The Montreal Longitudinal and Experimental Study: The Intervention Program and its Long Term Effects

Richard E. Tremblay
Editor

GRIP

Research Unit on Children's Psychosocial Maladjustment

Université de Montréal

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Selected comments and references to the Program

"One of the most successful early skills training programs to have measured the effects on crime is the Montreal Longitudinal-Experimental Study of the psychologist Richard Tremblay and his colleagues (1995, 1996). This program combined child skills training and parent training." (p.114)

Farrington, D. P., & Welsh, B. C. (2007). *Saving children from a life of crime. Early risks factors and effective interventions*. Oxford University Press. 233 pp.

"A combinaison of interventions may be more effective than a single method. For example, Tremblay et al. (1995) in Montreal identified about 250 disruptive (aggressive/hyperactive) boys at age 6 for a prevention experiment (...). This prevention program was quite successful. By age 12, the experimental boys committed les burglary and theft, were less likely to get drunk, and were less likely to get involved in fights than the controls. Also, the experimental boys had higher school achievement." (p. 19-20)

Farrington, D. P. (2003). Advancing knowledge about the early prevention of adult antisocial behaviour. In D. P. Farrington & J. W. Coid, (Eds.), *Early prevention and adult antisocial behaviour*. Cambridge University Press.

"The Montreal Longitudinal-Experimental Study (McCord et al, 1994; Tremblay et al., 1995), a preventive intervention, offered a parent training program to the parents (...) Because a social skills program was also offered to the children at school, this study could not assess the specific effects of the parent training program. However, the combined programs showed significant positive effects on self-reporte delinquent behaviour up to seven years after the end of the intervention, when boys were 15 years old." (p.119)

National Research Council Institute of Medicine. (2001). Preventing Juvenile crime. In J. McCord, C. Spatz Widom, & N. A. Crowell (Eds.) *Juvenile crime, juvenile justice*. National Academy Press.

Committee on Prevention of Mental Disorders, Division of Biobehavioral Sciences and Mental Disorders (1994). In P. J. Mrazek & R. J. Haggerty (Eds.), *Reducing risks for metal disorders* (pp. 255-256). National Academy Press (605 p.).

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California Department of Corrections and Rehabilitation. Section reports & Research. Parent and Child Training to Prevent early Onset of Delinquency; the Montreal Longitudinal Experimental Study (1992). In J. McCord & R.E. Tremblay (Eds.), *Preventing Antisocial Behavior: Interventions from birth through adolescence* (pp. 117-138). New York, NY: Guilford Press. http://www.cdcr.ca.gov/ReportsResearch/bib desc.html

The White House. Helping America's Youth. http://guide.helpingamericasyouth.gov/programdetail.cfm?id=395

The National Academies. Advisers to the Nation on Science, Engineering, and medicine. http://books.nap.edu/openbook.php?record

Human Resources Development Canada. The National Longitudinal Survey of Children and Youth (NLSCY). Prevalence of hyperactivity-impulsivity and inattention among Canadian children: Findings from first data collection cycle (1994-1995) of the National Longitudinal Survey of Children and Youth – June 2002.

Kerr, D., & Beaujot, R. (2002). Family relations, low income, and child outcome: A comparison of Canadian children in intact-, step-, and lone- parent families. *International Journal of Comparative Sociology, 43*(2), 134-152.

Steinhauer, P. D. (1996). Summary on developing resiliency in children from disadvantaged populations. In *What determines health?: Summaries of a series of papers on the determinants of health*. Commissioned by the National Forum on Health. 78p.

Wright, R., John, L., Ellenbogen, S., Offord, D. R., Duku, E. K., & Rowe, W. (2006). Effect of a structured arts program on the psychosocial functioning of youth from low-income communities: Findings from a Canadian longitudinal study. *The Journal of Early Adolescence, 26*(2), 186-205.

Introduction
The Montreal longitudinal and experimental study[1]

Richard E. Tremblay

This manual describes the Montreal Longitudinal and Experimental Study (MLES) preventive experiment including the main evaluations published up to 2007. The Montreal Longitudinal and Experimental Study (MLES) began in 1984. The original aim was to study the development of antisocial behavior from kindergarten to high school with a specific focus on the role of parent-child interactions. By the beginning of the 1980s, it was becoming obvious that the source of antisocial behavior could be found long before the start of adolescence. The retrospective work of Lee Robins making a clear case for early onset of chronic antisocial behavior was already 18 years old (Robins, 1966). However, most, if not all, of the large longitudinal studies aiming specifically to unravel the origins of delinquency had started after age 7, the traditional "age of reason" (e.g., Elliott, Huizinga, & Ageton, 1985; Lefkowitz, Eron, Walder, & Huesmann, 1977; Magnusson, Dunér, & Zetterblom, 1975; West & Farrington, 1973).

Our initial plan was to assess all the kindergarten boys in 53 schools of low socioeconomic areas in Montreal, to identify those who were most disruptive, and to intensively study the parent-child social interactions of a subset of approximately 80 of them until high school. The rationale was that disruptive kindergarten boys from low socioeconomic environments in large urban areas are more at risk of frequent and serious delinquent behavior compared to other males and females from the same environment, and compared to population samples of males and females. Some would become delinquent, others would not, and comparing the development of these two groups would provide cues to the causes of delinquency development in this high-risk group. We were also hoping that the results would provide indications of parenting targets for preventive interventions.

In the spring of 1984, the kindergarten teachers of each of the 53 schools in the low socioeconomic areas of Montreal were asked to rate the behavior of each of their male students. Teachers typically had a morning and an afternoon group, each consisting of approximately 8 boys and 8 girls. Ratings were returned by 87% of the teachers, and 1,161 boys were rated. The next step involved identifying those who were the most disruptive. First, to control for cultural effects, we included in the longitudinal study only the boys with biological parents who were born in Canada and whose mother tongue was French (n = 1,038) and who were not older than

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[1] Part of this introduction was taken from: Tremblay, R. E., Vitaro, F., Nagin, D., Pagani, L., & Séguin, J. R. (2003). The Montreal longitudinal and experimental study: Rediscovering the power of descriptions. In T. Thornberry (Ed.), *Taking stock of delinquency: An overview of findings from contemporary longitudinal studies* (pp. 205-254). New York, NY: Kluwer Academic/Plenum.

81 months when they finished their kindergarten year. After applying these criteria and eliminating families who refused to participate further in the study ($n = 1$), 1,037 boys remained. We then used 13 items of the Preschool Behavior Questionnaire (Tremblay, Desmarais-Gervais, Gagnon, & Charlebois, 1987; Tremblay et al., 1991) in order to identify the most disruptive boys: Bullies; kicks, bites, hits; fights; disobedient; blames others; irritable; destroys things; restless; inconsiderate; tells lies; squirmy; doesn't share; not liked.

A sub-sample of disruptive boys was created by selecting those above the 70th percentile of the disruptive behavior scale from teacher ratings. At this point, we realized that we had enough disruptive subjects to add a preventive experiment to the intensive longitudinal study of parent-child interactions, if funds became available. Three groups of disruptive kindergarten boys were thus randomly created: An intensive longitudinal observation group (Group A, $N = 82$), an experimental intervention group (Group B, $N = 43$), and a third group of subjects (Group C, $N = 41$) which would be assessed yearly and would thus serve as a control group for the intervention, as well as a control group for the possible effects of the intensive longitudinal observations of group A. From this perspective Group A was also an attention-control group for the experimental group (Group B). As the study unfolded, another group was created to study specific problems (Group D, $N = 203$ from 1991 to 1995, $N = 336$ from 1998 to 2000).

After we obtained funds to conduct the intensive longitudinal study of parent-child interactions and the experimental preventive intervention, it became clear that a follow-up of all the boys assessed in kindergarten would create an important longitudinal study. The financial resources for this large-scale data collection became available in time to assess all the boys when the majority of them were finishing Grade 4, and turning ten years of age. Table 1 presents the different points in time when data were collected. It also represents the different sources of the data.

When in kindergarten, the majority of the boys lived with both their biological parents (67%), but one out of four (24%) was living alone with his mother, and 5% were living with their mothers and a man who was not the boy's father; the rest (4%) were living in other family arrangements (e.g., with grand-parents, with father and stepmother). Parents' mean age at the birth of their son was 25.4 ($SD = 4.8$) for mothers, and 28.4 ($SD = 5.6$) for fathers. This varied from 15 to 45 years for mothers, and from 16 to 56 years for fathers. The mean number of school years completed by the mothers was 10.5 ($SD = 2.8$), and 10.7 ($SD = 3.2$) for fathers. The majority of the parents were unskilled workers. The mean score on the Canadian socioeconomic index for occupations (Blishen, Carroll, & Moore, 1987) was 38.15 for mothers and 39.19 for fathers. This index ranges from 17.81 for the lowest status to 101.74 for the highest status, with a mean of 42.74 ($SD = 13.28$). The mean and median family income when the boys were age 10 years (1988) was between $25,000 and $30,000 (Canadian dollars; $19,000 to $23,000 in US dollars) compared with a median income of $44,000 (Canadian dollars) for couples with children in Canada in 1987 (Mitchell, 1991).

Before the major data collection instruments are described, it is useful to reflect on the pace at which research on the development and prevention of juvenile delinquency has moved forward in the past century. With its 1,161 kindergarten boys from low SES environments, the MLES still appears, at the beginning of the 21st century, to be the largest longitudinal and

Table 1. *Overview of the MLES Research Design*

Year	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Total Sample	TP_T			P_T	TP_Q B_Q P_{SS}	TP_Q B_Q P_{SS}	TP_Q B_Q P_{SS}	TP_Q B_Q	TP_Q B_Q	TP_Q B_Q	B_Q	B_Q					C_r	B_Q		C_r	A_{dn}	B_Q	
Group A		$P_L B_{LO}$ B_{HO} B_{SO} TP_Q P_{SS}		$P_L B_{LO}$ B_{HO} B_{SO} TP_Q P_{SS} P_{SL}		$P_L B_{LO}$ B_{HO} B_{SO} P_{SL}		P_L B_{LO}	P_L B_{LO}	P_L B_{LO}													
Group B		TP_Q	E_X TP_Q P_{SS}	E_X TP_Q P_{SS}																			
Group C		P_Q	P_Q	TP_Q P_{SS}																			
Group D								B_{LO} P_{SL}	B_{LO} P_{SL}	B_{LO} P_{SL}	B_{LO}	B_{LO}		B_{LO} P_{SL}	B_{LO}	B_{LO}			B_{LO}				P_{et}

Group A: Observation group (N = 84); Group B: Intervention group (N = 43); Group C: Control group (N = 42); Group D: Bio-psycho-social study group (N = *). This group included subjects from Group A, B, C and from the total sample

* The N varied depending on the specific problems studied. N = 203 from 1991 to 1996; N = 336, from 1997 to 1999; N = 40, 2002-2003; N = 26, 2006

T = Teacher questionnaire; P_T = Parent telephone; P_Q = Parent questionnaire; P_L = Parent laboratory; B_{LO} = Boys laboratory observation; B_Q = Boys questionnaire; B_{HO} = Boys home observations; B_{SO} = Boys school observations; P_{SS} = Peers sociometric data at school; P_{SL} = Peers sociometric data in laboratory; E_X = Experimental intervention; C_r = Criminal records; P_{et} = Brain PET scan; A_{dn} = ADN collection

experimental study specifically designed to understand the development and prevention of delinquency with subjects first assessed before Grade 1. Consider this quote from Donald West who pioneered the longest running, post 1950, longitudinal study specifically targeting early delinquency. The study started in 1960 with 8- 9-year-old boys. He wrote in 1982: "Our plans were inspired by previous American surveys, the work of Glueck and Glueck (1950) and McCord, McCord, and Zola (1959), which pointed to the strong and continuing influence of *early*[2] upbringing and family circumstances in determining who became delinquent"(p. 3). One of the American surveys West was referring to (McCord et al., 1959; the Cambridge-Somerville Youth Study) had started in 1937 with the aim of preventing delinquency, as Gordon Allport wrote, "*starting at as early an age as possible*"[1] (Allport, 1951, p. vii). There were in fact 62 subjects below age 7, 334 were distributed between 7 and 10 1/2, and 254 between 10 1/2 and 12. The intervention was meant to last 10 years and the subjects had been randomly allocated to treatment and control groups. This study initiated by Richard C. Cabot (1940) may be the best designed longitudinal-experimental study of the prevention of delinquency in the 20th Century. Consider now that, more than 40 years after the start of the study designed by Cabot, and more than 20 years after the study designed by West, the MLES began with boys only two years younger than those in the West study, and randomly allocated only 46 disruptive boys to an intervention which lasted only 2 years, an intensive intervention by the standards of the experimental intervention studies of the 1980s. Clearly, between 1935 and 1984 the delinquency prevention science did not make major leaps forward.

Although the original focus of the MLES was on the development of antisocial behavior**,** investigators became interested in the development of many other dimensions of human development, some closely related to antisocial behavior, such as hyperactivity (e.g., Pulkkinen & Tremblay, 1992; Soussigan et al., 1992), anxiety (e.g., Dobkin, Treiber, & Tremblay, 2000; Kerr, Tremblay, Pagani-Kurtz, & Vitaro, 1997), substance use and abuse (e.g., Brunelle, Assaad, Pihl, Tremblay, & Vitaro, 2003; Carbonneau et al., 1998; Dobkin, Tremblay, Mâsse, & Vitaro, 1995; Dobkin, Tremblay, & Sacchitelle, 1997; Gatti, Tremblay, Vitaro, & McDuff, 2005; Ladouceur, Vitaro, & Arsenault, 2001; Mâsse & Tremblay, 1997; Wanner, Vitaro, Ladouceur, Brendgen, & Tremblay, 2006), gambling (e.g., Brunelle et al., 2003; Janosz, Leblanc, Boulerice, & Tremblay, 2000; Vitaro, Arseneault, & Tremblay, 1997; Vitaro, Arseneault, & Tremblay, 1999; Vitaro, Brendgen, Ladouceur, & Tremblay, 2001; Vitaro, Wanner, Carbonneau, & Tremblay, 2007; Vitaro, Wanner, Ladouceur, Brendgen, & Tremblay, 2004), school performance (e.g., Haapasalo, Tremblay, Boulerice, & Vitaro, 2000; Pagani, Tremblay, Vitaro, Boulerice & McDuff, 2001; Véronneau, Vitaro, Pedersen, & Tremblay, 2008), accidents (e.g., Junger & Tremblay, 1999; Tremblay, Boulerice, Junger, & Arseneault, 1995), heart rate variability (e.g., Assaad et al., 2003; Assaad et al., 2006a, 2006b; Brunelle et al., 2004; Dobkin et al., 2000; Kindlon et al. 1995; Mezzacappa et al., 1997), pubertal maturation, sexual intercourse and testosterone (e.g., Dobkin et al., 2000; Malo & Tremblay, 1997; Schaal, Tremblay, Soussignan, & Susman, 1996; Tremblay & Schaal, 1996, Tremblay et al., 1997; Tremblay et al., 1998), perinatal complications (e.g., Arseneault, Tremblay, Boulerice, & Saucier, submitted; Arseneault, Tremblay, Boulerice, & Saucier, 2002; Pagani, Tremblay, Vitaro, & Parent, 1998), physical anomalies (e.g., Arseneault, Tremblay, Boulerice, Séguin, & Saucier, 2000), poverty (e.g., Pagani, Boulerice, Vitaro, & Tremblay, 1999), and others less closely related, such as nutrition (e.g., Laurent, Tremblay, Charlebois, Gagnon, & Larivée, 1988; Laurent, Tremblay,

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[2] We underline

Larivée, Charlebois, & Gagnon, 1988), olfaction (e.g., Schaal et al., 1998), pain sensitivity (e.g., Campbell et al., 2002; Campbell, Ditto, Séguin, Sinray, & Tremblay, 2003; Ditto, Séguin, Boulerice, Pihl, & Tremblay, 1998), and physical health (e.g., Dobkin, Tremblay, & Treiber, 1998; Jutras, Tremblay, & Morin, 1999), cognitive ability and development (e.g., DeYoung, Peterson, Séguin, & Tremblay, 2008; Séguin, 2009; Séguin, Arseneault, & Tremblay, 2007; Séguin, Nagin, Assaad, & Tremblay, 2004), blood pressure (e.g., Ditto, Séguin, & Tremblay, 2006), testosterone (e.g., Van Bokhoven et al., 2006), dopamine (e.g., Boileau et al., 2003; DeYoung et al., 2006), serotonine (e.g., Booij et al., 2006), cortisol (e.g., Van Bokhoven et al., 2005), genotyping, epigenetic study (e.g., Mejia, Ervin, Palmour, & Tremblay, 2001; Tremblay, 2008), and preventive intervention (e.g., Boisjoli, Vitaro, Lacourse, Barker, & Tremblay, 2007; Charlebois, Brendgen, Vitaro, Normandeau, & Boudreau, 2004).

The main instruments used in the MLES to assess behavior problems are mother and teacher ratings and self-reported delinquency. Behavior ratings were also obtained annually from mothers, and from classroom peers at ages 10, 11 and 12. A structured psychiatric interview was conducted with the boys and their mothers when the boys were 15 years of age. Annual questionnaires completed by mothers provided information on family background, life events, parenting behavior, domestic relationships, and social support. Annual interviews with the boys provided information on a variety of dimensions including personality, life events, perceptions of parenting, domestic relationships, friendships, attitudes toward school and the law, sleep and leisure activities. Direct observations of social interactions were made at school, at home and in laboratory situations with sub-samples between ages 7 and 15. Psychophysiological and neuropsychological tests, as well as different biological assessments, were also made on sub-samples between age 7 and 20.

