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A Longitudinal Intervention Study to Reduce Aggression by Children Ages 4-11

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Abstract:

Our objective was the early identification, assessment and treatment of aggression by primary school children four to eleven years old, with the goal of preventing school expulsion. The children were identified by teachers and other professionals for their aggressive behavior. Children were assessed for five symptoms which are linked to the development and persistence of social and/or physical aggressive behaviors: inattention, hyperactivity, anxiety, poor social functioning, and oppositional behavior. Long term follow-up continued for up to 9 years. Conners' Scales for parents and teachers were used to assess the severity of predisposing symptoms and emotional lability. The children were treated with psychosocial and pharmacological interventions by social workers and a physician, in addition to utilizing community and school resources. Teachers reported a reduction in some of the predisposing symptoms: hyperactivity, emotional lability, oppositionality, and improved social functioning. Parents reported improvements in all five of the children's physically aggressive behaviors. Early intervention for children's aggressive behaviors was found to be effective. None of the children in the study were expelled from school.

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Introduction

Contemporary tragic events reported in the news over the past few years involving adolescents' aggression have spawned public interest into these individuals' childhood histories of aggression. Recently reported cases demonstrate histories of overtly aggressive children. The Oxford Dictionary defines aggression as "a hostile violent behavior or attitude towards another, or readiness to attack or confront"(1)

This study was devised in 2001 after an educational edict from the Government of Ontario that prohibited student aggression with a mandatory removal of students from schools. Using a multidisciplinary approach, the authors intended to study the situation and recommend early identification and proactive response to childhood aggression. Children were identified for the study based on their overt verbal or physical aggression. The children received professional medical and social work assessments and recommendations for interventions from resources available in our community. The goal was to treat the children and prevent their aggressive behavior from resulting in expulsion from school.

Literature

A selection of works that were integral to the design rationale and implementation of the study are discussed here.

Valla and Bergeron (2) assessed a number of four and five year-olds concluding that half of them had significant psychopathology. Although some aggressive behaviors are considered developmentally normal in children ages two to four, these behaviors usually subside in the first years of schooling (3). During early school years, most children are able to develop more effective ways of coping with stressful situations.

Tremblay and colleagues (4) in the Montreal Prevention Experiment identified five risk factors which contribute to the development of aggressive behaviors: inattention, hyperactivity, anxiety, poor social skills, and oppositional behavior. They also described a group of aggressive behaviors that may be observed in children who have the five risk factors: flies off handle, is disobedient, will not share, blames others, is inconsiderate, is not liked by others, lies, bullies, threatens, fights, kicks/bites/hits, or destroys property. They identified and treated a number of primary school children who had the five risk symptoms with associated aggressive behaviors and reported a significant reduction in the emergence of conduct disorder when the children became adolescents.

Shamsie and Hluchy (5) described the longitudinal course of antisocial behavior. They reported that one-time interventions were not effective. They recommended providing long-term treatments and making adjustments to the treatment when the children meet specific developmental milestones.

Frazier's chapter in Pediatric Psychopharmacology Principles and Practice is representative of the literature on the psychopharmacology of aggression in children (6). According to Honaker and Lohr there were no significant changes in pharmacological therapy during the period of the study (7).

Other works have relevance to the topic. Children who demonstrate aggressive behaviors in early school years and who do not receive intervention will likely show increases in rates and severity of disruptive behaviors throughout childhood and adolescence (8). The preschool years in children's development are the ones in which children learn to "inhibit physical

