperative play among two-year-olds is relatively infrequent, and some dyads of children may never engage in such play. In short, although two-year-olds may have considerable skill in some aspects of cooperative play, and although such skills enable a child to engage in a form of play that allows for further opportunities for social and cognitive development, this form of play may emerge over the course of the preschool years (Eckerman & Didow, 1989; Howes, 1988), thus making it difficult to identify individual difference in children at age two and one half. A complimentary explanation is that peer unfamiliarity may be playing a role here as well (Brownell & Brown, 1992).

The other issue to consider when examining the null finding regarding differences in social behaviors of high and low risk toddlers is that they simply are not displaying, as yet, obvious problems in social skill development, as indexed by positive behaviors, but are showing only difficulties controlling aversive behaviors. One can imagine a process by which early undercontrolled behavior will result in rejection by peers and consequently, limited exposure to

the peer group for the acquisition of more sophisticated and more subtle social skills. Both situations--missed opportunities for social play and rejection-- will likely have very serious consequences for later adjustment. It is important to consider, as well, that very young children's aggressive behavior may reflect inept social approach or initiation, as much as dysregulated emotion. Such conclusions have clear implications for intervention. If the rate of aggressive behavior toward peers can be decreased among these children, perhaps the developmental trajectory toward peer rejection can be altered.

The final set of analyses of problem toddlers' social behaviors concerned the tendency to display particular types of nonsocial behaviors. These types of behaviors included types of solitary play (reticent, passive and active) as well as interactions with mother that would, by definition, preclude interactions with peers. No differences between the high and low risk children were apparent in terms of types of solitary behaviors. These children are no more likely to be displaying anxious solitude nor active, out-of-control solitude. There was very little solitary active play, which may explain why expected differences did not emerge. Alternatively, high risk children may be at high risk for aggression in social situations because they engage in more approach behaviors, and not more solitary behavior of any type. In fact, one interpretation of the aggressive behavior is that it represents inept social approach.

The study also addressed a second set of questions regarding the immediate effects of aggressive acts on the victim. To examine this issue, we identified the most aggressive children, based on the laboratory play sessions. Thirteen children, representing 25% of the sample, were selected. Although 25% may seem a relatively large proportion of the sample to be identified as highly aggressive, it is an appropriate cut-off to use when the sample itself is selected to consist of 50% high risk children. The first analysis confirmed that these children were highly likely to have been members of the high risk group.

However, this analysis also revealed that the high risk children were not all displaying aggression in the laboratory. In addition, we observed that the aggressive children were always paired with a non-aggressive child. Although this was likely a consequence of the way the dyads were formed, even in the case of the three low risk highly aggressive children, there was not a tendency for their behavior to elicit highly aggressive behavior in their dyad partner.

In examining the response of the dyad partner to the aggressive behavior, we noted an interesting pattern of responses on the part of the victim. Across the 13 partners of the highly aggressive toddlers, the response was likely to include a change in play activity, but not a change in proximity. Movement away from the peer was not the most common response. An example of this kind of response follows:

> Philip approached Michael during the first freeplay after engaging in onlooking. Michael had most of the toys around him. Philip reached into the toy bus to remove a play figure. Michael was not playing with the bus, but grabbed the figure from Philip and said angrily," No! No, that's mine!" Philip stopped playing and onlooked from a proximal position for 10 sec, then attempted to play again. Michael responded with verbal aggression. Philip then continued to onlook from a proximal position for the next two min., during which time Michael would occasionally look up and speak to him.

This pattern suggests that the response of the victim may, in fact, be rather subtle, and as a consequence, may go unnoticed by the aggressive child. The fact that aggression was not met with aggression replicates a finding from Olson's (1992) study in which she observed that, early in the school year, when children were unfamiliar with one another, aggression was rarely retaliated. Later in the year, however, aggressive children were highly likely to be responded to in kind, and were often the victims themselves. Both sets of data suggest that one reason for the stability of early aggression is that it is either reinforced by complacency on the part of the relatively unskilled toddler victim, or that relevant negative or rejecting cues are too subtle for the aggressor to notice. As the problem behavioral style continues to be displayed in the peer setting, it may become resistant to change, such that when the cues become more obvious, the behaviors that elicit them have become more extreme and more frequent.

This study adds to our understanding of early problematic behavior. Two research questions have emerged as a consequence of the recent interest in the development of these sorts of problems: what is the etiology of these types of behavior problems and what are the likely consequences of displaying such problems early in development? The first question has motivated a number of researchers to examine the correlates of externalizing behavior in an effort to identify potential causal factors and developmental precursors (Campbell, 1990; 1995; Shaw, Keenan & Vondra, 1994). The second question has also stimulated a great deal of research, most of which has focused on the stability of externalizing problems more generally and other work that has examined the multiple developmental outcomes that may be associated with early problems (Campbell, 1995; Shaw, Owens, Vondra, Keenan & Winslow, 1996). Our data suggest that one important component of the outcome for these children is the early peer experience, and in particular, the response of peers, and others as well, to aversive, aggressive behavior.

There are some clear limitations to this study that must be acknowledged. First, it is difficult to know how representative these behaviors are of the child's typical behavior. The data are generated by a small sample in one brief laboratory visit with an unfamiliar peer, thus limiting their generalizability to other situations, such as the typical peer environment. Second, there were a large number of null findings that still leave unanswered the question of how early problematic and undercontrolled behavior inhibits the development of positive and appropriate social skills and social competence. Future work should consider which behaviors may be the precursors of social competence in the toddler years.

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