Teachers and mothers rated the boys' behavior in the spring, from age 6, at the end of the kindergarten year, to age 15. The six scales derived from teacher and mother ratings were: Physical aggression (fights with other children; kicks, bites, or hits other children; bullies or intimidates other children); Opposition (doesn't share materials; irritable; disobedient; blames others; inconsiderate); Covert conduct problems (destroys property, lies, steals, truants), Anxiety (tends to be fearful or afraid of new things or new situations; cries easily; appears miserable, unhappy, fearful, or distressed); Inattention (has poor concentration or short attention span; inattentive); Hyperactivity (restless, runs about or jumps up and down, does not keep still; squirmy, fidgety); and Prosocial behavior (comforts upset child; helps sick child; helps hurt child; praises other; helps with task difficulty; helps clear up mess; shows sympathy; invites bystander; stops quarrels; helps pick up objects).

Self-reported delinquency was assessed every year from ages 10 to 17 and around age 20. The boys were seen in small groups at their schools between March and May; they answered 27 self-reported delinquency items which were distributed in a questionnaire pertaining to school, family, friends, and leisure activities. The items were: steal from school; steal from store; steal from home; keep object worth less than $10; steal bicycle; sell stolen goods; keep object worth between $10 and $100; steal objects worth more than $100; breaking and entering; enter without paying; trespassing; take drugs; take alcohol; get drunk; destroy school material; destroy other material; vandalism at school; destroy objects at home; vandalize car; set a fire; strong-arm; gang

fights; use weapon in a fight; fist fight; beat up someone; carry a weapon; throw objects at persons. The responses to all 27 items ranged from 1 (never) to 4 (very often).

Treatment

During the planning phase of the study in 1982-83, the Oregon Social Learning Center's work with parent (Patterson, 1982; Patterson, Reid, Jones, & Conger, 1975) appeared to us to be one of the most innovative training programs for parents with aggressive children. It was decided that techniques developed at the Oregon Social Learning Center would be a major component of the treatment program. Accordingly, the program coordinator was trained at the Center. In brief, the procedure involved: (1) giving parents a reading program; (2) training parents to monitor their children's behavior; (3) training parents to give positive reinforcement for prosocial behavior; (4) training parents to manage family crises; (5) use of non abusive punishments for the child's behavior problems; and (6) helping parents to generalize what they have learned. The parent training component was supplemented by eliciting cooperation from the teacher. Work with parents and teachers was carried out by two university-trained child-care workers, one psychologist, and one social worker, all working full-time. Each of these professionals had a caseload of 12 families. The team was coordinated by a fifth professional who worked on the project half-time. Work with the parents was planned to last for 2 school years with one session every 2 weeks. The professionals were, however, free to decide that a given family needed more or fewer sessions at any given time. The maximum number of sessions given to any family was 46 and the mean number of sessions over the 2 years was 17.4, counting families that refused to continue. The Family Intervention program is described in Chapter 1.

For the school based social skills training component of our interventions, two types of training were given to the disruptive boys within a small group of prosocial peers in school. During the first year a prosocial skills program was devised based on other programs (Cartledge & Milburn, 1980; Michelson, Sugai, Wood, & Kazdin, 1983; Schneider & Byrne, 1987). Nine sessions were given on themes such as "How to make contact," "How to help," "How to ask 'why'," and "How to invite someone in a group." Coaching, peer modeling, role playing, and reinforcement contingencies were used during these sessions. During the second year the program aimed at self-control. Using material from previous studies (Camp, Blom, Hebert, & Van Doorminck, 1977; Goldstein, Sprafkin, Gershaw, & Klein, 1980; Kettlewell & Kausch, 1983; Meichenbaum, 1977), 10 sessions were developed on themes such as "Look and listen," "Following rules," 'What to do when I am angry," "What to do when they do not want me to play with them," and "How to react to teasing." Coaching, peer modeling, self-instructions, behavior rehearsal, and reinforcement contingencies were also used during these sessions. This treatment too was offered by the professionals who provided parental training, although different workers assisted the parents and the child.

We also experimented with stimulating fantasy play and teaching the boys to be critical of television. However, because of lack of funds, only half the treated group ($n = 25$) received the fantasy play training and one fifth ($n = 9$) received the television intervention.

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Part I

The Intervention Program

Table of Contents

1   Family intervention program[1]

Lucie Bertrand, Rita Béland and Michel Bouillon

FAMILY ASSESSMENT: FIRST PHASE OF THE INTERVENTION

Research on the link between parenting skills and the development of antisocial behaviours has identified the factors that must be taken into account in family intervention. Social learning theory has, in turn, demonstrated the dynamic processes by which these factors contribute to the difficulties experienced by dysfunctional families. This information can be used to develop methods and assessment tools focused on the problems and resources of dysfunctional families and thus to plan intervention strategies for them.

Behavioural Assessment

In accordance with social learning theory, the assessment presented here is essentially a behavioural assessment. It differs from traditional assessment, which assuming that problems presented by a child are but a symptom of a deeper personality disorder, sifts through the child's past experiences to find their roots. Behavioural assessment sees the behaviour itself as the problem requiring change or intervention.

Social learning assessment is based on an analysis of how behaviour is learned and expressed. It seeks to identify the biological, cognitive, emotional, and social stimuli that, as part of social interaction, both trigger and reinforce observed patterns of behaviour. Such assessment does not reject the dynamic aspects of individual functioning – Bandura (1980) looked at the role of personality in learning – but it does take a more descriptive view. The family's situation and behaviours are defined by their observable manifestations, as they arise in their daily interactions.

Because the focus of a family assessment is on describing and observing patterns of behaviour, everyone who is directly concerned, that is, the parents, the child, teacher, and peers must be involved. In addition the different environments (home, school, neighbourhood) in which the problems are manifested must be identified.

The objective of the assessment is to determine the family's functionality in terms of its interactions, particularly with regard to the child's coercive behaviours and the parents' shortcomings in managing them. The focal point of the observations and the content of the tools

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used in the assessment are based on the following 3 key factors in social learning theory: the behavior of the child, interactions of family members and the overall situation of the family.

Children's behaviours are defined and classified in terms of aggressive and prosocial behaviours. The former classification refers to behaviour problems linked to the transgression of family and social norms (DSM-III; Achenbach, 1979; Patterson, Reid, Jones, & Conger, 1975; Quay, 1979; Wahler, House, & Stainbaugh, 1976). The latter covers social skills such as independence, work habits, and relationships with peers and adults.

Interactions within the family are examined on the basis of the style of interaction between the child and his/her parents and characterized as coercive (or dominating…), accepting, supportive, and stimulating. The description of the parenting skills, the description of how the parents set rules, supervise, encourage, punish and solve problems with the child is an important assessment target in identifying the extent of both interaction within the family and of disruption in the family system.

The overall family situation is also examined to identify not only the environmental factors that result in pressure on family life but also those that provide the family the support it needs to cope with crises and to learn the new interaction attitudes proposed by the intervention. Among the factors considered are the makeup of the family's social network, satisfaction among family members with services received in the past, changes in marital status, and work situation.

The focal points of the assessment are identified and structured as a result of two steps: (1) a needs analysis that can be used for the systematic screening of a target population and for the preliminary study of a referred individual and (2) a planning phase in which the defining of the existing problems leads to a decision on whether to intervene and to a plan for the services to be provided, if required.

During this process, the assessment goes from a general identification of the problems to a more specific description of the behavioural and situational factors at play. The types of tools used, as well as the degree of involvement on the part of the family and the facilitator, will vary for each step.

Step 1: Needs Analysis for Screening and Referrals

Systematic screening

The early detection of children likely to exhibit aggressive behaviour is recognized as important for prevention. Nonetheless, there is virtually no systematic implementation and management of social and educational services in this area. Interventions take place mostly following a request by or a referral by a family, a school environment or persons concerned that feel "assaulted" or disrupted by the behavioural problems of a particular child.

In addition to identifying foreseeable needs so that services can be developed, early detection may mitigate the biases that can short-circuit referrals (perception of the effectiveness of the intervention or the services provided, varied tolerance on the part of the persons in a position to refer the child, etc.). It can also help identify problems that may not be as obvious in

terms of their immediate impact on the child's surroundings (social isolation, depression, etc.) but are nevertheless clearly associated with the development of social adaptation problems later in life.

The screening proposed here has to do with identifying children whose social development is at risk. The tool used is the Pre-school Assessment Behaviour Questionnaire *(Questionnaire d'évaluation du comportement au préscolaire -* QECP, Appendix 1). Developed by Tremblay and Desmarais-Gervais (1985), the questionnaire assesses the behaviour of kindergarten children according to four scales:

1. *"Aggressiveness/hyperactivity" scale.* Thirteen items (1, 3, 4, 6, 8, 13, 21, 27, 34, 38, 41, 45, and 47) are used to assess the presence (occasional or frequent) or absence of aggressive and hyperactive behaviour patterns, such as:
   - very agitated, always running and jumping, never stays still;
   - destroys his or other children's things;
   - fights with the other children;
   - disobedient;
   - tells lies;
   - does not share toys.

2. *"Anxiety-social withdrawal" scale.* Six items (10, 11, 15, 24, 40, and 48) describe behaviour patterns of social avoidance or disinterest, such as:
   - tends to work alone in his little corner;
   - looks sad, unhappy, close to tears or overwhelmed;
   - has his head in the clouds.

3. *"Total maladjustment"* scale. These nine items (17, 19, 22, 26, 29, 31, 32, 36, and 43) are not exclusively linked to one scale or the other, but help discern child behaviour problems. The items refer, for example, to ways of approaching a task (focusing on details, giving up easily, becoming distracted…) or specific types of behaviour (stuttering, language difficulties…).

4. *"Social behaviour patterns"* scale. Twenty questions (2, 5, 7, 9, 12, 14, 16, 18, 20, 23, 25, 28, 30, 33, 35, 37, 39, 42, 44, and 46) illustrate positive behaviour in the child's interaction with his peers and with adults, at the level of perceiving feelings, positive expression, and cooperation. For example:
   - comforts a child who is crying or upset;
   - claps or smiles if someone does something well in class;
   - shares material used for a task.

This standardized tool provides a means to compare children's results with established norms. The QECP allows interventionists to discern groups of children with different characteristics of aggressiveness, social withdrawal, and prosocial behaviour, as well as to identify those who seem to be more at risk. The QECP User Manual, developed by Tremblay and Desmarais-Gervais (1985), gives these norms in the form of percentiles differentiated according to the age, gender, and socioeconomic level of the pre-school children.

The questionnaire is aimed at kindergarten teachers. It relies on the judgment of an adult who knows the children well enough to gauge their strengths and difficulties. For this reason, it is presented preferably at the end of the school year (May).

The questionnaire makes possible a quick and fairly inexpensive screening. If administered across an entire school board, it can reach all children between the ages of 4 and 5 within a given population.

One must not, however, expect more from this phase of the assessment than it can do. It can highlight the prevalence of a problem within a given group but, at the individual level, can give only very general information on the likelihood that a child has a problem. In fact, this screening merely identifies certain children who should undergo a more in-depth assessment.

Examining referrals

Unlike with screening, where no problem is identified at the outset, the referral of a problematic child or the parents' request for assistance with their child means a need for intervention has already been interpreted. Such interpretations tend to be global and subjective and, if they take place at a time of crisis, one aspect of the situation can be blown out of proportion.

At this stage, normative tools are used to help verify early in the process whether the problem as described in the referral actually exists, whether it is distorted by the emotional impact it produces, or whether it is hiding the existence of another type of problem.

The following questionnaires are particularly useful in family interventions based on the child's behaviour problems:

1. To assess the child's behaviour: Child Behavior Checklist, Achenbach and Edelbrock (1983).
2. To determine the style of interaction between the child and his parents: "Emotional Climate of Children as Inferred from Parental Attitudes" (Falender & Mehrabian, 1980), and *Mesure des conduites de contrôle parental* (Parental Control Behaviour Assessment) (Tessier, Pilon, & Fecteau, 1985).

Child Behaviour Checklist (Achenbach & Edelbrock, 1983).[2] The Child Behaviour Checklist questionnaire (see Appendix 2) assesses the behavioural adequacy and behaviour problems of the child being referred. This questionnaire is given to parents to obtain their perception of their child, based on their knowledge and experience of the latter's behavioural manifestations.

The first part of the questionnaire deals with behavioural adequacy and features six questions: The parents are asked to indicate the sports their child plays, his recreational activities, the clubs or teams he belongs to, the jobs or chores he does, his network of friends and the types of relationships he has, and finally, his school performance. The parents specifically describe

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[2] Readers interested in using this questionnaire may refer to Achenbach, T.M. and Edelbrock, C. (1983). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile*. Queen City: Queen City Printers Inc.

their child's participation with regard to each of these items, then situate him in relation to other children his age in terms of the time he spends and the skill he shows in each category.

The second part of the questionnaire addresses the child's behaviour problems. In this section, the parents identify whether or not the 112 items describing different types of behaviour truly correspond to the perception they have of their child.

These items are grouped into nine behaviour scales. Six scales refer to internalized behaviour: anxiety, depression, difficulty communicating, obsession-compulsion, somatisation, and social withdrawal. The three remaining scales – hyperactivity, aggressiveness, and delinquency – are associated with externalized behaviour problems.

The uncorrected results of these questionnaires are expressed as *t*-values, which vary according to what is being measured (behavioural adequacy or behaviour problems) and the child's age and gender. These values give an indication of how the child compares to a control group of children of the same age and gender, thus confirming the presence (or absence) of the problems that gave rise to the request for intervention.

The Emotional Climate for Children as Inferred from Parental Attitudes (Falender, & Mehrabian, 1980). The Emotional Climate for Children as Inferred from Parental Attitudes questionnaire (Appendix 3) was developed by Falender and Mehrabian (1980) to measure three types of parental attitudes in interactions with their child: pleasure, stimulation, and authority.

Pleasure refers to the attitude of parents who feel good about being with their child and like to spend time with him, enjoy taking care of him, and make sure he will have good memories of his childhood. Eighteen items (1, 4, 7, 9, 12, 16, 18, 21, 24, 26, 29, 31, 34, 37, 39, 41, 44, and 46) address this aspect.

Stimulation expresses the parents' tendency to foster their child's sense of experimentation. The twelve items linked to this scale (2, 5, 8, 10, 14, 19, 22, 27, 32, 35, 38, and 42) identify the parents' attention to exposing their child to people and situations that are likely to stimulate him, by ensuring that the child sees as many different people as possible, has friends to play with, etc.

The *authority* scale describes the parents' status in relation to their child in terms of their attitude of control and dominance. The sixteen items in it (3, 6, 11, 13, 15, 17, 20, 23, 25, 28, 30, 33, 36, 40, 43, and 45) cover the application of precise rules, requests for obedience and respect, the expectations that parents create in their child, etc.

The parents answer the questionnaire individually, indicating whether they agree or disagree with the statements in it. They can choose from among nine answers, positive if they agree and negative if they disagree, ranged to enable them to nuance their perception.

Compiling the parents' answers provides a means to identify parent types based on score combinations (positive and negative) for each of the scales (pleasure, stimulation, and authority), as indicated in the table below.

Table 1. *Parent Types Based on the Score Combinations for the Three Scales (Falender and Mehrabian)*

Pleasure	Stimulation	Authority	Type of Parent
- Score	- Score	- Score	Authoritarian
+ Score	+ Score	+ Score	Permissive
- Score	+ Score	- Score	Rejecting and hostile
- Score	+ Score	+ Score	Neurotic or anxious

For example, parents who obtain a negative score on the pleasure, stimulation, and authority scales are more likely to be authoritarian. The standards developed by Falender and Mehrabian therefore make it possible to differentiate between various types of parents whose style of interaction with their child reflects, to some extent, their level of parenting skills.

La Mesure des conduites de contrôle parental (M.C.C.P. - Parental Control Conduct Assessment) (Tessier et al., 1985). The M.C.C.P. questionnaire (see Appendix 4) provides a means to identify the types of conduct that parents adopt towards their child. The parents must indicate the type of behaviour they would adopt with their child in each of the eight situations presented in the questionnaire.

Three types of parental behaviour are dealt with:

1   Coercive type of conduct: The parent allows the child little or no participation in conflict resolution (e.g., telling the children to be quiet so that you can have some peace).
2.   Inductive type of conduct: The parent allows the child more participation in finding solutions (e.g., asking the children whether there is a better way to settle their arguments than a fistfight).
3.   Supportive type of conduct: The parent offers help or suggests an alternative to the children (e.g., inviting them to come watch television with you).

For each situation, three items assess the three types of conduct (for a total of nine items per situation). The parents indicate their answer on a frequency scale that varies from "very rarely" to "very often".

This questionnaire is particularly compelling for facilitators working in French: it is the only validated instrument of its kind in French and, at the theoretical level, it refers to the coercive interaction model developed by Patterson.

It therefore contains particularly valuable information for those interested in family intervention from a social learning perspective. Unfortunately, it does not yet feature a normative analysis checklist with which to establish points of comparison between the parents of aggressive children and the parents of normal children.[3]

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[3]   Technical Report No. 3 (Hurteau, Bertrand and Tremblay, *Évaluation de l'implantation: L'Évaluation des sujets. Les études de cas. La planification des interventions* – Implementation Assessment: Assessing Subjects. Case

In summary, during the initial assessment phase for screening or referral purposes the tools described above (QECP, Child Behaviour Checklist and Emotional Climate for Children as Inferred from Parental Attitudes) may be used to effectively analyze intervention needs. These tools help identify the presence or absence of problems and their manifestation in relation to a social standard. The fact that they are easy to administer and analyze makes them inexpensive in the long run, and their generalized application opens the way for more in-depth or specialized assessment in cases where problem areas have been detected.

Step 2: Planning the Intervention: Defining the Problems

Discriminating and normative tools are useful in verifying the existence of problems affecting the child and the family. But in order to identify the nature of these problems so that they can be defined for the purpose of planning an intervention, an overall assessment of the child's behaviours in different categories (productivity, interaction with peers and adults) and of their specificity in relation to the environments with which the child interacts must be achieved. This assessment must also pinpoint the parents' behaviours in both childrearing and the management of family life.

Defining problems means drawing up a profile of the trouble areas and functioning of the child, the parents, and the family. It also involves assessing the types of interactions and responses among family members as well as the environmental conditions likely to have an impact on those interactions.