aggression (therefore) this period of life may be the most appropriate for preventive interventions" benefiting the child, family and society (9). Without early identification and treatment, children who exhibit aggressive behaviors and who do not receive help are likely to have these behaviors entrenched by age eight (10). August describes a prevention program called Early Risers which successfully changed the social development of children exhibiting early-onset aggressive behaviors. After two years of program involvement, positive changes were noted in academic achievement and social behaviors relative to controls. Improved parental discipline methods were related to program attendance. (11) Mytton et al. conducted a meta-analysis of 44 randomized controlled trials designed to treat elementary and high school children at risk for disruptive behaviors. Although they found that school based violence programs reduced aggressive behaviors, they conclude that larger trials need to be conducted to corroborate the findings. (12). Smith et al. describe how high-risk youth and their families were invited to participate in a school based project. Students were identified by teachers for inclusion in the project and practice approaches and procedures utilized to reduce children's violence and aggression are explored. The intervention was a series over a 15 week period of multiple family group meetings (e.g. 4-6 families per group) addressing parenting practices such as discipline, monitoring, family relationship characteristics such as communication, support, and cohesion. Results showed promise. (13).

Methods

The study was designed as a longitudinal study which ran for nine years. The study was open to children aged 4 to age 11 in the school year. We assessed 42 children - 38 boys and 4 girls – with an initial assessment at admission starting in September 2001 (Time 1) and a final assessment in October 2006 (Time 2). The children were then followed and treatment monitored until June 2010. Fifteen families dropped out of the project after initial assessments were completed. 3 girls and 24 boys completed the study. At admission the age range of the children was from 3 years 8 months to 7 years 6 months.

We admitted children from junior kindergarten to grade six from primary schools in Waterloo County. These children were referred by school principals or family doctors because the children were exhibiting aggressive behavior. When we discussed developing this program with school principals they all insisted kindergarten children be included. Parents signed consent forms approved by the Research Ethics Board of Wilfrid Laurier University agreeing to their child's participation in the program.

On admission to the program (Time 1) all of the children and families received a psychiatric assessment, with diagnosis and medical treatment, from a Paediatrician specializing in child psychiatry, and family and play assessments and therapies conducted by a Professor of Social Work who also supervised Master of Social Work Students in continuing therapy sessions.

The Diagnostic and Statistical Measures-IV (14) was used as the guide for the diagnosis of specific psychiatric syndromes. We also assessed levels of Tremblay et al.'s (1996) High Risk Factors and Emotional Lability Using Conners' Parent and Teacher Rating Scales - Revised (L) (15).

In addition to scales for Attention Deficit and Hyperactivity Disorder, Conners' Scales (1997) have scales for non-specific hyperactivity, anxiety, poor social

functioning, and oppositional behavior. We used these four scales, and the scale for inattention, to obtain quantitative data regarding Tremblay et al.'s five risk symptoms in each child. The Conners' Scales were completed when the child entered the project (Time 1), and again at the conclusion (Time 2). The Conners' Scales provided T scores to measure the severity of the high risk symptoms (Table 1). We also used Conners' Scales to obtain the T scores for emotional lability, as emotional dysregulation is a significant component of children's aggressive behavior.

mentioned above, reported by Tremblay et al., (1996) and added swearing to this list making a total of thirteen aggressive behaviors. We subdivided the symptoms of aggressive behavior as either social (relational) aggression or physical aggression. Social (relational) aggression included: flies off handle, disobedience, won't share, blames others, inconsiderate, not liked, lies, and swears. Physical aggression included: bullying, threatening, fighting, hits/kicks/bites, destroys property. The parents were asked to report on the presence or absence of each aggressive behavior in their child. This

Table 1: Participant Demographics

Total number of children referred	45
Total number of children assessed between September 2001 and June 2006	42
Dropouts during study	18
Male children referred	40
Female children referred	5
Male children studied 2001-2006	24
Female children studied 2001-2006	3
Age Range of children at admission	3 2/3-7 ½

Prior to the child receiving treatment the parents completed a questionnaire for the presence or absence of the aggressive behaviors described by Tremblay et al. (16). We utilized a list of 12 aggressive behaviors

provided us with simple descriptive data regarding their children's aggressiveness at Time 1, when the children were admitted to the program, and Time 2 following interventions. The percentage of children with each of the aggressive behaviors at Time 1 and Time 2 was

Table 2: Medication

Number of children on medication	23/27
Ritalin	13
Concerta	7
Dexedrine	13
Adderall XR	1
Strattera	2
Risperidone	2
Seroquel	1
Paxil	1
Clonidine	2

determined, and these results and the statistical analysis which was done on the data are presented later in this paper. P and t values are only reported for significant changes in risk factors or aggressive behaviors.

Non-directive play therapy (17) and family assessments (18) were provided by supervised social work students. We referred children and families to resources in school boards and community agencies who then utilized interventions which they thought were appropriate for specific cases. We offered parents training in the collaborative problem-solving skills described in Dr. Ross Greene's technique of Collaborative Problem Solving (19). Only about half of the families were willing to participate in this problem-solving, six-week program.

Interventions were provided up until June 2010 although no more children were accepted into the program after October 2006. We were interested in whether our interventions would eliminate the risk factors, as well as the aggressive behaviors, or whether the five risk factors would persist, and continue to either precipitate or perpetuate aggressive behaviors in the children we were following.

After the initial medical diagnosis children were seen weekly by the doctor for prescription of medications if needed, and adjustment to doses, until the doses were effective, and then seen on a monthly basis. Doses of medication recommended in the literature we reviewed were prescribed and adjusted to the individual.

Family and Play Therapy

Family and Play Therapy Assessments with the parents and children were conducted by a Professor of Social Work and followed-up by weekly sessions with Master of Social Work Students. All of the children experienced difficulties in identifying, expressing and controlling emotions as the emotions swept them up in the play situations. The theme of death arose in almost every case as the therapist died in play sessions by actions of snakes, sharks, alligators, or a poisoned cup of tea. Children were overly aggressive in play and relished the demise of the therapist. It was learned that all the children had experienced a significant loss through death, divorce, separation, etc., and had little to no opportunity to express their emotions within the family context. All of the children were angry with adult caregivers. Their play themes included hacking and cutting of caregivers in play situations. Most children had mistreated animals or acted aggressively towards smaller siblings. No child was identified with a specific DSM diagnosis prior to our assessment.

Table 3. Psychotherapies

Children having regular sessions with assessment team	27
Children referred to Community Agencies	7
Children seen in school meetings by School Behavior Intervention Team	30
Ross Greene group sessions for parents	12
Private Psychologist	2

Interventions and Treatment

Medical Treatment

Emotional regulation is the process in a child's development of identifying feelings and emotions, and learning healthy ways to express these emotions to others. Children learn emotional regulation from significant adults and peers who can modify children's emotional expressions by responding to the children's affective communications. Although the research team empathized with parents, some were observed to be emotionally unavailable and unable to help their children cope with their feelings. We uncovered a process of "Diminished Parental Attending of Emotions" to their children's emotional needs. Parents were not helping children to identify feelings or were not assisting them to express feelings appropriately within the family, or in school and social contexts. However, some parents were over-involved in the child's expressions of emotions. Although these opposite parental involvements seem far removed, the extremes yielded strikingly similar results in terms of the children's inabilities to express emotions freely. A child's identity is seen in his or her existence as an individual being - different from others in society. The family unit provides the child with an initial sense of belonging and a sense of oneness with others and feelings of safety within that unit. A child's identity emanates from belonging to a family unit where children watch, learn, mimic, copy, and apply behaviors and attitudes. Identity and regulation merge for children, and we see the results in their social responses. The children demonstrated distress in their social environments. The children's families missed the opportunities to assist the children in coping with everyday living situations and provide moderating influences for their socio-developmental needs. The parents were not available for emotional support, either because of stifling emotional involvement or lack of emotional involvement.