Since this step of the assessment aims to identify the child and parent behaviours that will be targeted by the intervention, those behaviours must be described in observable and precise terms. Such a description will cover the particular expression of the various behaviours, the situations in which they take place (when, with whom, how often), and the emotional, cognitive and behavioural reactions they trigger. In turn, this information will enable an analysis of the behaviours in relation to the standards or expectations normally expressed in that environment (family, community, school).

The assessment of child and parent behaviours is not limited to problematic behaviours. The social skills of the child and his parents are also identified, enabling their use as reference points in the process of learning new interaction attitudes.

The information gathered, which provides a means for a more refined analysis of the child's interaction with his family and surroundings, is thus used to plan an intervention tailored to the needs of both the child and his parents.

Describing the child's behaviour

The child's behaviour is defined on the basis of the perception of the parents, child, and the teacher.

Studies. Planning Interventions) provides an analysis of the questionnaire that nevertheless constitutes interesting and practical information for facilitators.

The parents' perception. Using a structured interview (see typical sample in Appendix 5), the parents describe their perception of their child's development and current behaviour. The first part of the session focuses on the parents and the background of their child's development. This makes it possible to establish the parents' concerns about their child's upbringing, their expectations, and their difficulties in caring for the child since birth, as well as their explanation(s) for the cause(s) of the child's current problems. More specifically, the following issues are addressed:

- key moments in the child's development (walking, potty training, talking, etc.);
- the parents' perception of their child's development compared to other children;
- their respective expectations on upbringing;
- their overall perception of the child's skills and difficulties at home, with his friends, at school;
- their perception of the child's place in the family structure.

It is important that the facilitator understands the beliefs, feelings, and experiences that have guided the parents' interaction with their child up until the time of the assessment.

The second part of the session introduces a behaviour checklist used by the parents to determine the aggressive, prosocial, and deviant behaviours exhibited by their child.

The checklist covers forty types of behaviour exhibited by most children at one time or another. Twenty-three items refer to aggressive behaviour, which is defined by the social-learning approach as aversive behaviour that provokes a degree of pain in the other person and includes arguing, opposing, complaining, screaming, bothering, disobeying, etc. The eleven items related to prosocial behaviour mainly cover relationship skills (offering to help, cooperating, smiling, paying compliments, having a conversation, asserting his rights, etc.). Six items complete the list of deviant – but not necessarily aggressive – behaviour, e.g., wetting the bed, refusing to eat, lighting fires, etc.

The checklist enables the parents to indicate not only the presence or absence of these behaviours, but also whether they feel the behaviours are a problem. The facilitator can then try to pinpoint the parents' perception, their ability to recognize problems, their degree of tolerance or irritability, and even whether they agree with their spouse's perception.

The child's perception. The session with the child is aimed at capturing his own definition of what is happening around him/her, both at home and at school. His perception of the rules at home, the chores his parents give him, his parents' attitude towards him, and his behaviour at school are focal points that help determine the behavioural (on the part of the child and his parents) and environmental factors that will need to be changed during the intervention.

See Appendix 5 for an outline of such a session.

The teacher's perception. Even though this is a family assessment, a session with the child's teacher is organized as a complement to the home assessment. Its goal is to document the child's specific behaviours in the situations that he experiences.

Four issues are addressed:

1. The child's behaviour in the classroom and at school. The child's responses to the rules of the environment as well as to adults' demands during child-adult interactions (accepts teacher's decisions without complaining; in the hallways, he only goes where he is supposed to go, without disturbing others, etc.) are covered.
2. Academic behaviour. This section deals with individual and group work skills.
3. Types of interaction with peers. Contact, cooperation and self-assertion skills are investigated here.
4. Other types of behaviour. The behaviours linked to personal care skills or deviant behaviour (theft, lying, self-mutilation) are also addressed.

The list of behaviours considered by the teacher (see Appendix 5) is formulated in a positive manner and is based on the categories (aggressiveness–prosocial behaviour–deviance) used in the checklist for the parents.

The session with the teacher provides basic information for assessing the child's situation at school with respect to the planning of the family intervention. In addition, it may be used to determine whether there is a need for a complementary intervention in the school context.[4]

Description of the parents' behaviour

According to the social learning approach, the skills of parents in managing family life and responding consistently to their child's behaviours have a significant impact on the interactive styles of the family members. To determine their basic degree of parenting skill, that is, how they exercise their skills and any shortcomings in childrearing practices, the parents are asked to describe a series of interactions with their child.

The description covers the child's behaviours and the characteristics of those behaviours (frequency, duration, when they occur, persons involved) and aims to determine the antecedents triggering the child's responses. It also aims to discover what the parents think and feel when interacting with their child. This allows the identification of the reactions (anger, irritability, feelings of impotence or sympathy, understanding, confidence) that determine, at least in part, the parent's responses to the child.

The description of typical interactions or events also reveals the ways in which the parents normally deal with their child's inappropriate and appropriate behaviours. See Appendix 6 for examples of questions likely to elicit observable and specific descriptions of the parents' own and their child's behaviours.

In addition, the parents' session provides a means to systematically collect information on the organization of their family life by looking at:
- the parents' demands during routines and meals (atmosphere, way of doing things and tasks) and the child's response to these demands;

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[4] The *Guide for School Intervention from a Social Learning Approach* describes the activities that can be included in such an intervention.

- the rules that the child must follow at home (cleanliness, atmosphere, and following instructions) and in the neighbourhood (safety rules, rules for relating to others, and behaviour at school), as well as the way he responds to these rules;
- the tasks and responsibilities assigned to the child;
- the rights and permissions granted to the child.

The parents' answers make it possible to identify their expectations towards their child, their perception of his responses, as well as the time and energy they devote to family life in general and their child in particular. This information usually leads to a fairly accurate profile of the parents' skills with respect to supervision, encouragement, discipline, and negotiation. It also reveals how the parents see themselves as parents, whether they sense that they are controlling their child's behaviour, and their satisfaction with both the way they parent and the amount of support they receive from their environment for doing so.

Description of the family situation

All requests for intervention coming through a referral or an assessment result in the compiling of a certain amount of basic information on the child's family:
- its family status (natural parents or caregivers, single-parent families, etc.);
- the presence of siblings;
- the parents' social situation (working, unemployed, economic standing of the family);
- specific events experienced by the child (family separation, etc.), by either of the parents (imprisonment, psychiatric care, etc.), or by the couple (loss of a child, etc.).

Along with compiling this information, usually recognized as having a significant impact on family life, the facilitator must become familiar with the factors likely to have a direct effect on the intervention itself. The parents' motives for seeking help and their perception of similar incidents in the past will directly affect their degree of involvement in the intervention.

The parents' ties with their own families and with their surroundings shed light on the crises that tend to occur in the family, the social isolation that may increase the likelihood of coercive interactions within it, and its need for support to ensure the proper functioning of each family member. Appendix 7 proposes several questions designed to solicit this type of information.

Direct observation of interactions within the family

The direct observation of the parents' interactions with their children, of the children among themselves, or of the family as a whole is useful in obtaining the necessary information on the manner of family functioning, the style of interaction, and even the family's value system.

Direct observation may be developed during the assessment sessions, that is, when the facilitator is in direct contact with the family, or it may be structured systematically (through reconstructions of situations that have occurred, neutrality on the part of the observer, the sequential recording of observed data, etc.).

Regardless of how strictly it is based on the focal points of the assessment (the child's aggressive and prosocial behaviours; parental behaviours with regard to supervision, rule enforcement, encouragement, and discipline; the style of communication between parents and children, etc.), this committed observation enriches the facilitator's assessment of the interactions between the family members. Studies by the Oregon Social Learning Center (Patterson, 1986; Patterson & Dishion, 1985) have shown that observers' impressions are valuable in understanding the level of childrearing skills manifested by the parents.

All facilitators can use this type of observation although, of course, they must be qualified to do so. And the systematic observation[5] must meet certain conditions, that is, there must be: trained observers, periodic verifications of reliability, observation sessions held in a family setting, etc. It is important for the facilitator to select an observation checklist (on the interaction itself, or on the frequency of the child or parents' behaviour, etc.) that is valid for clinical diagnosis.

Either type of direct observation is useful at the clinical level, not only in planning the intervention but also to acquire formative feedback on the effects of the intervention and any adjustments that might be necessary. It is also useful for determining, at the end of the intervention, the concrete outcomes, that is, ones that go beyond an expression of satisfaction or dissatisfaction by the various partners involved.

This second step of the assessment – the collection of factual data on the situations and interactions experienced within the family – results in a more in-depth understanding of the problems that were identified at the outset. It provides the basis for the profile of the child's behaviours, the parents' strengths and weaknesses, and the level of parent-child interaction. This profile, in turn, enables the facilitator to decide whether to intervene in the family, and serves as a basis for developing the objectives and steps in that intervention.

At the same time, the means used during this phase – sessions and observations based on direct contact – help coax the family out of its shell and shed light on what is motivating it to take part in the intervention. By focusing on each person's behaviour and considering the various aspects of the family's situation, this phase reveals to the parents the importance of acquiring a thorough perspective on the problems in order to ensure the effectiveness of the means taken to solve them.

Structuring the Assessment Steps

The tools described above have different objectives and collect different levels of information. Their usefulness can be maximized if they are structured for the various steps of the assessment, as show in Table 2.

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[5] Readers interested in the direct observation of interactions between family members in line with a checklist and procedures from social learning can consult Reid, J. (1978). *A Social Learning Approach to Family Intervention Vol. 2. Observation in Home Setting.* Eugene, OR: Castalia, and Bertrand, L. (1985), *Sessions d'observation durant l'évaluation* (Observation Sessions during the Assessment). Unpublished manuscript.

Table 2. *Structuring the Assessment Steps*

	Needs Analysis			Planning the Intervention
Steps	Step 1	Step 2	Step 3	Step 4
	Screening	Examining referrals	Description of the child's behaviour patterns	Description of the parents' behaviour patterns
		(These two steps can be carried out simultaneously)		Description of the family situation
Tools	Questionnaire d'évaluation du comportement au préscolaire (Preschool Assessment Behaviour Questionnaire – QECP). (Tremblay, Desmarais-Gervais)	Child Behaviour Checklist (Achenbach) Emotional Climate for Children as Inferred from Parental Attitudes (Falender and Mehrabian) Parental Control Conduct Assessment (M.C.C.P.) (Tessier, Pilon, Fecteau)	Session with parents (background of the child's development; child behaviour checklist) Session with the child (behaviour patterns at home and at school) Session with the teacher (Perception of the child's behaviour) Direct observation	Session with parents (their ways of dealing with their child's behaviour patterns; the organization of family life; the family environment) Direct observation
Objectives	Identifying a problem's prevalence	Confirming the presence of a problem affecting the individual or family	Obtaining more in-depth understanding of the problems and planning appropriate intervention for each one.	

Setting the Goals and Priorities for the Intervention

The data collected during the assessment enables the facilitator to describe the level and type of aggressive and prosocial behaviours exhibited by a child at home and at school. The data also helps him or her pinpoint the style of interaction between the child and his parents, as well as the latter's level of parenting skills. This information is then used to formulate hypotheses on the degree of difficulty experienced within the family and the family's anticipated cooperation with the intervention. The data may also indicate the intensity of the intervention required, the parents' expectations, and the steps required to realize them.

This information is used; finally, to identify the specific behaviours (of both the child and his parents) to be targeted in the intervention as well as to prioritize them for it's planning. Which behaviours should be changed, taught, diminished, and augmented? What criteria should be used to determine their importance to the changes being sought for the family?

The case study is used to synthesize all of the information. It helps the facilitator determine the family's strengths and weaknesses, including those with the greatest impact on the level of coercion within the family. The latter might be putting at risk one family member, or generally disrupting all members, preventing them from functioning successfully in that environment.

The facilitator thus uses a series of short-term behavioural goals, focused on the lessons to be learned by the child and his parents, the conditions for successful learning, and the criteria for gauging the results, to reach long-term objectives The case study at the beginning of the intervention, the session reports, and the intervention progress reports (an example of which is found in Appendix 8) provide the means to plan action strategies linked to the child's aggressive and prosocial behaviours, the skills of his parents in everyday interactions, and to the family situation in general.

THE COMPONENTS OF FAMILY INTERVENTION

In social learning, behaviour is viewed as being essentially interactional. The behaviours of a child and his parents are learned from family interactions: their causes must therefore be sought at that level. The interactions contribute to the difficulties experienced by the family and also sustain the behaviours of both the child and his parents. The response by those surrounding the child to a given behaviour by him partly explains his choice and the manifestation of that behaviour in a given situation.

General Objectives of the Intervention

Given this interpretation, family intervention from a social learning perspective seeks to teach parents to directly change their responses, or the contingencies they apply, to their child's behaviour. As parents change themselves, so do the behaviour patterns of the child and their interaction with him. In this process of interaction, the parents and child are simultaneously the targets and agents of the change in behaviour of family members.

The three general objectives of family intervention are linked to the family's interactional process and aim to modify that process in the long term.

Reducing coercive interactions

The rate of coercive interactions within the family unit indicates its level of dysfunction. During the course of this intervention, the adults in charge of raising the child develop childrearing practices intended to reduce his coercive behaviour towards his environment. They also learn to react in less abrasive ways in all family situations by stepping back from their emotional reactions, hostile attributions and feelings of powerlessness. The first objective of the intervention is therefore to stop the cycle of family breakdown.

Consistent use of contingencies

By helping the parents to put in place instrumental and social consequences that are tailored to their child's behaviours, the intervention aims to improve their day-to-day family management and childrearing skills. The parents learn to help their child develop new social behaviours that will determine his future degree of adaptation (e.g., independence, work, relationships). They also learn to control their child's negative behaviours which, if not counteracted by specific action, will only get worse.

Family conflict resolution

By having families try new methods of settling certain conflicts, the intervention seeks to have them acquire the basic skills (communication, negotiation, respect of agreements, etc.) needed both to deal with invariable family crises and to prevent and reduce their occurrence. This fundamental process of directly endowing family members with skills to change their interactions and build on progress is linked to the theory that the acquired skills – that is, the effects of the treatment – will be retained, will become generalized, in the short and long term, as part of the cycle of family life.

Specific Objectives of the Intervention

These general objectives point to the importance of providing the parents with tools and supervision techniques related to family management, specifically:
- setting clear rules on family routines and ways of doing things;
- supervising the child, that is, knowing where he is at all times, following up on requested chores and behaviours, and exchanging information between family members;
- positive reinforcement for the prosocial behaviours expected from the child, and discipline in the form of effective punishment and standing by decisions (refusals, demands, and prohibitions) for inappropriate behaviour;
- problem-solving in the areas of communication and negotiation.

By meeting these specific objectives in changing the behaviour of the child and his parents the intervention will achieve the results that are fundamental to all such intervention. That is, those involved will develop a more positive perception of themselves and others, a greater capacity to build relationships, stronger emotional ties within the family, and a pervasive feeling of well-being towards themselves and others. These effects, it should be noted, may not be the direct goals of the intervention.

Key Components of the Intervention

The family intervention program is composed of six key components which are used to help the parents and the children experience the basic skills described above. The components are:

1. the booklet;
2. parents' observation of the child;
3. systematic encouragement of the child's prosocial behaviours;
4. the use of non-abusive punishment to deal with the child's behaviour problems;
5. negotiation in the management of family crises;
6. the generalization of the acquired skills.

The booklet (Appendix 9)

The booklet introduces the intervention program and, to a certain extent, raises the parents' awareness of the various issues that will be addressed and applied. This booklet is presented to parents at the first session of the intervention; it also provides an overview of the principles that will guide the parents' interactions with their child.

A short introduction explains the general orientation of the booklet and offers suggestions on its use. The eight sections each cover a different topic. At the end of each section is a series of fill-in-the-blank sentences. They enable the parents to review the factors and concepts that they should remember.

The eight sections cover the following information:

Section 1: "Observing Behaviour." How to define a behaviour pattern, how to identify what happens before and after the behaviour manifests itself, and how to note its frequency.

Section 2: "Parents and Children Learn Certain Patterns of Behaviour from Each Other." Behaviour patterns are learned through imitation and the consequences of that behaviour.

Section 3: "Positive Reinforcement for Certain Types of Behaviour." Positive verbal reinforcers and positive material reinforces.

Section 4: "Pitfalls." Unknowingly encouraging unwanted behaviour, or using ineffective means to put an end to disruptive behaviours (criticism, teasing, threats, hitting, slapping and other physical punishment).

Section 5: "Discouraging Certain Behaviours". Ignoring the behaviour, withholding an object, withdrawing privileges, time out.

Section 6: "How to Teach a Child Obedience." Getting the child's attention; making a clear request; avoiding repetition.

Section 7: "It Is Important to Communicate Well." Saying things clearly, being concise, checking to make sure that the message has been understood, avoiding accusations, judgments and criticisms, using "I" messages.

Section 8: "Negotiating." Cooperating within the family to find and apply solutions.

The booklet is given to the parents at the very beginning of the intervention. The parents are invited to read it before the next session, and to think about the extent to which they agree (or disagree) with the messages in it. If the parents wish, they can fill in the blanks in the incomplete sentences and write down any questions they have. At the next session, the parents will discuss their understanding of the principles of the intervention, their position with regard to its suggested methods, and their willingness to try some of the methods.

During the subsequent sessions, the facilitator may, as a complement to the discussion that went on, refer the parents to a relevant point in the booklet. Once the intervention is completed, the parents can use the booklet as a reference and to "refresh their memory".

Parents' observation of the child

Teaching parents to observe their child's behaviour is the cornerstone of family intervention from a social learning perspective. Such observation is the first step that the parents take in changing family interactions. In terms of the overall intervention, this step is relatively easy – it requires few parenting skills and offers few challenges. It also guarantees, to some extent, the success of the intervention since the information provided by the parents enables the facilitator to build a program tailored to that family's needs.

The parents' observation of the child's behaviours involves three types of skills:

1. selecting and defining in descriptive and observable terms the behaviours that need work;
2. recognizing and writing down the manifestations of these behaviours;
3. providing the child with verbal labels for his behaviours, so that he can learn to distinguish between them.