Community Resources

A crucial component of the project was the utilization of established programs that were already provided by the school boards and other mental health treatment resources in our community, so that help and

Table 4. Summary of specific psychiatric diagnoses from original cohort of 42 children assessed at Time 1

Attention Deficit Hyperactivity Disorder	31
Oppositional Defiant Disorder	32
Learning Disorder	8
Language Disorder Delay	3
Tic Disorder	1
Social Phobia	2
Separation Anxiety Disorder	1
Phobia of the Dark	1
Generalized Anxiety Disorder	1
Anxiety Disorder NOS	1
Conduct Disorder	1
Adjustment Disorder	1
Trichotillomania	1
Developmentally Challenged	2
Depression	3
Insomnia	1
Asperger's Syndrome	1

assistance could be continued for children with chronic problems after the project ended. School-based interventions included the provision of a teaching assistant, independent education plans, and/or programming in special classes. In some situations, usually when a child was already very aggressive, the team met with the child's parents, school staff, and other therapists, at the school, on a weekly-to-monthly basis, to discuss the child's progress and make changes in the child's treatment program based on current information. These meetings also helped all of us to see the student as a child with problems and not as a problem child.

Some of the children were referred to the outpatient mental health clinic at one of our community hospitals, where psychological and social work services were provided. Some other community mental health agencies, and both local and tertiary-care university-based mental health clinics, were also involved in offering assistance to some of our children and families.

DATA ANALYSIS: CLINICAL/QUANTITATIVE DATA

Clinical Data

Clinical data were gathered by the doctor and therapist from their own observations and discussions with the children, and verbal reports from parents and teachers as to the severity of symptoms and the effectiveness of medications and therapy in affecting the children's behaviors. Conners' scales were used to rate symptoms of the risk factors for aggression in a standardized form and also monitor symptoms of ADHD when relevant. The majority of the children were diagnosed with Attention Deficit and Hyperactivity Disorder and/or Oppositional Defiant Disorder. Cases of Depression, Anxiety Disorders, Learning Disorders, and Asperger's Syndrome were also identified.

Clinical treatment with stimulants, neuroleptics, antidepressants, and mood stabilizers was found to be very effective in controlling symptoms, particularly physical aggression.

Statistical Results

A statistical analysis was done to assess the changes in intensity of each of the high risk factors between Time 1 and Time 2, as reported by both the teachers and the parents who completed *Conners' Parent and Teacher Rating Scales-Revised (L*). Mean T scores and changes in mean T scores between Time 1 and Time 2 were reported for Tremblay et al's. five high risk symptoms. Standard Deviations were reported for these five factors as well. The proportion of the children displaying Tremblay et al's., (1996) list of aggressive behaviors described earlier, at Time 1 and Time 2 was also calculated. Only t values and p values which indicated significant changes are reported. The results are shown in Table 5 and described below.

Parents rated their children's anxiety as slightly, but significantly greater at Time 2 (M=61.38, SD=14.53), than at Time 1: (M = 54.19, SD = 9.76), t (27) = 2.09, p = 0.054). There were no significant differences between Time 1 and Time 2 scores for inattention, hyperactivity, poor social behavior, oppositional behavior or emotional lability. Teachers gave their students significantly lower scores in the domain of hyperactivity at Time 2 (M = 6500, SD = 13.11) compared to Time 1 (M = 72.94, SD = 11.76), t (27) = 2.55, p = 0.22. Teachers rated children as significantly lower in poor social behavior at Time 2 (M = 59.69, SD = 12.84) compared to Time 1 (M = 71.38, SD 19.97), t(27) = 2.55, p = 0.052. Participants were also rated by teachers as lower in oppositional behavior at Time 2 (M = 65.56, SD = 15.93) compared

Table 5. Comparing the changes in T scores for Risk Factors on the Conners' Screens completed by Parents and Teachers at Time 1 and Time 2

Risk Factor		Parents					Teachers				
		T1	T2	Change	t (27)	P	T1	T2	Change	t (27)	P
Inattention	M	71.75	70.94	-0.81			73.31	67	-6.31		
	SD	12.81	11.46	12.13			13.65	12.12	16.35		
Hyperactivity	M	73.75	70.74	-3.13			72.94	65	-7.94	2.55	0.022
	SD	9.84	11.78	16.66			11.76	13.11	12.44		
Anxiety	M	54.19	61.38	7.19	2.09	0.054	64.88	65.94	1.06		
	SD	9.76	14.53	13.78			11.49	12.36	13.31		
Poor Social Behavior	M	67.69	65.13	-2.5			71.38	59.69	-11.56	2.55	0.052
	SD	15.06	13.36	19.06			19.97	12.84	22.03		
Oppositional Behavior	M	74.06	69.75	-4.31			79	65.56	-13.44	2.11	0.007
	SD	10.43	10.71	12.25			11.84	15.93	17.22		
Emotional Lability	M	65.13	70.25	6.88			75.31	64.69	-9.13	2.44	0.028
	SD	14.3	15.36	14.99			12.74	15.96	18.3		

Change Scores (C) indicate the difference between Time 1 and Time 2

Positive numbers indicate an increase in scores from T1 to T2

Negative numbers indicate a decrease in scores from T1 to T2

to Time 1 (M = 79.00, SD = 11.83), t(27) = 2.11, p = 0.007. Participants were rated as displaying less emotional lability at Time 2 (M = 64.69, SD = 15.96) compared to Time 1 (M = 75.31, SD = 12.74), t (27) = 2.44, p = 0.028. There were no significant differences between Time 1 and Time 2 for inattention and anxiety. Both scores were rated as highly significant at Time 1. There was, however, a decline in the mean T score reported by teachers for inattention at Time 2 (M = 67.00, SD = 12.12) compared to Time 1 (M = 73.31, SD = 13.65), a change of - 6.3.

Reductions in Social (Relational) Aggression: Ratings by Parents (Tables 6 and 7)

Parents' reports for the eight specific symptoms of social (relational) aggressive behaviors at Time 1 and Time 2 indicate a significant reduction of only two socially aggressive behaviors: won't share, and inconsiderate behavior.

Won't Share: At Time 1, 25% of the children were sharing, and 75% were not sharing. At Time 2, 75% of children were sharing, 25% were not. T scores improved at Time 2 (M = 0.25, SD = 0.45) compared to Time 1 (M = 0.75, SD = 0.45), t(27) = 3.16, p = 0.006. Inconsiderate: At Time 1, 6% of the children were considerate, 94% were inconsiderate. At Time 2, 44% of children were considerate, 56% were. T scores improved at Time 2 (M = 0.56, SD = 0.51) compared to Time 1 (M = 0.94, SD = 0.25), t(27) = 2.42, p = 0.029.

There were no significant differences between scores at Times 1 and 2 for any of the other social aggression measures: flying off the handle, disobedience, blaming others, being disliked, lying and swearing.

Table 6. The Percentage of Children Displaying Changes in Sharing and Consideration Behaviors Time 1 and Time 2

Symptom	Time 1	Time 2
Sharing	0.25	0.75
Not Sharing	0.75	0.25
Considerate	0.06	0.44
Inconsiderate	0.94	0.56

Table 7. Comparing Time 1 and Time 2 Social (Relational) Aggression Ratings by Parents

Relational Aggression		Time 1	Time 2	t (27)	P
Flies off handle	M	0.75	0.69		
	SD	0.45	0.48		
Disobedient	M	0.75	0.56		
	SD	0.45	0.51		
Won't Share	M	0.75	0.25	3.16	0.006
	SD	0.45	0.45		
Blames Others	M	0.94	0.75		
	SD	0.25	0.45		
Inconsiderate	M	0.94	0.56	2.42	0.029
	SD	0.25	0.51		
Not Liked	M	0.63	0.5		
	SD	0.5	0.52		
Lies	M	0.63	0.44		
	SD	0.5	0.51		
Swears	M	0.44	0.5		
	SD	0.51	0.52		
Overall Average (number)	M	5.81	4.25	2.06	0.057
	SD	1.97	2.21		

Socially aggressive responses as rated by parents were dummy coded: 1 = Behavior occurred; 0 = Behavior did not occur