Thus, the facilitator helps the parents choose and set priorities with regard to the child's behaviours and their impact as well as to determine the investment that they are prepared to make to change these behaviours. By pinpointing one or two types of problem behaviour, the parents learn to define them in precise terms – by describing the child's actions. This gives a clear, unambiguous image of the behaviour, which is useful to both the parents and the child.

In addition to describing the problem behaviour, the parents should also describe the positive behaviour they demand or expect of the child. This will require that they formulate their demands clearly, ultimately helping the child to understand exactly what is expected of him. The description of a positive behaviour is considered complete and workable when the action, place, and time, etc., are included in it (e.g., pick up his clothes = hanging up his jacket on the hook in the hall, when he gets home from school).

Throughout the intervention, the parents must be encouraged to move from using all-encompassing labels ("he's unmanageable") to being able to express exactly what they want ("for him to do what I ask without a scolding"). This is part of the learning process.

The facilitator also helps the parents identify the situational aspects of the child's behaviours. In other words, the parents learn to pinpoint the events that are likely to trigger the behaviours (what the child does, what the parent does, at what moment the behaviour takes place, etc.), as well as the consequences normally tied to them (parents' reactions, the way the situation unfolds, etc.). By exercising their descriptive powers – and later observation powers – the parents start identifying the nature and components of the interactions and of the organization of the family that need to be changed if things are to run more smoothly.

Once the behaviour patterns have been identified, the facilitator plans, in conjunction with the parents, the conditions in which direct observation will take place. Depending on the selected behaviours, the timing of the observation may vary (e.g., meal times, after school, etc.). Generally speaking, however, the observation will require that the parents watch and take notes of the designated behaviours every day for a certain period of time (from 30 minutes to an hour), at a specific time, if possible, for a certain number of days (from 5 to 7 days) before the next session.

The observation sheet below shows how the parents should prepare and conduct their observation.

During the observation period, the parents must focus mainly on observing. In other words, they must notice the child's behaviour, communicate it to the child verbally in fairly neutral terms, and note it on the sheet prepared for that purpose (What is the child doing? What happened just before? What happened afterwards?). They should minimize their reaction to the child at that time and concentrate on what is happening. This process helps the parents to break down what they are learning – and the changes they seek – into small, gradual steps.

At the next session, the parents work with the facilitator to draft a sheet indicating the frequency with which the target behaviours occur. The parents will now also have a more realistic understanding of the circumstances surrounding those behaviours. All of this information is useful in outlining not only the child's basic level of behaviour and the demands that can be gradually placed on him, but also changes in the organization of the family needed to improve interactions.

The process of the parents' learning to observe their child fulfills a number of functions in the intervention. It focuses the parents' attention on the specific behaviours of their child and gives them manageable intervention targets. It helps them put into perspective their perceptions by showing them the positive aspects of the child that have been eclipsed by the problematic behaviour. The parents also gain a more realistic view of their child's behaviours – and of the expectations and demands appropriate for his age and stage of development. This gives them a reference point for stepping back from overly emotional or coercive behaviours of their own.

OBSERVATION SHEET FOR PARENTS   **Period starting:** 02-03-87

Child's name: Michael   **ending:** 08-03-87

Days of observation by mother: 5 weekdays			Days of observation by father: Saturday and Sunday		
Moment of observation: after school, at suppertime			Moment of observation: morning		
BEFORE		**BEHAVIOUR**		**AFTER**	
Mother or father asks favour Mother refuses to grant permission Michael plays alone Michael plays with his friends	(1) (2) (3) (4)	Michael grumbles, makes faces, is insulting Michael accepts the decision – shows agreement	(1) (2)	Father and mother say nothing Father or mother repeats the request Father or mother punishes	(1) (2) (3)
MONDAY	(3) Michael is in front of the TV + (1) Mother asks him to go get diapers		(1) Grumbles		(2) Hurry up	
TUESDAY	(1) Mother asks Michael to watch his little sister (2) Father asks him to go get face cloth		(2) Accepts (1) Michael: "I'm always the one who has to do it," then (2)		(1) -------------- (1) --------------	
WEDNESDAY	(1) Father: take out the garbage (2) Mother sends him to corner store		(2) Michael takes out garbage (1) He sasses back, does not want to go		(1) -------------- (3) Mother: "If you don't go, you'll go to bed early."	
THURSDAY	Michael asks to have a friend sleep over (2) Mother refuses		(1) Is insulting, then calms down			
FRIDAY	(1) Mother asks Michael to help her make supper		(2) Accepts		(1) Mother: "I'm glad."	
SATURDAY	(1) Father asks him to go get the newspaper		(2) Accepts			
SUNDAY	(2) Father asks him to take care of the baby (1) … to bring the bottle		(1) Grumbles, doesn't want to (2)		(3) Father: "You never want to…" (1) ---------------------	

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However, despite the urgency of the need to "intervene" and any pressure by the parents to get started, the facilitator must not fall into the trap of acting before obtaining a better idea of what has to be done. The facilitator must help the parents do the same.

Systematic encouragement of the child's prosocial behaviours

This key element, having the parents learn to encourage their child, empowers them to teach the child new prosocial behaviours. By reliving their immediate and ongoing responses (or contingencies), the parents foster this development in their child. This will require that during the intervention the parents practise several skills linked to the systematic encouragement of behaviour patterns. They must:

1. identify, define, and observe the personal care, productivity, responsibility, and relationship skills they wish to teach their child. They will base this on the concrete observation they have already carried out, and on their short- and long-term expectations for their child.
2. consistently apply a system of positive reinforcement for the new behaviours adopted by their child. In attentively following-up on their child's behaviours, the parents are stimulated to interact with him and pay attention to him in positive situations, in particular.
3. adopt attitudes and social behaviours that act as positive reinforcement in social interaction. The parents learn to express their appreciation verbally and non-verbally and to create a warm atmosphere by smiling, using eye contact, or showing enthusiasm. By becoming more at ease themselves in such situations, they will help their child be more receptive to these exchanges and more discriminating in his choice of behaviours.

Normally, these learning situations are incorporated in the contract between the parents and their child. The parents and their child take the time, during an intervention session, to define one or two tasks and behaviours expected from the child in the coming days. They also specify in that contract the organizational factors associated with fostering those tasks and behaviours as well as a system of rewards for having carried them out appropriately.

Such a contract formalizes the commitment that the parents and their child make towards each other: The child commits to exhibiting the expected behaviour and, in return, the parents commit to supporting and appreciating their child's efforts. The parents and the child thus build for themselves a kind of support structure based on emphasizing the positive aspects of their interactions, both when the behaviours occur and at the end of each day, when they evaluate their accomplishments. The child's active participation in choosing the tasks and behaviours to perform, as well as the rewards and privileges associated with them, makes fulfilling the contract seem less onerous, in part because his motivation is now to change what is happening within the family.

The contract may contain more than one behaviour or task, as shown in the example below.

CONTRACT NO.: 3												
NAMES: Child						**DATE:** March 8, 1987						
Parents												
Behaviour and task	**Points earned**	**Days (points)**										
		9	10	11	12	13	14	15	16	17	18	
		M	T	W	T	F	S	S	M	T	W	
Task:												
- Clear the table:												
at noon	1											
in the evening	1											
- Clean room												
Make bed	1											
Pick up toys	1											
Hang up clothes	1											
Behaviours:												
- Help mother (go get things for her in the house)	1 point each time											
- Ask permission to leave the yard	1 point each time											
Criterion: 9 **TOTAL:**												
Chosen rewards												

Rewards:

1. A game with Dad after supper (15 minutes)
2. An extra half hour before going to bed
3. Making popcorn in the evening
4. Two cents per point
5. Making a dessert for the family with Mom

It is important, however, to focus on behaviours that are accessible to both the child and his parents. Moving gradually from simple behaviours to more complex ones helps ensure the present and future success of everyone involved. And after a behaviour is thoroughly learned and properly executed, the child can move on to something else; such ongoing adjustments help him keep performing and also help the parents acknowledge and encourage, beyond the intervention process itself, for doing so. By learning to adjust their contract progressively, the parents and their child can start generalizing the acquired skill – drawing repeatedly on the communication and negotiation skills that they have developed.

The use of contracts is a key aspect of social learning and of this intervention process, which stresses the improvement of the family climate by adopting a warm communication style and respect for agreements negotiated between family members. By learning to provide positive reinforcement, to give compliments, and to be considerate towards each other, the parents and child can express appreciation for each other and for what they are experiencing together. The family members also learn to act in a consistent and firm manner towards each other, by reacting based on what the others do, rather than on their particular mood at the moment.

Similarly, from the time family members learn, by using the contract, to formulate the changes that they seek and the steps (or contingencies) they are willing to take to achieve those changes, they experience a true sense of commitment towards each other. They start to break the cycle of repetitive failure and create a satisfying family life.

Use of non-abusive punishment to deal with the child's behaviour problems

Research in social learning intervention has emphasized the need for specific action to significantly reduce a child's aggressive behaviours. It has also shed light on the lack of skill of some parents when it comes to disciplining the problematic behaviours of their aggressive child.

This family intervention process aims to give parents the skills they need to control and reduce their child's undesirable behaviours: those that are particularly disruptive and through which the child seeks and effectively receives a great deal of attention. As part of the process, the parents must become familiar with the following complementary techniques:

1. disciplinary techniques that are both effective and non-coercive. The parents learn to punish their child's difficult behaviours by changing their own way of responding to them. Basically, the parents are provided with a range of methods that help them turn their attention away from the child when he is exhibiting inappropriate behaviour, so that the child is deprived of even negative attention (spanking, threats, etc.). By not reinforcing the exhibited behaviour, and by following up on it in a planned and relatively controlled way, the parents avoid the pitfalls of negative reinforcement present in all conflictual situations.
2. consistency in following up on the child's undesirable behaviours. Here, the contingency of the parental behaviours (consistency of their responses when faced with repeated behaviour by the child) becomes the key element. This skill builds on previous lessons learned in terms of defining appropriate and inappropriate behaviours, the direct

observation of these behaviours in family life, and the growing feeling on the part of the parents that they can change both their child and themselves.

3. effective use of disciplinary techniques in their daily interactions with their child. Here the intervention aims to have the parents experience concretely both the attitudes (calmness, respect for the child, etc.) and the behaviours (sticking to the demand without repeating it, withdrawing attention, etc.) that endow punishment with its restrictive role in disciplinary situations.

At this point of the intervention, the parents and children include in their contract the undesirable behaviours that need to be changed and the consequences they envision should the behaviour patterns occur. This way, while the manifestation of more appropriate behaviour is encouraged, direct action is also taken to deal with the more intransigent behaviour.

A number of methods may be used by the parents to avoid conflict escalation and help their child change his behaviour patterns. These include ignoring the behaviour, letting it run its course, having the child serve time out, withdrawing privileges and assigning additional chores. The choice of which to use depends on the behaviour in question, the child's age, the frequency of the situation, etc.

Ignoring the behaviour consists of not giving the child attention when he uses disruptive behaviours to draw attention to himself (complaining, sulking, screaming, etc.). It cannot, of course, be used when the child puts himself in a situation that is dangerous to him or others (e.g., fighting, etc.) or when his behaviour benefits him to the detriment of others (e.g., refusing to do his chores, etc.). The parents must be prepared to ignore certain behaviours and target those for which withdrawing attention will achieve the goal. They must, in other words, practise turning away, looking elsewhere, or becoming engrossed in another activity. However, ignoring the behaviour will not lead to change if the parents' ties with the child are weak or if the parents have a history of refusing the child positive attention in deserving situations. Still, by refusing to acknowledge certain behaviours, the parents encourage their child to develop more appropriate ways of drawing attention to themselves.

Natural and logical consequences apply well in cases where the behaviours are irresponsible or immature. The parents are asked to let their child experience the normal effects or consequences of their actions (e.g., he breaks his toy: the parent does not replace it and the child is deprived of it). At other times, the parents must identify the logical consequence of what the child has done (e.g., he has damaged the neighbour's property: he will make up for it by doing yard work for the neighbour). In situations where the parents can make use of this type of consequence, they must learn to deal with the child's testing, stop arguing with the child about his complaining, and let him act for himself without resorting to the attention being withdrawn, but while following up on the effects of the intervention.

Time out is a basic technique that is widely used by parents. Unfortunately, their misunderstanding of the mechanisms involved often renders it ineffective. And time out can even be abusive when it is unduly prolonged or when it is accompanied by threats, humiliation, or physical coercion.

In and of itself, time out consists of sending the child to a place that is isolated and boring (offers nothing to capture his interest), for a short period of time, every time he presents a specific undesired behaviour. By this we mean aversive and very disturbing behaviours that are repeated often and that we want to minimize quickly: disobedience, opposition, fighting, insults, and arguing. Before using time out, the child is fully informed of both the reason for the time out (manifestation of an unacceptable target behaviour) and the conditions of the time out (where, how long, etc.). It is not always easy to find a room where there are no distractions for the child (toys, television, other people). We believe the bathroom is often a good solution. The duration of the time out must be brief (approximately five minutes) so that the child does not feel as though he has been forgotten and will not lose sight of the reason for the time out. These short periods of withdrawal are repeated as often as the child persists in repeating the behaviour. When the parents isolate the child, they must remain firm and polite: they must avoid blaming, lecturing, or threatening him, both at the beginning and end of the time-out period. In addition, once the child has served the time out, the parents must not abandon the demand that caused the child's initial reaction.

This technique is effective in enabling the parent and child to stay calm and step back, right at the start, from an escalation in conflict that could lead to screams and hitting. Time out works well with children between the ages of 2 and 12. For adolescents, loss of privileges seems to be a more effective punishment.

Loss of privileges consists of depriving the child, after an undesirable behaviour has been exhibited, of a thing (bicycle, allowance, etc.), an activity (watching television, etc.), or a permission (inviting friends over, going to bed later, etc.) that he really likes. The types of behaviour targeted are usually linked to a failure to observe a rule or condition (not coming home on time, not doing a chore he has promised to do). The technique can also be used as a second intervention step when the child continues to test his parents' use of ignoring and time-out strategies.

With this technique, as with the others, it is important to identify the target behaviours clearly beforehand, to inform the child of the consequences he will bring upon himself, and to apply the technique firmly and consistently. The parents must not withdraw too many privileges for too long a period – that will only provoke resentment on the part of the child. On the contrary, the child will learn more from the situation if the loss of privileges is well paced in terms of their duration and number.

The final method by which parents can effectively reduce their child's aversive behaviours is that of *assigning additional tasks*. This technique, which is used only for dealing with serious problems (lying, theft, destroying someone else's property) that do not involve regular interactions between the parents and the child, has the advantage of teaching the child to compensate, in time and effort, for the inconvenience and damage he may have caused. Ensuring that the tasks are proportional to the severity of the behaviour, that the technique is used consistently for every identified problem situation, and that the parent adopts a calm, firm and respectful attitude are all necessary if the punishment is to be educational rather than abusive.

The parents and children will require assistance in setting up each of these techniques, defining the key factors, experimenting consistently with the chosen methods, and learning new attitudes for their interactions. This requires a great deal of energy because it directly affects the coercive mechanisms that have taken root in the family. That is why the parents must realize that experimenting with these disciplinary techniques is complementary to – but does not exclude – their praise for the child's positive behaviours and their gentle reinforcement of his new responses.

This aspect of the intervention process helps to break the cycle of reciprocal negative reinforcement associated with disciplinary confrontations. The parents and children learn to control themselves rather than to seek to control the responses of others. Staying calm in difficult situations enables them to recover some of their self-esteem, become aware of their ties to others, and rediscover the hope that they really can change their family life.

Negotiation in the management of family crises

This phase of the intervention aims to equip the parents and the child to solve their conflicts as a family through mutual cooperation. The previous steps have brought them together to modify their behaviours in relation to one type of problem: those caused by the child's behaviour.

In this phase family members will undertake several problem-solving exercises to learn to work together to resolve family-life situations. In doing so, each member will gain a better understanding of not only the problems but also the point of view of the other persons (parents with regard to children and vice-versa). By doing the exercises together, the family members are more likely to find realistic and creative solutions, and to cooperate better in upholding them.

This process, which involves a series of sessions, is difficult. It requires the development of a large number of communication, negotiation and problem-solving skills.

In the communication sessions the parents and child will practise listening, speaking without hostility and clearly stating what they have to say. These important skills will also be used later during the exercises and sessions on problem-solving. The topics explored and put into practice in these sessions are:

- distance between people during a discussion (being close to each other rather than far away);
- eye contact (looking at the person you are talking to and getting his attention);
- physical contact (being warm rather than cold or rough with the person);
- ways of expressing your opinion and listening to the other person's opinion;
- using "I" messages (rather than "you" messages that blame, criticize, or judge);
- keeping messages clear and brief (defining expectations, goals, and desired behaviours);
- checking what messages have been understood.

Even when the individuals in a family have such skills, it is often more difficult for them to use these skills within the family than with strangers. Indeed, abrasive interactions and sharp

language are often associated with family life, and the facilitator must take special care in helping the family members identify and change all attack and defence attitudes and behaviours. These only short-circuit the communication process.

The sessions on problem-solving provide a vehicle for the parents to cooperate with their child in searching for solutions that are acceptable to all of them because these solutions take into account their opinions and depend on their participation. This "step by step" method is based on the following components:

1. choose a good time, when everyone has enough time to talk;
2. identify a problem: pinpoint it clearly, working on one problem at a time;
3. clarify what everyone wants and doesn't want, and reach consensus on what needs to be changed;
4. come up with a list of as many solutions as possible;
5. assess each solution in terms of advantages and disadvantages (pros and cons);
6. negotiate by accepting commitments and agreeing on how to proceed;
7. decide how the chosen solution will be applied by each person (conditions, methods, and consequences in the event of failure to fulfill the commitment);
8. set a trial period, at the end of which the solution can be readjusted if necessary.

To help family members gain experience with this problem-solving method, they are asked to try out some situational reconstructions during the session. This prepares them to put the process into use at any time during their day-to-day family life. In the long run, this lesson mobilizes each member of the family to become involved in and take action on family matters.