Reductions in Physical Aggression: Ratings by Parents (Tables 8 and 9)

The reports by the parents for any of the five specific symptoms of physical aggressive behaviors at Time 1 and Time 2 showed there was a significant reduction in all five of the physically aggressive behaviors. Bullying: At Time 1, 43.5% of the children were not bullying, 56.5% were bullying. At Time 2, 81.5% of children were not bullying, 18.5% were bullying. Participants were less likely to be bullies at Time 2 (M = 0.19, SD =

Table 8. The Percentage of Children Displaying Physical Aggressive Behavior at Time 1 and Time 2

Physical Aggression	Time 1	Time 2
Not Bullying	0.435	0.815
Bullying	0.565	0.185
Not Threatening	0.246	0.877
Threatening	0.754	0.123
Not Fighting	0.203	0.583
Fighting	0.797	41,7%
No Hitting, Kicking, Biting	0.313	0.814
Hitting, Kicking, Biting	0.687	0.186
Does not Destroy Property	0.433	0.754
Destroys Property	0.567	0.246

0.40) compared to Time 1 (M = 0.56, SD = 0.51), t(27) = 2.42, p = 0.029.

Threatening: At Time 1, 24.6% of the children were not threatening, and 75.4% were threatening. At Time 2, 87.7% of children were not threatening, 12.3% were threatening. None of the students who did not threaten others at Time 1 threatened others at Time 2. They were less likely to threaten others at Time 2 (M = 0.13, SD = 0.34) compared to Time 1 (M = 0.75, SD = 0.45), t(27) = 5.00, p = < 0.001.

Fighting: At Time 1, 79.7% were fighting and 20.3% of the children were not fighting . At Time 2, 41.7% were fighting and 58.3% of children were not fighting,. At Time 2 participants were less likely to engage in fights (M = 0.44, SD = 0.51) compared to Time 1 (M = 0.81, SD = 0.40), t(27) = 2.42, p = 0.029.

Hitting, Kicking, Biting: At Time 1, 31.3% of the children were not hitting, kicking, biting, and 68.7% were hitting, kicking, biting. At Time 2, 81.4% of children were not hitting, kicking, biting, 18.6% were hitting, kicking, biting. Participants were less likely to hit, kick, or bite at Time 2 (M = 0.19, SD = 0.40), t(27) = 3.16, p = 0.006.

Destroy Property: At Time 1, 43.3% of the children were not destroying property, and 56.7% were destroying property. At Time 2, 75.4% of children were not destroying property, 24.6% were destroying property. Participants were less likely to destroy property at Time 2 (M = 0.25, SD = 0.45) compared to Time 1 (M = 0.56, SD= 0.51), t(27) = 2.08, p = 0.055.

Table 9. Occurrence of Physical Aggression Reported by Parents at Time 1 and Time 2

Physical Aggression		Time 1	Time 2	T**(27)**	P
Bullies	M	0.56	0.19	2.42	0.029
	SD	0.51	0.4		
Threatens	M	0.75	0.13	5	0.001
	SD	0.45	0.34		
Fights	M	0.81	0.44	2.42	0.029
	SD	0.4	0.51		
Kicks, Bites, Hits	M	0.69	0.19	3.16	0.006
	SD	0.48	0.4		
Destroys Property	M	0.56	0.25	2.08	0.055
	SD	0.51	0.45		
Overall Average (number)	M	3.37	1.19	4.77	0.001
	SD	1.63	1.52		

Physically aggressive responses as rated by parents were dummy coded: 1 = Behavior occurred; 0 = Behavior did not occur

Discussion

The symptoms of psychiatric disorders improved in sixty-seven percent of the children as a result of our counselling of children and families in the play and family therapy sessions, and the psychopharmacological interventions. Thirty-three percent of the children had serious persisting problems, which continued to compromise their ability to control their emotions and their behavior. This group of children and families received the most intensive interventions, including special small-size class placements, for up to a year. They were unable to function well in a traditional classroom setting when the special classes were completed. Although none of the children we assessed and treated were expelled from school, some of them continued to struggle with the demands of school and home. Some physically aggressive behavior persisted. Six of the symptoms of social aggression were reported by the parents to persist in spite of our interventions, but these were behaviors that were less likely to result in a child being expelled. Parents who rated their children's anxiety as slightly greater at Time 2 are likely capturing their child's increasing awareness of social life and consequences of interactive behaviors.

When students continued to have problems, we

met regularly (at least monthly) with staff at the schools, so that we could focus on the child's current issues and interventions could be based on firsthand information. These meetings also helped all of us be aware that we were dealing with children with resolvable problems that did not define the child.

We confirmed the principals' observations that for a program dealing with aggression very young children need to be included. Like Valla and Bergeron (2001), as mentioned earlier, we found that many of the younger students had identifiable DSM-IV disorders. In many cases parents of younger children wished to defer pharmacological interventions. Most of these parents agreed to psychosocial interventions with the social workers instead. This enabled us to monitor the children's behavior and to intervene pharmacologically when their symptoms became more problematic.

The statistical data points towards a link between teachers' observations that these children were less hyperactive, oppositional, and emotionally labile, and had improved social skills, and the positive changes leading to the reduction in physical aggression observed by the parents. A significant number of children also became more considerate and more able to share with others, enabling them to be more successful in school and at home. Future larger scale research could substantiate these connections and also address an issue that is beyond the scope of this study, i.e. that the development of maturity with age may alleviate some of the problems. It is also important to note that the ratings made by teachers at Time 1 and Time 2 were made by different teachers in each case.

It was at the conclusion of the project that we realized that Greene's intervention model based upon parent involvement might be a key direction for future interventions. We noted earlier that half of the parents rejected the option to learn new ways of intervening and coping with their children. The family and play assessments clearly point towards the need for improved parental interactions with the children to assist the children with emotional regulation.

Wider implications of this study are that practitioners may benefit from both the quantitative research results of the assessment and treatment of childhood aggression and the qualitative results that begin to describe child and family processes that support and/or maintain the children's aggression. Although this project's data are drawn specifically from an educational context, we believe that the insights gleaned can make an important contribution towards understandings of when various professionals in the community might consider referring a child for more formal assessments. Although teachers overwhelmingly identified behaviors that warranted further assessment, the parents of kindergarteners found it difficult to accept that their children were regarded as having significant problems.

This research identifies the importance of community professionals working as a team, and raises the awareness in practice theory that front-line staff can significantly assist when assessing violence-prone children. The children's schools were excellent sites offering teachers, as allied professionals, many opportunities to effectively recognize children-at-risk and identifying children in need of primary or secondary preventive intervention. We conclude that allied professionals are key team members who can pinpoint children's aggression, beginning with their own powers of observation, and employing a tool such as Conners' Screens as an initial screening tool.

Future treatment should encompass not only our model of collaboration between medical and social work practitioners but could include those interventions showing promise of effectiveness, primarily parent behavior training as a method of reducing disruptive behaviors in preschool children. "Preschool years are an especially opportune time to promote appropriate inhibitory control by teaching positive and consistent parenting skills as well as training children directly." (20). Future research activities might follow Scheepers et al. (21) and Burk et al. (22) by examining quantitative and qualitative analyses of socio-familial factors related to children's violence. These data sets could provide a matrix or cross-sectional view of the children and their families leading to more complete understandings of a complex behavior.

CONCLUSIONS

Taking a multi-disciplinary proactive approach, looking for risk factors related to aggression in primary school children provides an opportunity for addressing the child's issues and significantly reducing the incidence of physical aggression and its consequences, particularly expulsion from school. Young children, including those in junior kindergarten, who exhibit high risk factors that could result in aggressive behavior, need to be assessed, as many of them may have treatable psychopathology.

Children who are aggressive do respond to interventions, but many have chronic underlying psychopathology and/or family relationship issues and require longer-term interventions.

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