An approach of cooperation rather than mutual attacks, of action rather than judgmental arguments, makes each person more confident and hopeful with regard to the others: it is possible for a family to change, and interesting solutions can be found for the conflicts that are bound to surface in it. Communication and negotiation can become meaningful and useful as a strategy for sharing, change, and support within the family.

Generalizing the acquired skills

The generalization process consists of ensuring that the parents can use the different components of the program, that is, appropriate them, without the constant presence of the facilitator. Building this skill starts at the very beginning of the intervention: The facilitator must always keep in mind that the leadership in this experience belongs to the parents. He or she should present the tools as belonging to the parents and support their first experiments with them, while gradually guiding them towards using them on their own initiative.

It will become apparent that the parents are gaining confidence and learning to modify some aspects of the strategies. For example, they might use a method they learned earlier in the intervention to deal with a new behaviour exhibited by their child or use some of the more successful strategies to deal with their other children. Some parents even begin using their new communication, affirmation, or negotiation skills at the office or in the community.

The facilitator should watch for all attempts by the parents to adapt and personalize their methods in order to acknowledge them and comment on their relevance. The facilitator thus helps the parents affirm their new understanding and skills, so that they can clearly identify both their role and the factors in their positive interactions with their child and their surroundings.

Acquiring the ability to generalize is one of the criteria for being able to maintain acquired skills … and it's a sign that the intervention is coming to an end. When it becomes clear that the parents have incorporated the principles of the approach and are sufficiently skilled to use the proposed tools and techniques on their own, the facilitator plans the end of the intervention with the parents. They will decide together on the number of remaining sessions and their content, which may consist of a review of the principles that were tested and adopted. The booklet can be very useful at this point.

The final sessions should be less frequent, so that the parents become used to functioning without the facilitator. The latter should now be regularly reminding the parents of the date of the last session, so that they have ample time to prepare for it.

During the last session, the facilitator might want to review with the parents the main aspects of childrearing that they have been working on, as well as the principal skills they have acquired to support them in this. The facilitator can also point them towards other available resources (C.L.S.C., C.S.S., community-based health clinics, etc.) for dealing with particular needs and conflicts. The final message to the parents should focus on the personal and family resources that they possess which will enable them to continuing the work they have started so successfully.

A few weeks later, the facilitator makes a follow-up call to the parents, offering them a final word of encouragement and inviting them to bring up further questions or thoughts. During this last communication, the focus is on the way the parents are planning their family life for the coming months. There must be no ambiguity about whether the facilitator will become involved again. On the contrary, the facilitator reminds the parents that they must have confidence in their own methods and in their ability to ask for – and benefit from – help, should they need it.

IMPLEMENTING THE FAMILY INTERVENTION

Target Families

This intervention program is mainly addressed to families with a child, or children, who have behaviour problems. The externalized behaviours of the child (testing and transgressing family and social standards and limits) arise in the coercive environment in which that family operates.

As described in this guide, the intervention may be used with boys and girls between the ages of 3 and 13. Adjustments are made (e.g., emphasis on loss of privileges, problem-solving, etc.) when the intervention is aimed at older children. It can also be adapted to special clienteles (e.g., abusive parents, foster homes, etc.).

The intervention strives to be concrete and focused on daily family concerns. It is very accessible to single parents and couples with children who wish to develop effective childrearing attitudes, regardless of schooling, socio-economic level, or life experience.

When dealing with parents with more severe psychiatric conditions, this family intervention can be a practical complement to individual treatment.

The Sessions

This intervention uses the formula of sessions that bring together the members of the family (parents and children) and a facilitator.

These sessions take place either in a professional setting or at the family's home. While it is more labour-intensive, the latter option has a number of advantages: parents are more at ease and more in control of the intervention, and family interactions can be observed in a more natural setting.

In the case of two-parent families, both parents' cooperation must be strongly encouraged, at the sessions and during the exercises (readings, observation, allocating points, rewards and encouragement, punishment, etc.). This does not mean asking both parents to perform the same childrearing tasks, but rather asking them to become involved according to the role each plays in the family.

The child concerned also participates in the sessions, sometimes for their entire duration, sometimes for certain activities related to his cooperation in role-playing, defining a problem, choosing the behaviours to work on, and setting up the consequences. The extent of the child's presence at the sessions will depend on the child's age and the problems faced by the family or the parents... but the child is never out of mind.

Cooperation is also requested from other members of the family, so that everyone feels involved one way or another.

The sessions last about an hour and take place once a week, at least at the beginning of the intervention. Later, they will be less frequent, in preparation for the end of the intervention program.

Each session follows the same format: preparing the session agenda with the parents (objectives, content, concerns) and reviewing the work done (reading, observation, contracts, punishment, problem-solving); structuring the work for the coming period based on the discussion and the needs expressed; discussing specific problems (agreement within the couple, problems with school, etc.); summarizing the session (highlighting the main points and recommendations); setting the date of the next session.

During these sessions, the parents are asked to create an atmosphere of calm and availability (by turning off the television or radio, not answering the telephone, not accepting visitors, etc.) in order to foster listening and exchange.

The duration of the intervention program itself is not determined in advance. A dozen sessions may suffice for some families, whereas other families will require longer periods (forty to fifty sessions over two years). On average, the intervention is completed after twenty or so sessions.

Intervention Strategies

It is important to remember that learning is at the heart of this approach. This learning takes place using several techniques to teach parents new childrearing methods and to supervise their use of these methods. Rather than initiating discussions, interpretations, or stocktaking as a means of change, this approach builds on experimentation as a source of change. The facilitator asks the families (parents and children) to experience in real life what he teaches them to apply in relation to each other. The facilitator therefore uses the same techniques in his approach as those he/she asks parents to use with their children: 1) pacing challenges, 2) modeling and role-playing, 3) supervised experimentation, and 4) reinforcement.

Pacing challenges

This approach seeks to guide parents along a regular, successive progression of small learning steps focused on a more general goal. It is easier to observe than to enforce, just as it is easier to congratulate a child for prosocial behaviour in an emotionally positive or neutral situation than it is to stop his aversive behaviour in a tense and confrontational situation.

Of course, the parents often bring up the "big" problems at the very beginning of the intervention, stressing the need to tackle the acute crises. The facilitator must help them select problems that are significant but less problematic – tasks that are simple to perform – so that the parents' and child's success is guaranteed from the outset. This helps avoid big disappointments that could reduce the participants' interest in and cooperation with the program.

The facilitator therefore informs the parents that it is important to break down the problems they want to solve into small and manageable tasks. Sometimes, by dealing with smaller or less serious problems, parents and the child will learn to tackle more imposing ones. Let's take the example of a family in which the most disheartening and disturbing problem is the fact that the child argues every time he is asked to do something. Much of the solution to this problem lies in specifying in advance the tasks that the child must perform during the day. The parents no longer have to repeat their demands, and the child, knowing what is expected of him, has less room to argue.

The facilitator also uses this technique of breaking down the task or behaviour into steps in order to facilitate learning with the parents. Parents often fail to change their ways of doing things because they do not know how else to act. To ensure that the parents' basic ability is taken into account, the facilitator reminds them continually of the skills they are practising as well as the conditions in which they are trying to make the change. Such attention, and the recommendations arising from it, enables the facilitator to discuss all of the foreseeable difficulties in order to simplify things and help the parents progress step by step in acquiring the targeted skills.

Modeling and role-playing

During the session, the facilitator will use real-life situations – or propose specific situational reconstructions – to put into concrete action the behaviour patterns or attitudes described in words. Initially, the facilitator acts as a model: his or her way of approaching the child, of soliciting input from each member of the family, of specifying demands, of making positive comments about the behaviours of the child and the parents during the session are all examples. Thus, the facilitator illustrates by his actions what he or she will later ask of the parents.

The facilitator must, however, be consistent in the message to parents that they are the ones in charge. He or she must therefore refrain from intervening in the family when it is up to the parents to do so. During sessions, the facilitator lets parents deal with the child's tears and tantrums, but maintains – and models – observance of the rules of the session (waiting one's turn to talk, respecting others, listening, etc.).

Role-playing is another good way for the facilitator to model the targeted skills for the parents and children. By using situational reconstructions, role-playing provides a means to actively illustrate the intervention techniques that need to be developed. To model what he or she is suggesting, the facilitator can play the role of a parent presenting a clear demand to the child, providing encouragement, using time out, etc. The facilitator can also play the role of a child obeying a demand, so that the child will fully understand what is being asked of him.

Similarly, by occasionally playing the role of their child, the parents can better identify the child's reactions and the effects of their own intervention. [With role-playing, the facilitator can comment on the performance of everyone involved – parents and child – while bolstering their efforts and suggesting improvements without criticizing, but rather by stressing what might be useful in such situations.]

This way of teaching is often amusing, concrete, and relaxed. It is also formative as it enables everyone to achieve a degree of ease that will help him or her use the approaches they have practised in the real-life situations.

Supervised experimentation

The goal of each session is to plan concrete interventions by the parents in the organization of family life, the management of their child's behaviours, and more appropriate interactions with that child.

The facilitator guides this experimentation in three different ways:

1. through concrete planning at the sessions.
2. through periodic support between sessions.
   The facilitator makes brief telephone calls to supervise the parents' efforts, particularly at the beginning of the intervention. Such contacts help him or her gather more factual information on the child's behaviour patterns and the parents' interventions. They are

also useful to re-explain (or redefine) for parents, if necessary, the conditions for carrying out the exercise.

This way of doing things makes it possible to lay a strong foundation for the intervention and to correct any errors quickly, along the way. The purpose here is to ensure that the efforts made are successful, and to maintain or revive the interest and motivation of the parents.

3. by systematically reviewing the family's experience. At the next session, the facilitator looks at the contracts/commitments that were observed or disregarded during the past week. He or she analyzes with the family their victories, reactions, and feelings in relation to what they have experienced, and the readjustments required to strengthen these achievements or move on to a new step.

The facilitator carries out this review even if the parents provide a number of reasons to explain their failure to respect their commitment over the past week. In such cases, it is important to reassess the requirements and conditions in light of the parents' and child's real capacities, and to avoid the pitfall of dropping the issue and failing to carry forward the work done within the family.

In the case of repeated difficulties or resistance, the facilitator learns to confront the parents about the commitments they have made and redefine the objectives they are pursuing, their request for assistance and the participation expected from everyone involved (parents, child, facilitator). This step, which is contingent to the intervention itself, provides a clearer understanding of the interactions within the family and strengthens the alliance created between it and the facilitator out of a – real or ambivalent – desire for change.

Providing reinforcement to parents

This approach puts a great deal of emphasis on providing positive reinforcement to the child to help him learn appropriate behaviours. The facilitator must show the same attitude towards the parents to encourage them in their attempt to change things and act as a model as well. The facilitator takes every opportunity to highlight the progress made, but also identifies the skills that the parents already possess, or their level of concern with regard to certain situations. This way, the facilitator becomes accustomed to recognizing in the parents the positive elements on which he or she can build the intervention. Similarly, the facilitator stands ready to encourage and validate all of the initiatives that the parents may take as a consequence of or in tandem with the intervention.

The facilitator's focus on positive aspects reinforces the parents' emerging sense of competence by providing specific reference points for their achievements and by making them aware of their well-being and satisfaction in relation to this family experience.

The Facilitator's Attitude

The facilitator should exhibit a *warm attitude* aimed at creating ties of cooperation with the family. The use of simple vocabulary that matches that of family members will help family members feel that they are understood. Speaking less and putting ideas in concrete terms will

help the facilitator remain attentive to the parents' words and needs. The facilitator must be more intent on understanding the parents than on convincing them, and must communicate to the parents a message of interest and respect as individuals and for what they are going through, while being clear about the assistance being offered.

In addition to being warm, the facilitator's attitude should be *comforting*. Without minimizing or dramatizing things, the facilitator makes the parents feel that their role is difficult, that the difficulties they are experiencing are shared by other parents, and that they can learn to successfully change situations that are currently unsatisfying. Here the facilitator can use some examples to briefly sketch the way their child is behaving now, and how things can change.

The facilitator's role in this kind of approach requires that they give a certain amount of *direction*. While teaching the parents to support their child, the facilitator models the experience for them (upholds agreements, makes clear demands, is on time for sessions, etc.). The facilitator's direction has to do with providing the framework for and conducting the intervention. The parents are the ones responsible for making it meaningful through the individual issues they bring forth.

The facilitator must also be aware of the *professional distance* required for this type of intervention work. This distance, which is all the more difficult to achieve because the intervention takes place in the parents' home, is established by numerous innocuous but significant details, such as addressing the parents formally, dressing in a discrete and conservative fashion, keeping small talk to a minimum, etc.

The facilitator seeks to understand the relationship patterns of the families he or she works with, in order to avoid the pitfall of repeating them. This professional distance guarantees a certain objectivity that will enable the facilitator to help family members start relating to each other in a new way.

Throughout the therapeutic process, the professional must keep in mind that he or she is only the facilitator of the changes sought within the family. It is the parents and children who change their own behaviours and their responses to one another. They are the architects of their family success, and in the end the credit for the intervention must go to them.

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Table of Contents

2   The School Intervention[1]

Lucie Bertrand and Raymond Labelle

ASSESSING BEHAVIOURS IN THE CLASSROOM

In accordance with social learning theory, the assessment discussed here is mostly a behavioural assessment. It differs from traditional assessment, which assuming that problems on the surface are but a symptom of a deeper personality disorder, sifts through the child's past experiences to find their roots.

Behavioural assessment, on the other hand, views the behaviour itself as the problem to be targeted for modification or intervention. It takes a more descriptive approach in which the situation and the child's behaviours – and the reactions they cause in the school environment – are defined on the basis of their observable manifestations in the child's daily interactions.

The focal points of such an assessment are developed in relation to the various steps of the assessment program. The program presented here comprises two steps: a needs analysis that can be used for the systematic screening of a target population or the preliminary study of an individual being referred, and a planning phase in which the definition or identification of the existing problems leads to the decision whether to intervene and the planning of the appropriate services, if required.

During these steps, the assessment goes from a general identification of the problems to a more specific description of the behavioural and situational elements at play. The types of tools used, as well as the involvement of the teacher, the child, his peers – and the parents – will vary with each step.

Step 1: Needs Analysis for Screening and Examining Referrals

The early detection of children likely to exhibit aggressive behaviour is important for effective prevention. Nonetheless, there is virtually no systematic implementation and management of early detection in the social and educational services. Interventions commonly take place following a request or a referral by the family or school environment that are disrupted by the behaviour problems of a particular child.

In addition to identifying foreseeable needs so that services can be developed, early detection may mitigate the biases that can short-circuit referrals (perception of the effectiveness

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of the intervention or the services provided, varied tolerance on the part of the persons in a position to refer the child, etc.). It can also help identify problems that may not be as obvious in terms of immediate impact on the child's surroundings, (social isolation, depression, etc.) but are nevertheless clearly associated with the development of social adaptation problems later in life.

The screening proposed here has to do with identifying children whose social development is at risk. The tool used is the Pre-school Assesment Behaviour Questionnaire *(Questionnaire d'évaluation du comportement au préscolaire* - QECP, Appendix 1). Developed by Tremblay and Desmarais-Gervais (1985), the questionnaire assesses the behaviours of kindergarten children according to the:

1. *"Aggressiveness/hyperactivity" scale.* Thirteen items (1, 3, 4, 6, 8, 13, 21, 27, 34, 38, 41, 45, and 47) are used to assess the presence (occasional or frequent) or absence of aggressive and hyperactive behaviour patterns such as:
   - very agitated, always running and jumping, never stays still;
   - destroys his or other children's things;
   - fights with the other children;
   - is disobedient;
   - tells lies;
   - does not share toys.

2. *"Anxiety-social withdrawal" scale.* Six items (10, 11, 15, 24, 40, and 48) describe behaviour patterns of social avoidance or disinterest such as:
   - tends to work alone in his little corner;
   - looks sad, unhappy, close to tears or overwhelmed;
   - has his head in the clouds.

3. *"Total maladjustment"* scale. These nine items (17, 19, 22, 26, 29, 31, 32, 36, and 43) are not exclusively linked to one scale or the other, but help discern child behaviour problems. The items refer, for example, to ways of approaching a task (focusing on details, giving up easily, becoming distracted…) or specific types of behaviour (stuttering, language difficulties…).

4. *"Social behaviours"* scale. Twenty questions (2, 5, 7, 9, 12, 14, 16, 18, 20, 23, 25, 28, 30, 33, 35, 37, 39, 42, 44, and 46) illustrate positive behaviour in the child's interaction with his peers and with adults, at the level of perceiving feelings, positive expression, and cooperation. For example:
   - comforts a child who is crying or upset;
   - laughs or smiles if someone does something well in class;
   - shares material used for a task.

This standardized tool provides a means to compare children's results with established norms and to discern groups of children with different characteristics of aggressiveness, social withdrawal, and prosocial behaviour. This tool can also identify those children who appear to be more at risk. The QECP User Manual, developed by Tremblay and Desmarais-Gervais (1985), gives these norms in the form of percentiles differentiated according to the age, gender, and socio-economic level of the pre-school children.

The questionnaire is aimed at kindergarten teachers. It relies on their judgment as adults knowing the children well enough to gauge their strengths and difficulties. With this in mind, it is preferable to present the questionnaire at the end of the school year (May).

This questionnaire makes possible a quick and fairly inexpensive screening. If administered throughout an entire school board, it can reach all children between the ages of 4 and 5 within a given population.

One must not, however, expect from this phase of the assessment an in-depth individual evaluation. This phase can highlight the prevalence of a problem within a given group. It can give only very general information on a specific child. In fact, this screening identifies certain children who should undergo a more in-depth assessment.

Step 2: Examining Referrals and Planning the Intervention

Referrals

Unlike a screening, where a child's problems are identified *in situ,* a referral from a parent is typically in regards to specific problems. Such referrals tend to be global and subjective. For example, if they take place at a time of crisis, one aspect of the situation can be blown out of proportion.

In the school environment, homeroom teachers are those who most often refer children with difficulties to various professional resources. School staff members or principals may also bring a child to the attention of a facilitator. The homeroom teacher is the person recognized as the best equipped to provide specific indications on the child's experience in class.

Before undertaking an intervention program for a child manifesting difficulty adjusting to the school setting, the facilitator must plan an assessment aimed at collecting specific information on the way the teacher perceives the child and, in particular, the child's behaviours in the class.

The time and level of implication in gathering this information will vary according to the case, but at the end of the assessment the facilitator should be able to identify problems in the child functionality and adaptability. The assessment should also identify the basic level of the child's social skills, as the intervention will primarily be based on those skills for the development of the new ones.

Content of the assessment

The assessment measures examine the behaviour patterns exhibited by the child in the classroom, the responses of those around him, and the conditions in that environment.

Five behaviour categories are surveyed: 1) behaviours in relation to classroom rules, 2) academic behaviours, 3) behaviours when interacting with peers, 4) behaviours outside the classroom and 5) other social behaviours.

Behaviours in relation to classroom rules. These behaviours indicate whether the child complies with the teacher's demands and with the different rules and routines in place to run the classroom.

Academic behaviours. This category describes the child's attitudes and behaviour in relation to academic work, task performance, attention to the instructions provided by the teacher, punctuality, and independence when it comes to completing school work.

Behaviours when interacting with peers. The degree to which the child gets along and cooperates with the other children in the group is assessed in terms of observed prosocial and aggressive behaviours.

Behaviours outside the classroom. This section deals with the child's behaviour in the schoolyard, in the halls, on the school bus, and in relation to school staff.

Other social behaviours. The behaviours identified here are mainly linked to the manifestation of prosocial behaviour in terms of personal independence, cleanliness, and honesty.

Assessment

There are two components to the assessment: 1) the sessions with the teacher, the parents, and the child, and 2) the observation of behaviours in the classroom.

Session with the teacher. The teacher's perception of the child's behaviours is one of the principal sources of information for the facilitator during the assessment period. This information is collected in a session with the teacher organized by the facilitator.

The session with the teacher has three goals: 1) draw up a list of the behaviours exhibited by the child and assess their frequency; 2) state the rules that the teacher sets out in his or her classroom, and 3) prepare the classroom observation of the child.

The assessment content and procedures presented here are largely taken from the C.L.A.S.S. program (Hops, Beickel, Fleischman, Walker, & Nicholes, 1976).

Using the questionnaire "*Observation – Assessment at school – Teacher's perception of the child's behaviour*" (see Appendix 1), all aspects of the child's experience in the classroom and at school are examined. The session with the teacher attempts to identify how often the child's behaviour patterns are manifested.

It is important to mention that a child who is referred is graded on each item in the questionnaire *in comparison with the other children in the class*, and not on an abstract or ideal notion of a child with "normal" behaviour. Therefore, the frequency score is relative to the child's current school environment. For example, the item "does not stay seated" cannot be graded as inappropriate behaviour in the case of a child assigned to a classroom that features learning centres and in which *all* of the children frequently move from one such centre to another.

The session with the teacher makes it possible to identify the child's behaviours in relation to classroom rules. The facilitator might ask the teacher to describe, when listing the rules of classroom behaviour, a few concrete examples of the behaviours that he or she expects from his or her students. This information is used to guide the facilitator's classification of classroom behaviours for the observation periods. The facilitator also takes into account the teacher's behavioural requirements and level of tolerance.

The teacher should also be asked to provide a more specific description of the child's problem behaviours in terms of their frequency, the periods when they are usually exhibited, and the factors that seem to trigger these behaviours. For example, the child might usually exhibit the inappropriate behaviours right after recess, or when he is too close to his peers, etc.

At the end of the session with the teacher, the facilitator explains the observation procedure and organizes the classroom sessions during which the child's behaviour will be observed.

Session with the parents and the child

Even though it is for the purpose of a school intervention, the assessment is rounded out by a session with the parents. The goal is to document not only the specific behaviours of the child in the situations he experiences but also the behavioural patterns he carries over from one environment to another.

The behaviour checklist in Appendix 5 helps the parents determine the aggressive, prosocial, and deviant behaviours of their child. This Appendix also contains a sample of a child interview that can be used to obtain the child's description of what is happening to him at school and at home. The child's perception of his own behaviour, and of the rules that he follows or fails to follow, helps the facilitator pinpoint the characteristics of the child, and of those surrounding him, that will need to be modified during the intervention.

Observation in the classroom. The observation of the child's behaviours in the classroom is an important way of collecting information following a request for an intervention with a child.

There are two periods of observation, each lasting twenty minutes: one during a group activity in the classroom and the other while the students are working individually. The facilitator must ensure that these observation periods include moments when the child typically exhibits his most disruptive behaviours.

If particularly difficult behaviours occur outside of the classroom or during classroom changes, the facilitator must also observe at these times. However, even if the teacher indicates that the child causes problems only during group activities or only during individual activities, it is still important to observe both situations in order to determine the child's ability to perform in different conditions as well as to collect a representative sample of his behaviours.

The observation consists of noting the frequency of the child's behaviours at ten-second intervals, according to whether the behaviour is appropriate for the task (+) or inappropriate for the task (-).

The rules for running the classroom and the definition of expected behaviour provided earlier by the teacher are used to give the observed behaviour a positive or negative score. Teachers differ as to what they allow children to do during teaching time. For example, some teachers allow them to talk to their fellow students. Others let children play or draw when they have finished their academic work. Such behaviour is rated appropriate (+) if exhibited by the child, unless he breaks other rules at the same time (e.g., destroys material, talks about something other than the focus of the academic task).

In addition to the target child's behaviours, his interactions with the teacher are observed and coded to identify how the social environment responds to the child's behaviours as well as whether these contingencies result in the repetition or decreased frequency of the behaviours.

Code identification. The behaviour patterns are observed according to the following codes:

| + | Appropriate behaviour without interaction

| – | Inappropriate behaviour without interaction

| (+) | Appropriate behaviour approved

| (–) | Inappropriate (unusual) behaviour approved

| +/ | Appropriate behaviour disapproved

| –/ | Inappropriate behaviour disapproved

| +. | Appropriate behaviour with functional interaction

| –. | Inappropriate behaviour with functional interaction

Description of the codes where there is no interaction between the target child and the teacher

| + | Appropriate behaviour without interaction. Any activity that fits in with what is explicitly or normally expected in a given situation, or which complies with the identified rules. For example:
1. Martin cuts construction paper to make a collage.
2. Serge lends his ruler to a friend who asked him for it during a team project in class.

| – | Inappropriate behaviour without interaction: any activity that does not fit in with what is explicitly or normally expected in a given situation, or which does not comply with the identified rules. For example:
1. playing with a pencil during performance of an academic task.
2. talking in line when silence has been requested.
3. pushing another child in the space between desks near the teacher's desk.

Description of the codes where there is interaction between the target child and the teacher

(+) Appropriate behaviour approved by the teacher: verbal or nonverbal expression of support, encouragement, positive comment(s) on the child's behaviour, his performance, his appearance, etc., giving express agreement; nodding a sign; smiling; moving closer to the target child; making a warm gesture. For example:
1. That's very good, Simon, you just put your book away as soon as I asked you to.
2. After Phillip has been working in his math notebook for a few minutes, the teacher goes by him and puts her hand on his shoulder, saying, "that's very good, keep it up!"
3. Jack raises his hand and asks whether he can change games. The teacher answers: "O.K., but do it quickly."
4. John arrives at the classroom door after recess. The teacher smiles and winks at him.

(−) Inappropriate (unusual) behaviour approved by the teacher: For example:
1. During academic work, Paul sings to himself, the teacher tells him: "Well, aren't we lucky to have music this morning."
2. Sylvain rocks his chair back and forth. The teacher goes up to him and puts her hand on the child's shoulder.

+/ Appropriate behaviour disapproved: verbal or nonverbal expression of disapproval for the child's appropriate behaviour, appearance, or performance.
   - Clearly manifests blame, criticism, or disagreement. For example:
1. When Eric is one of the first students to take his seat, the teacher says: "I can't believe you are already at your desk."
2. The child raises his hand to ask a question about his work, and the teacher says, looking at him: "Don't tell me you haven't understood yet."

−/ Inappropriate behaviour disapproved: verbal on nonverbal expression of disapproval for the child's inappropriate behaviour, appearance, or performance.
   - Clearly manifests blame, criticism, or disagreement. For example:
1. Luke is in a group with three other children in his class for a team project, and the children have been having fun teasing each other for the last few minutes. Seeing this, the teacher says: "O.K., back to work. You are not there to have fun!"
2. Jack voluntarily bumps into another child on his way back to his desk. The teacher, who sees this, calls him and says: "Jack, come back here and walk to your desk again."

+. Appropriate behaviour with functional interaction: performance of appropriate behaviour and observation of a functional exchange between the child and the teacher: general conversation; question(s) and answer(s); transmission of information; reminder of an instruction. For example:
1. While the teacher is passing out material to make crafts, Paul asks if he can have the glue.
2. "Do I do all of the additions?" asks Paul. The teacher answers, "That's not necessary, you must do at least 6."

‾−. Inappropriate behaviour with functional interaction: performance of inappropriate behaviour and observation of a functional exchange between the child and the teacher: general conversation; question(s) and answer(s); transmission of information; reminder of an instruction. For example:

1. When each child is supposed to be working at his or her desk, the teacher gives some construction paper to Peter, who is not at his desk, and says: "here is the paper you asked me for earlier."

The observation sheet, checklist, and the percentage calculation of appropriate behaviours are found in Appendix 2.

As for the method of the observation, the facilitator enters the classroom and waits a few minutes while interest in his or her presence dissipates. He or she can then begin the observation and start the scoring. At the end of each observation period, the facilitator checks with the teacher whether the moment observed was an accurate sample of normal classroom activity for both the target child and the group as a whole.

Calculation of appropriate behaviours. The appropriate behaviours (+) recorded during the observation period are stated as percentages. The percentage is calculated as follows: the number of intervals with appropriate behaviour patterns (+), divided by the total number of intervals observed, and multiplied by one hundred (e.g., 58 intervals with appropriate behaviour patterns ÷ 120 intervals observed ×100 = 48%).

The percentages obtained during the two observation periods are combined to determine an average score for the two periods.

Reliability of the observations. While the proposed observation checklist features a limited number of score codes, it must be administered effectively to ensure valid results across the children and the facilitators or observers. It is a question of comparing the codes attributed by different observers for the same behaviours under observation. Different methods can be used to train observers (observation *in vivo*, video tape). In each case, the timing of the intervals must be precise in order to obtain a strict correlation of the periods observed by the various observers. Hops et al. (1976) estimate that a reliability rate of 90% can be considered satisfactory.

Criterion

By collecting factual data on the situations and interactions experienced at the school, this second phase of the assessment provides more in-depth information on the problems identified initially. It makes it possible for the facilitator to develop a profile of the child's behaviours and the strengths and weaknesses of the child and the school environment, as well as the level of teacher-child interaction. This profile is used to decide whether to intervene and consequently the objectives and steps of that intervention.

Establishing the criteria for accepting or refusing to undertake an intervention guides the decisions on how to proceed with that case and serves as a means to evaluate the child's needs and propose the type of intervention best suited to the environment in question.

However, these criteria are not the only basis for such decisions. The facilitator must be guided by all of the information collected during the assessment period. The identification of the factors associated with the start of the child's difficulties, the duration of the problems, whether the child is seeing other professional service providers, whether he is receiving medication – the facilitator takes all of this into account when formulating his or her recommendations.

The child will either be admitted to an intervention program, or alternatives will be proposed to deal with his particular problems. For example, problems may include separation of parents, a difficult adaptation to a new school, a significant drop in academic performance, etc.

The criteria are based on those developed by Hops et al. (1976) and may be a reference source for the reader. They are based on the child behaviour questionnaire and on classroom observation.

When several items are noted frequently in sections 1 and 2 or in sections 3 and 4 of the questionnaire, and when the classroom observation shows a percentage of under 40% in appropriate behaviours (group and individual academic tasks), a classroom intervention program is clearly recommended for the child.

However, various other levels of support, for both the teacher and the child, may be developed based on the indications and on the learning recommended for the child and his teacher in both the short and long term.

MANAGING AND CHANGING BEHAVIOUR IN THE CLASSROOM

Taking charge of children's behaviour in the classroom often requires a huge investment by the teacher. In fact, at some time during the school year all teachers have to use aspects of the intervention discussed here, either with the entire class, a subgroup of their students, or certain children.

The following intervention program can therefore be viewed as a set of techniques provided to teachers to conduct a class or deal with group and individual problems. It is also a guide to intervention for facilitators planning professional activities in the school environment.

It is important to note that the level of professional involvement in implementing this program will vary, depending on whether it is aimed at an entire class or is part of a systematic intervention with a child exhibiting behaviour problems.

The program aims to make the teacher more aware of the impact of the school environment, including the attitudes and responses of him or her, on the behaviours of the child and on their continuance.

The program helps teachers become skilled at setting behavioural goals, much as they would set academic goals. The teachers learn, in particular, to effectively use a range of resources to reduce the behaviour of children who disrupt the class environment.

When used for intervention purposes, this program aims to help aggressive children decrease their disruptive behaviour, develop social skills that will facilitate their productivity and relationships (e.g., being more attentive, listening to instructions, performing tasks), and help them pursue academic achievements more readily. In short, this type of intervention attempts to curtail the effects of certain difficulties that will compromise the social and psychological future of these children.

Organization of the Environment

The organization of space and material, planning of schedules, setting of rules, and manner in which activities are conducted, in small groups or as a class, all influence behaviour in the classroom. Regardless of the type of intervention, it is useful for teachers to be more aware of the impact of the school environment on the classroom participation of their students, discipline, and the atmosphere in that classroom.

Sometimes a link between the manifestation of certain behaviour problems and the classroom organization can be quickly established. The first level of intervention will then consist of making environmental changes based on the conditions that were observed. It is often a question of changing or removing stimuli that provoke or reinforce the inappropriate behaviours.

Generally speaking, it takes a number of different rules and procedures to run a classroom. These differ from one teacher to another. A teacher may also have difficulty listing the specific rules and procedures that apply to his or her class. The facilitator then provides a number of examples to help the teacher describe the rules by which he or she runs the classroom. Based on these descriptions, the teacher draws up a clear and workable list of the behaviours expected, e.g., "in order to talk or move in class, *I raise my hand* and *wait for the teacher's signal* before I state my request." Setting simple and well-defined rules, and making sure that the students understand them, is essential to the effective organization of the school environment.

The structuring of activities is another aspect of the organization of the environment. The day or week ahead will revolve around a balanced breakdown of class activities into group, subgroup, or individual activities. This organization is facilitated, or perhaps aggravated, by alternating periods of academic work with moments of rest or recreation, and by planning for the transition periods.

For example, academic work may be scheduled at the start of the morning and the afternoon, and the teacher may prefer to assign individual work in the morning in order to organize work in subgroups in the afternoon.

The facilitator checks the relationship between the way these periods are structured and the frequency with which the most serious behaviour problems are manifested. The facilitator may then recommend a plan that uses the children's favourite activities as motivation for the more onerous ones. In the case of a younger group, or a group requiring a more secure framework, the facilitator will propose a series of activities that serve as a reference point for the children.

In parallel, teachers who wish to develop the children's ability to organize their time will suggest methods for them to plan their school tasks for the day and for the week.

The way material is organized and the way space is used are also aspects that must be considered in managing individual and group behaviours. Production and transit areas, the child's location in the classroom, the physical layout of the room, the direction in which the children's and teacher's desks are facing, and the distance between the seats are all factors that trigger behaviours – appropriate or otherwise – on the part of the children. For example, when a row of desks is placed against the wall, the teacher who goes to see a child at his desk must turn his or her back to a large part of the class, thus reducing the teacher's supervision of all the students.

No environment is perfect to the extent that it can prevent all disruptive behaviour. By removing objects that are distracting (e.g., a globe in math class) or that are not relevant for teaching, (e.g., toys, lunchboxes), the teacher helps the children pay attention to and concentrate on the required tasks.

Similarly, the organization of the shared and individual materials needs to be managed in the classroom. Some procedures seem to work better than others in reducing inappropriate interactions among the children and with the teacher (e.g., not putting student materials on the teacher's desk).

These are just a few of the many factors important to the organization of the school environment. By helping the teacher identify and plan them, the facilitator ensures that the teacher has better support in managing and changing students' behaviours.

Observing Behaviour in the Classroom

The skills of the teacher in defining and observing the expected behaviours must be developed before he or she can plan appropriate interventions.

When a child has problems adapting to the school environment, a multitude of behaviours will likely need to be improved. At the beginning of an intervention the teacher learns to choose, from all of the behaviours exhibited by the child, those that he or she considers priorities for change. In order to do this, the teacher must accept to go beyond all-encompassing labels ("annoying", "hostile", "disruptive") and describe more specifically what the child actually does; when the behaviour occurs and what the child gets out of it.

By pinpointing the problem behaviours, the teacher can better formulate his or her expectations with regard to the types of behaviour desired in class. He or she will consequently be able to communicate these expectations more clearly to the children. This behaviour-oriented observation, along with keeping a record of the frequency of the behaviours and the situations in which they occur, helps the teacher determine each child's basic level and target the key behaviour that needs to be modified if the inappropriate interactions are to be stopped.

Let us take the example of a child who continually seeks to draw attention on him and distract his fellow students. The teacher, who wishes to stop this behaviour, discovers that two actions recur at the beginning of each problematic episode: the child talks, (answers questions, makes comments without waiting for the teacher's permission), and he does not stay seated but rather gets up for no reason. The teacher must therefore establish a rule: "before speaking or getting up, students must ask the teacher's permission". The teacher has thus taken the first step towards reducing the child's disruptive behaviour.

Direct observation of the behaviour enables the teacher to be more objective in his or her perception of the child. Whereas the teacher might before have commented about the child when changing classrooms, "He fights every time we get in line," now that teacher will say, "Pierre hit another child three times in the last five days." By establishing a basic level at the beginning of the intervention, the teacher can set gradual, realistic goals for the child and to check for real changes as the child works towards them.

Increasing Work and Interaction Skills

This component of the intervention is aimed specifically at having the child learn new, more appropriate behaviours or new work, concentration, and cooperation skills.

To foster this learning, the intervention relies on the child's assessment of the consequences of his actions, his self-appreciation for what he does ("I am pleased with myself"), and on the positive attention he draws to himself when he manifests appropriate behaviours.

Often, a great deal of the teacher's attention and energy is focused on inappropriate behaviours, meaning that the child gets more of the teacher's attention when he misbehaves than when he manifests adapted behaviours.

Referring once again to the above example, the teacher's education attitudes have been modified, enabling him or her to better distribute attention to the children, particularly the problem child. Furthermore, it is easier for the teacher to show positive signs of attention than to punish a child for his difficult behaviour in class.

Therefore, to help the child increase his prosocial behaviours, the teacher not only defines clear expectations as to what is appropriate, but also shows the child appreciation on a regular basis in order to help him move gradually towards these acceptable behaviours. The method may vary according to the age of the child and the problem in question, but certain principles remain the same in every scenario. The teacher chooses key behaviours (3 or 4 at a time), expresses them in positive terms, involves the child in setting the goals and designing the steps to fulfill them, and notes the child's appropriate behaviours. The steps will be repeated according to a schedule based on how quickly the child is able to comply.

Then, based on a performance criterion that matches the child's basic ability, the teacher provides the child social reinforcement (encouragement, a smile and show of affection) and privileges emphasizing his achievements (e.g., access to a play activity, etc.).

All of these factors are illustrated in the sample daily behaviour sheet shown below.

SAMPLE DAILY BEHAVIOUR SHEET

Child's name: Sophie   Date: March 18th, 1987

Expected behaviour patterns	8:30-9:20 am	10:35-11:25 am	1:00-1:50 pm
Works alone on the requested task for 10 minutes	Yes	Yes	No
Stays seated at her desk	Yes	No	Yes
Raises her hand to ask for the teacher's help and waits for the teacher's signal to talk, ask questions, answer, request help	No	Yes	Yes

Total of YES answers: 6   Criterion: 6/9

Rewards
- Access to a particular game
- Sticker in her workbook
- School currency ($10.00)
- Cleaning out the teacher's desk

Comments

Signatures

Teacher: _____   Child: _____   Parents: _____

A number of methods can be used in the classroom to encourage academic performance or expected behaviours. These usually take the form of symbolic reinforcement (tokens, points, school currency) or material reinforcement (candies, stickers). While such methods are entirely appropriate to transmit appreciation, the teacher who uses them must not loose sight of what makes them effective (positive formulation, appreciation contingent on behaviour, etc.) and must tie them to social reinforcement. This will ensure that the child has positive interactions, resulting in his adoption of the new patterns of behaviour.

It is thus the reinforcing responses from the environment that encourage the child to change his behaviours. When the child exhibits numerous deficiencies, or the proposed skills are more complex, special care must be taken to break down the learning into small, progressive steps. Such behaviour shaping makes it possible to truly start from the child's basic level and guarantee his success in session new challenges.

Similarly, social-skill activity programs can be used in complement to encourage improvement in behaviours related to performance and social relationships.

Reducing Inappropriate Behaviours

Often, a great deal of time and energy are spent trying to minimize inappropriate behaviours in the classroom. Although these behaviours cannot be eliminated completely, their frequency can be reduced, making the management of the classroom easier.

The teacher may try different action strategies, as shown below, but he or she must always try to maintain a relationship of confidence and respect towards the problem child, and also try to involve him in solving the problems that he is causing.

Extinction

Extinction is defined as withholding the response usually provided following a behaviour. For example, a little boy who makes faces to get the teacher's attention frequently receives warnings to stop his behaviour. The teacher must interrupt what he or she is doing to pay attention to this inappropriate behaviour, and the child obtains the attention he seeks.

When using extinction, the teacher learns to withhold this attention from the child when he is behaving inappropriately, and to give it to him in more positive situations.

At first, the inappropriate behaviour may increase, as the child tries to obtain the expected reinforcer (in this case, the teacher's attention). The teacher must therefore be consistent in applying this method, because the intermittent reinforcement of the inappropriate behaviour will have the effect of maintaining it. Extinction is not, however, recommended for aggressive behaviours, since escalation of such behaviour will require the teacher to intervene sooner or later.

Punishment

While encouraging the children and supporting their academic efforts and positive behaviour in the classroom, the teacher must sometimes apply disciplinary measures to show disapproval for behaviour deemed unacceptable. By definition, punishment is a method aimed at reducing inappropriate behaviour. However, punishment frequently fails to bring about the desired reduction of inappropriate behaviour.

Sometimes, the adult's irritation is so strong that he or she assigns inappropriate punishment (e.g., withdrawal of an outing planned for the end of the month). The same person may also frequently threaten punishment, but rarely carry it out. If he or she delivers a sermon that recaps what has occurred when doling out the punishment, the child may get positive attention for inappropriate behaviour. It is better to postpone such exchanges to another time.

Buckley and Walker (1970) list four important points to remember when using punishment. They are:

> Clarifying the rules of behaviour BEFORE applying punishment. The child is thus informed of the foreseen consequences before the situation takes place.
>
> Refraining from using warnings, threats, etc. Punishment is applied the very first time the behaviour manifests itself.
>
> Applying the foreseen consequence immediately upon manifestation of the behaviour. Punishment at the end of the day for a behaviour exhibited in the morning should be avoided.
>
> Ensuring that the punishment has a component of unpleasantness for the child, so that it will have the effect of discouraging the behaviour. Detention after class in the school lobby, where teachers, children, secretary and principal are moving around may constitute an attractive "punishment" for the child.

In addition, the punishment must be linked to a limited number of behaviours, or even to a single behaviour, at the beginning of the intervention. A single punishment applied to an overly varied range of behaviours prevents the child from identifying clearly which behaviours are linked to the punishment.

Furthermore, to minimize the aversive exchanges that accompany punishment between the child and the teacher, reinforcement for appropriate behaviour must be administered just as often as punishment. It is by using to these two strategies in combination that the child is encouraged to discriminate between acceptable and unacceptable behaviours.

Two punishment measures are currently used in school environments. They are loss of privileges and time out.

Loss of privileges. Loss of privileges is a means to deprive the child of access to an activity or material he enjoys. This loss can be total or partial, and is contingent on the behaviour exhibited. For example, after a child is 10 minutes late returning to class after recess, the teacher may decide to cancel the period scheduled at the end of the morning for that child to read a

comic book. This withdrawal of a privilege can be applied with some delay in time, as long as it is not reported too long after the behaviour took place.

Time out. Aggressive and disruptive behaviours (temper tantrums, disobedience, aggressiveness) can be punished by time out, which is applied on a contingency basis as soon as the behaviour is manifested. Time out represents an immediate reduction of stimuli or factors that might reinforce the inappropriate behaviour. To be effective, the time out must occur in a secluded area where social contact will not interfere with the punishment. The child is sent to serve time out for a short period of 10 or 15 minutes *every time* the behaviour is manifested.

It is often difficult to find a place in the school that meets the conditions for applying this type of punishment. The hallways, the lobby, and the secretary's office are all pleasant places for children; should the time out take place in any of these, its impact would be reduced. Despite the organizational challenges, the teacher must find a time-out place that provides the least possible stimulation to the child. Planning a task for the child to perform during this punishment can help diminish interactions.

It is equally important for the teacher to assign the time out in a calm and non-aggressive way. One strategy is to plan the punishment in advance. The child will be less inclined to view the occasion as an attack requiring a counter-attack, which would result in an escalation of the coercive behaviours in the teacher-child interaction. Furthermore, the child is prevented from gaining the advantage of making the teacher angry, which could outweigh the "aversive" nature of the punishment.

Maintaining and Generalizing the Behaviour Change

After having planned and implemented the introduction of the classroom program, the facilitator must now plan ways for the child to maintain and generalize the skills he has acquired.

The support structure is reduced only gradually to maintain the momentum of the child's progress. The key to this step is ensuring that the child's environment continues to provide stable and appropriate positive responses (appreciation from the teacher, appropriate attention, etc.) after all of the more formal aspects of the intervention program (daily behaviour sheet, school contract, etc.) are no longer being used.

This can be accomplished in two ways. First, a phase-out strategy aimed at increasing the intervals between behaviour assessments – and the granting of social and symbolic reinforcers – is put into practice (e.g., going from scoring for each school period, to scoring for the morning… to a weekly sheet). Second, the requirements related to the expected behaviours are gradually broadened to encompass all of the situations experienced by the child at school.

At this point, the system for stimulating and controlling the child's behaviour is superseded by the harmonious relationship between the teacher and the child, as well as by the child's appreciation of his ability to adapt to and benefit from the school environment.

Parents' Involvement in the School Intervention Program

In order to maximize the chances for success of a school intervention with a difficult child, it is important to solicit the participation of the parents and to establish more communication between the teacher and the parents.

One way of doing this may be to involve the parents from the beginning of the program, when the problematic situations are being assessed and the decision is being made to intervene. A climate of cooperation can be created at that point by asking the parents to contribute their special knowledge of their child.

This helps the parents to better understand their role in the intervention program developed for their child. The parents' participation will vary, but it usually takes the form of showing an interest in and providing follow-up on the child's behaviour at school, practising special reinforcement at home, and carrying through on the consequences that may have to be imposed (e.g., extra homework, time out, suspension of privileges, etc.).

The parents may, in addition, prove receptive to becoming involved in efforts to modify the home conditions and the child's behaviour there as a means to facilitate his appropriate behaviour at school. The facilitator will then offer periodic or ongoing assistance to the parents when they express a need for it.

SAMPLE CLASSROOM INTERVENTION PROGRAM

The intervention program presented here was developed within the framework of a pilot project for intervention with aggressive children. Following a brief description of the target child, the context and the environment for the intervention are discussed. Then the assessment and intervention operations are described chronologically to illustrate the sequence of an intervention.

Portrait of the Target Child

David is a boy of nine who exhibited trouble adjusting to school from the time he entered kindergarten. The transition to a first-grade class the following year accentuated David's difficulties. His problematic behaviours are related to hyperactivity, disobedience, inattention, and provoking his peers.

While David is an intelligent child, his academic performance is poor. His difficult behaviour means that he is often removed from the class, and tension between his teacher and his parents hamper his school experience. At the end of the year, the professionals at the school examine David's situation and recommend that he join a remedial class in another school.

Integration into the remedial class results in more stable experience for David. He is in a smaller class, and establishes a positive relationship with a teacher who provides his support framework. He recovers academically to a large extent, but his problematic behaviours require

constant supervision on the part of the teacher, particularly outside of the classroom (school bus, transition periods, recess, lunchtime, gym, etc.).

When David's placement is reviewed, his difficult behaviours are emphasized; they overshadow the gains in learning he achieved in the remedial class. It is therefore recommended that David be sent to a school environment that specializes in dealing with difficult behaviours. This leads to the third change of schools for David in the space of three years.

Portrait of the School Environment

When the intervention program was introduced, David was in a specialized school environment for primary-school children with significant behaviour and learning problems. Groups in this school are limited to 10 children of about the same age. These children are under the supervision of teachers and educators who plan diverse activities for them. David's teacher welcomed the proposal to cooperate to implement an intervention program aimed at improving his behaviour in the classroom.

Assessment Phase

Profile of undesirable behaviours. At the end of September 1986, an assessment of David's situation in the classroom provided summary of his main inappropriate behaviours:
- he "grumbles" continually when performing individual work;
- he is often not seated properly, kneeling on his chair;
- he regularly moves around inappropriately in the classroom;
- he physically provokes his peers;
- he "does not hear" and does not respect classroom rules and the teacher's demands;
- he does not start and finish tasks as requested;
- he constantly manipulates objects of all kinds.

The observation of behaviour in the classroom gives an appropriate behaviour score of 58%.

Profile of the classroom environment. The sessions with the teacher and the observation carried out in the classroom revealed the following key factors in the classroom environment:
- the teacher gives a great deal of individual attention to each child. This sometimes interferes with the functioning of the group as a whole;
- some rules or procedures are too imprecise and general;
- the physical organization, the layout of the desks, does not always allow adequate supervision of all the students;
- positive reinforcement is provided for academic rules;
- the atmosphere of the group is tense. Interactions among the children and between the teacher and the children are coercive;
- the teacher says he is conscious that something is not right with the way the class is functioning. For the last few weeks he has been trying to introduce new elements to help conduct his class and control individual and group behaviour

Intervention Phase

Definition of expected behaviour. In order to achieve an effective intervention, an agreement is reached with the teacher to develop the program for the entire group rather than just the target child. Besides, there is a pressing need for behaviour management with regard to all of the children in the class.

Two expected behaviours are then identified as requiring improvement, for David and for the entire group. They are:

1. Following a transition outside of the classroom, when the children enter the classroom, **they go directly to their desks and sit down without making noise**.
2. During class, **the children raise their hand and wait for a signal from the teacher to speak or to move from their seat**.

Reinforcement strategy. At the beginning of the intervention, the teacher and the facilitator agree to use symbolic reinforcement when the previously established appropriate behaviours are manifested. This reinforcement will take the form of tokens distributed by the teacher that can be exchanged against a period of play at the end of the instruction period.

A two-part procedure is used:

1. Introduction of two 20-minute periods a day during which the "hand raising" behaviour is given symbolic reinforcement, every five minutes, and regular social appreciation.
2. Symbolic and social reinforcement of the "silence when entering the classroom" behaviour as soon as the students have entered the classroom after morning recess and after lunchtime.

Obtaining the free time at the end of class is linked to a performance criterion by which each child must accumulate a percentage of the available tokens, broken down as follows:
"silence when entering the classroom"   : 2 tokens
"hand raising" (1 token every 5 minutes) : <u>4 tokens</u>
                                         6 tokens

The criterion having been set at 80%, it takes four tokens to qualify for the play period.

It is important that social reinforcement be linked to the distribution of symbolic reinforcement used to encourage and show appreciation for the expected behaviours. In this spirit, the facilitator provides active support to the teacher in the classroom for the first five days of the program. This support and the coaching provided to the teacher mainly involve organizing the program and implementing it in the classroom. In concrete terms, the facilitator sits in a corner of the classroom and organizes the timing (five-minute intervals) involved in the program. For example, the facilitator discretely signals the teacher when to distribute symbolic reinforcement, and occasionally reminds him or her to provide social reinforcement to individual children or the group as a whole.

After a few days, the duration of "program" periods is modified as follows:
- one 30-minute period a day with symbolic reinforcement every 10 minutes;
- this changes to two 30-minute periods with symbolic reinforcement at 10-minute intervals;
- the behaviours linked to the students' entrance into the classroom are treated according to the program stipulated for post-transition periods;
- the performance criterion is adjusted according to the potential accumulation of tokens during a half-day, making it possible for children to earn a period of free time at the end of both the morning and the afternoon.

From there, longer "program" periods are gradually introduced along with longer intervals for symbolic reinforcement and a higher performance criterion.

Program Results

After three months, the teacher identified the following main points:
- the overall improvement of the children's behaviour in the classroom;
- the expected target behaviours were exhibited quickly from the moment the program was set up, and continued with the intervention procedures;
- positive appraisal was forthcoming from neighbouring teachers and groups that noticed an improvement in the atmosphere within the group as well as a reduction of inappropriate behaviours;
- the teacher uses elements of the program to manage other individual behaviours exhibited by certain children;
- the teacher recognizes that, now that the facilitator's support is no longer direct, he has trouble remembering to distribute the social reinforcement that helps maintain the expected behaviour;
- there has been obvious progress in transmitting clear demands and providing precise definitions of classroom rules, and in the teacher's ability to supervise individual and group behaviours;
- observation sessions have made it possible to assess an appropriate behaviour score of 88%. There has therefore been a 30% increase during the first three months of the intervention program.

This summarizes the main factors in implementing the classroom intervention program. Designed keeping in mind the needs of the group of students as well as the teacher's need for classroom management, it resulted in more positive interactions between the teacher and the children, and improved the learning environment in the classroom.

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Part II

Research Papers

3 Impact and Clinical Significance of a Preventive Intervention for Disruptive Boys: 15 year follow-up[1]

Rachel Boisjoli, Frank Vitaro, Éric Lacourse, Edward D. Barker and Richard E. Tremblay

Background. Many intervention programmes have attempted to reduce disruptive behaviour problems during early childhood to prevent maladjustment during adolescence and adulthood.

Aims. To assess the long-term impact and clinical significance of a 2-year multicomponent preventive intervention on criminal behaviour and academic achievement, using intention-to-treat analyses.

Method. Targeted disruptive-aggressive boys considered to be at risk of later criminality and low school achievement (n=250), identified from a community sample (n=895), were randomly allocated to an intervention or a control group. The rest of the sample (n=645) served as the low-risk group. The intervention was multimodal and aimed at boys, parents and teachers. Official data measured both outcomes.

Results. Significantly more boys in the intervention group (13%; P<0.05) completed high-school graduation and generally fewer (11%; P=0.06) had a criminal record compared with those allocated to the control group.

Conclusions. The results suggest that early preventive intervention for those at high risk of antisocial behaviour is likely to benefit both the individuals concerned and society.

Declaration of interest. None.

Disruptive behaviour problems (aggressive, hyperactive and oppositional behaviours) during early childhood predict maladjustment (e.g. violence, criminality and school drop-out) during adolescence and adulthood (Farrington, 1992; Fergusson et al., 2002; Loeber et al., 2002; Moffitt, 1993; Patterson, 1996; Tremblay et al., 1992a; Vitaro et al., 2005). Intervention programmes have attempted to reduce disruptive behaviours to prevent such negative outcomes (e.g. Durlak & Wells, 1997; Farrington & Welsh, 2003). However, their long-term effects are rarely evaluated. Moreover, a significant long-term effect is not sufficient for claiming the efficacy of an intervention; its clinical significance has to be assessed by comparing its effects with a normative or low-risk group.

This study's main objective was to evaluate whether participation in a preventive intervention targeting early disruptiveness predicted a higher rate of high-school graduation and a lower rate of crime involvement compared with the control group, by age 24 years. The second objective was to verify whether the boys who received the intervention would resemble the boys

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in the low-risk group with regard to the outcomes, whereas the boys in the control group would not.

METHOD

The global objective of the Montreal Longitudinal Experimental Study (Tremblay et al., 1992b) was to examine prospectively the development of a large sample of boys attending inner-city kindergartens who had backgrounds of low socio-economic status, with a particular focus on antisocial behaviour and school adjustment. Behaviour ratings of male pupils, mean age 6.1 years (s.d. = 0.32), were obtained from 87% of the kindergarten teachers in 53 schools in areas of low socio-economic status in Montreal, Canada, at the end of the 1984 school year. A total of 1161 boys were rated. After exclusion of pupils who did not meet additional selection criteria – i.e. ethnicity (only boys with Canadian-born parents whose first language was French were included) and education (only boys whose parents had 14 years or less of schooling were included) – that number was reduced to 895. The purpose of these additional selection criteria was to create a homogeneous sample (through methodological control).

Boys were assessed by their kindergarten teacher by means of the Social Behavior Questionnaire (SBQ; Tremblay, McCord et al., 1991). This contains 38 items grouped into four components: disruptive (13 items), anxious (5 items), inattentive (4 items) and prosocial (10 items). The disruptiveness scale ($\alpha = 0.93$) includes three categories of behaviour (Loeber et al., 1989): aggression (3 items), oppositional behaviour (5 items) and hyperactivity (2 items), and was used to identify at-risk children. From the total sample, boys with a score above the 70th percentile ($n = 250$) on the disruptiveness scale were considered to be at risk of later antisocial behaviour and dropping out of school (White et al., 1990; Tremblay et al., 1992a). Although this cut-off point is somewhat arbitrary, it has been used successfully to predict serious maladjustment in this sample (Tremblay et al., 1994). These 250 boys were randomly assigned to one of three groups (prevention, $n = 69$; attention-control, $n = 123$; control, $n = 58$) by drawing the names from a box until the necessary numbers were obtained. Given that no difference was found between the two control groups on any outcome during adolescence or early adulthood (see below), they were combined into a single control group for later analyses (Fig. 1). The attention-control group was equivalent to a no-treatment sensitisation or contact control group; the control group was a no-treatment, no-contact control group.

Among these, 172 families (69%) agreed to participate in the intervention programme, but all the at-risk boys ($n = 250$) were kept in the longitudinal study and their data were included in the intention-to-treat analyses. Both the boys and their families participated in the intervention programme. The rest of the larger sample, representing participants who obtained scores below the 70th percentile ($n = 645$), were considered to be at lower risk and were kept in the study to test the clinical significance of the prevention programme.
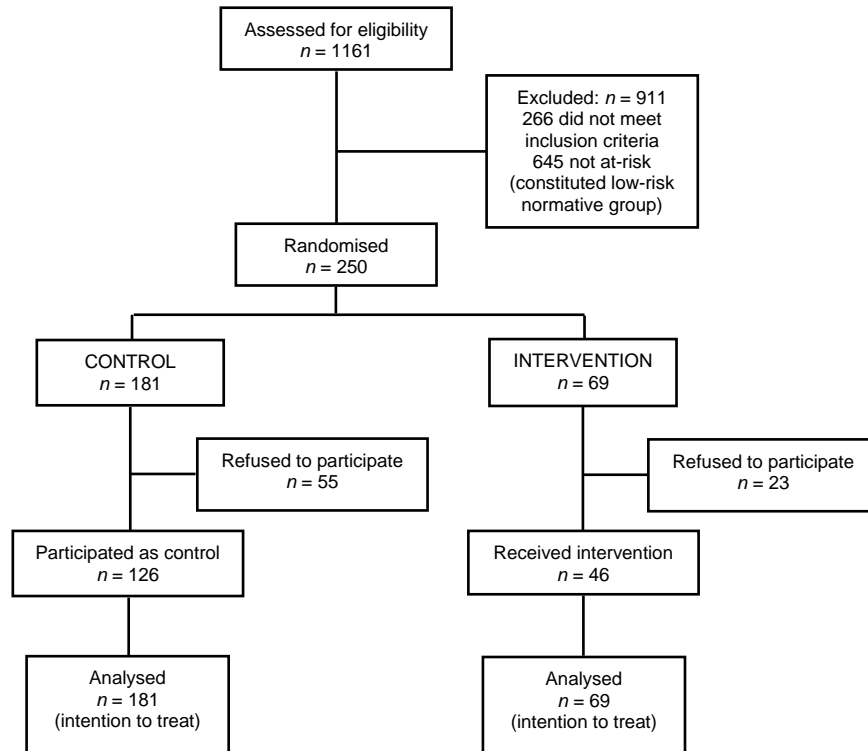
Fig. 1 Study profile.

Preventive intervention programme

Three foci of the applied preventive intervention programme were based on a literature review addressing early intervention with aggressive children before 1984. The first theme identified was social skills training for the disruptive boys (Cartledge & Milburn, 1980; Kettlewell & Kausch, 1983; Michelson et al., 1983; Schneider & Bryne, 1987). Social skills training aimed at promoting changes in behaviour towards peers, yielding more social acceptance and less inclination towards antisocial peers. Training was offered at school in small groups of four to seven children, with a ratio of three prosocial children from the school to one disruptive child in each group. The second focus was that of parent training in effective child-rearing, based on the Oregon Social Learning Center Model (Patterson et al., 1975). The third domain was the provision of information and support for teachers concerning at-risk boys, which served as a complement to the parent training.

The intervention programme lasted 2 school years, from September 1985 to June 1987. Boys were 7 years old when the intervention started and 9 years old when it ended. A detailed description of the treatment is presented elsewhere (Tremblay et al., 1992b).

Implementation assessment

In order to evaluate programme exposure, the therapist responsible for each child-family-teacher unit indicated at the end of each planned training session whether or not the session had taken place and the percentage of content that had been delivered in the session with regard to the pre-planned, standardised content. Over 85% of the children who participated in the intervention attended at least two-thirds of the social skills training sessions. The maximum number of sessions given to the parents was 46, with the mean number of sessions for the duration of the programme being 17.4, including parents who discontinued their participation in the programme. Parents were given as many sessions as needed to master the skills, following the adaptive preventive intervention approach proposed by Collins et al. (2004). However, 75% of the parents covered at least two-thirds of the content and objectives of the planned training programme. Teachers demonstrated low interest and limited availability; they were generally not able to spend much time discussing teaching strategies for one child. Therefore, meetings with teachers were fewer than planned (about 50% of teachers participated in at least one meeting). Work with the parents and teachers were carried out by full-time trained therapists: two university-trained childcare workers, one psychologist and one social worker. Social skills training sessions were taped and used for weekly feedback and to maintain the integrity of the programme across therapists.

Control and outcome measures

Control variables assessed in kindergarten. Although no significant difference was found between the intervention group and the control group after random assignment, two control variables – parental occupational prestige and children's disruptiveness – were included in the analyses to completely level initial differences and reduce bias in estimating the impact of the intervention programme. Parental prestige was established using fathers' and mothers' occupational status at pre-test and used as an indicator of family background. It was calculated using the Canadian socio-economic status index of Blishen et al. (1987). This variable is known to be linked to behaviour problems and delinquency and to high-school graduation (Huesmann et al., 1984). The children's disruptiveness variable used for selection and pre-test was also used as a control variable.

Outcome measures collected at age 24 years. A high-school diploma was selected as the measure of scholarly achievement. This variable was used instead of school dropout or non-age-appropriate regular classroom placement, previously used to assess school performance (Vitaro et al., 2001), because it represents a more definite measure; some boys who dropped out of high school returned to complete their education and received a diploma. The Ministry of Education of Quebec confirmed the award of a high-school diploma as of year 2003 for 879 persons in the original sample, including 242 of the original 250 participants in the prevention or control groups. This categorical variable provided information on whether or not the participants had obtained a high-school diploma by age 24 years. Overall, 427 of the 879 participants (48.6%) had done so.

Possession of a criminal record was selected as the measure of crime involvement. Criminal records were obtained from official files as of year 2003 for all of the 895 persons in the original

sample, including the 250 participants in the prevention or control groups. This categorical variable provided information on whether or not the participant had a criminal record by age 24 years. Of the 895 participants, 178 (19.9%) had acquired a criminal record by age 24 years. Criminal offences were divided into five categories, as defined by the Ministry of Public Security of the Province of Quebec (prevalence for each category is shown in parentheses): crimes against persons, e.g. homicide (17.9%); property crimes, e.g. arson (31.2%); other Criminal Code offences, e.g. prostitution (25.5%); motor vehicle-related offences, e.g. impaired driving (8.8%); and drugs and narcotics-related offences, e.g. possession (16.4%).

Analyses

Two sets of analyses were performed, after verifying that the data did not violate any of the assumptions of logistic regression. For the first set of logistic regressions, achieving a high-school diploma and presence of a criminal record were separately regressed on the experimental conditions (i.e. intervention *v.* control) while controlling for parental occupational status and disruptiveness. For the second set of logistic regressions, the same outcomes were regressed on group membership (i.e. intervention and control groups, plus the low-risk group) while controlling for parental occupational status. In order to test the effectiveness of the programme, all participants in the intervention sample were included in the intention-to-treat analytic strategy, whether they received the intervention or not.

RESULTS

Differences between control and intervention groups

Frequencies of high-school graduation and criminal records are presented in Table 1.

High-school graduation. After controlling for parental occupational status and initial level of children's disruptiveness, we found that being in the intervention group was associated with a higher rate of high-school graduation than being in the control group ($\beta = 0.78$, OR = 2.19, Wald $\chi^2 = 6.06$; $p < 0.05$).

Table 1 Frequencies of official record measures at age 24 years for the three study groups

	Control group *n* (%)	Intervention group *n* (%)	Normative group *n* (%)
High-school graduation[1]	56 (32.2)	31 (45.6)	340 (53.4)
Criminal record[2]	59 (32.6)	15 (21.7)	104 (16.1)

1. Includes all available data for the original sample (n = 879).
2. Includes all available data for the original sample (n = 895).

Criminal record. Being in the intervention group was marginally associated with a lower rate of criminal record than being in the control group ($\beta = -0.65$, OR = 0.52, Wald $\chi^2 = 3.68$; $p = 0.06$).

Differences between experimental groups and the low-risk group

High-school graduation. After controlling for parental occupational status, being in the intervention group compared with being in the low-risk group predicted a similar rate of high-school graduation (β = -0.19, OR = 0.83, Wald χ^2 = 0.52; NS), but being in the control group compared with being in the low-risk group predicted a lower rate of high-school graduation (β = -0.84, OR = 0.43, Wald χ^2 = 20.77; $p < 0.0001$).

Criminal record. Being in the intervention group compared with being in the low-risk group predicted a similar rate of criminal record (β = 0.30; OR = 1.35, Wald χ^2 = 0-92; NS), whereas being in the control group compared with being in the low-risk group predicted a higher rate of criminal record (β = 0.89, OR = 2.45, Wald χ^2 = 21.69; $p < 0.0001$).

DISCUSSION

The first goal of our study was to use intention-to-treat analyses to assess the long-term impact of a multicomponent preventive intervention programme targeting disruptive boys from homes with low socio-economic status; these boys were considered at high risk of low academic achievement and chronic antisocial behaviour. The impact of the programme was evaluated by contrasting disruptive boys who participated in the preventive programme and their counterparts in a control group on two outcomes: high-school graduation by age 24 years and official criminal records. The second goal was to compare the intervention group and the control group with the rest of the boys in the low socio-economic status group who initially scored below the 70th percentile on disruptiveness (i.e. the low-risk group).

Impact and social significance of the programme

As predicted, a positive effect of the intervention programme was found for high-school graduation. The likelihood of having a high-school diploma was more than twice as high for the intervention group as for the control group. These results support earlier findings during adolescence on school drop-out (Vitaro et al., 1999). Although marginal, a positive effect of the intervention was also found for possession of a criminal record: the likelihood of having a criminal record was almost twice as high for the control group as for the intervention group.

Comparing the experimental groups with a low-risk group on high-school graduation allows evaluation of the clinical significance of the intervention. In addition to the significant effect of the intervention on high-school graduation when compared with the control group, being in the intervention group predicted a rate of high-school graduation similar to that of the low-risk group. In the same way, the intervention group obtained a similar rate of criminal record as the low-risk group, whereas the risk of having a criminal record in the control group was more than double that for the low-risk group. These results confirm the relevance of reducing early disruptiveness to prevent later adjustment problems, and highlights the predictive power of early disruptiveness in an experimental clinical context.

Considering that, in adolescence, a significantly greater percentage of boys in the prevention group remained in an age-appropriate regular classroom compared with controls (Vitaro et al.,

1999), and that the level of delinquency was higher for the control group compared with the intervention group (Lacourse et al., 2002), these results are not surprising. However, although encouraging, these findings should be considered in light of the fact that the rate of high-school graduation for the intervention group was only 46%, and the rate of having a criminal record was as high as 22%. In comparison, the rate of high-school graduation in the low-risk group was also low (68%) and the rate for criminal record was also high (16%), bringing the rates for the whole sample to 49% for high-school graduation and 19% for possessing a criminal record. In consequence, although boys in the intervention group became similar to their low-risk peers with respect to high-school graduation and criminal activities, the burden of other risk factors (i.e. low socio-economic status, inner-city residence) took its toll on the whole sample. It is thus important to acknowledge that a preventive intervention programme, albeit intensive, multimodal and long-term, has only a limited protective effect under the conditions of chronic socio-familial adversity and environmental risk.

Limitations

A number of limitations have to be considered. First, this study used only one measure of antisocial behaviour. Official records used in this study can be considered as a good indicator of antisocial behaviour, but their interpretation is limited since they provide no direct information on observable behaviours. On the other hand, the use of this measure resulted in low attrition. It is also convenient for cost-effectiveness and clinical significance analyses. Second, the sample was restricted to French-speaking male participants of low socio-economic status. Generalisability is therefore limited. A similar intervention with a mixed sample from a middle-class environment could generate different results and yield different conclusions. Finally, potential moderators and mediators still have to be explored.

Implications of the study

Despite these limitations, our study contributes to the critical need for long-term follow-up investigations by giving a valuable and rare picture of the long-term effects of an early preventive programme. This research also allowed the clinical significance of the programme to be tested by comparing the intervention and the control groups with a group of peers from the same high-risk environment. Given the cost to society of criminality and failure to graduate from high school (Kerckhoff & Bell, 1998), this study also stresses the cost-effectiveness of preventive intervention even if no formal examination of cost-effectiveness was performed.

Taking into account these results, some considerations can be put forward. As suggested by Tremblay et al. (1996), a longer intervention or a booster programme covering the transition to high school and into adulthood might have resulted in more robust effects during adulthood. In other words, the duration of the intervention (2 years) may not be sufficient or optimal, particularly when the external conditions are unfavourable. Several authors (Lochman & Wells, 1996; Reid, 1993) have suggested that an intervention should last for at least the whole elementary schooling period. As for the number of components, most experts agree on the importance of targeting different systems in children's life, such as parents, teachers and the children themselves, as in the present study. However, additional systems such as peer groups should be targeted in future studies, in order to modify the additional important sources of

influence that affect the development of antisocial behaviour (Boivin et al., 2005; Coie & Jacobs, 1993; Greenberg et al., 2001). Improving external conditions would also represent a good course of action for improving the impact of a child, family and school-centred preventive intervention.

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Correspondence: Rachel Boisjoli, Research Unit on Children's Psychosocial Maladjustment, University of Montreal, 3050 Édouard-Montpetit Boulevard, Montreal, Quebec H3T IJ7, Canada. Email: rachel.boisjoli@umontreal.ca

RACHEL BOISJOLI, BSc, FRANK VITARO, PhD, ÉRIC LACOURSE, PhD, Research Unit on Children's Psychosocial Maladjustment, University of Montreal, Montreal, Quebec, Canada; EDWARD D. BARKER, PhD, Social, Genetic and Developmental Psychiatry Centre, King's College London, Institute of Psychiatry, London, UK; RICHARD E. TREMBLAY, PhD, Research Unit on Children's Psychosocial Maladjustment, University of Montreal, Quebec, Canada.

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4   A Longitudinal-Experimental Approach to Testing Theories of Antisocial Behavior Development[1]

Éric Lacourse, Sylvana Côté, Daniel S. Nagin, Frank Vitaro, Mara Brendgen, and Richard E. Tremblay

ABSTRACT

A longitudinal study with a nested preventive intervention was used to test five hypotheses generated from developmental theories of antisocial behavior. The longitudinal study followed 909 boys from their kindergarten year up to 17 years of age. The randomized multimodal preventive intervention targeted a subsample of boys who were rated disruptive by their kindergarten teacher. Semiparametric analyses of developmental trajectories for self-reported physical aggression, vandalism, and theft identified more types of trajectories than expected from recent theoretical models. Also, these trajectories did not confirm theoretical models, which suggest a general increase of antisocial behavior during adolescence. The majority of boys were on either a low-level antisocial behavior trajectory or a declining trajectory. Less than 6% appeared to follow a trajectory of chronic antisocial behavior. Comparisons between disruptive and nondisruptive kindergarten boys confirmed the hypothesis that disruptive preschool children are at higher risk of following trajectories of frequent antisocial behavior. Comparisons between treated and untreated disruptive boys confirmed that an intensive preventive intervention between 7 and 9 years of age, which included parent training and social skills training, could change the long-term developmental trajectories of physical aggression, vandalism, and theft for disruptive kindergarten boys in low socioeconomic areas. The results suggest that trajectories of violent behavior can be deflected by interventions that do not specifically target the physiological deficits that are often hypothesized to be a causal factor. The value of longitudinal-experimental studies from early childhood onwards is discussed.

"There is probably no area of behavior or psychiatric disorder riper for an experimental design than conduct disorder"

<div align="right">Lee N. Robins (1992, p. 11)</div>

     During the last two decades many theories of antisocial behavior adopted a developmental perspective. The main consensus appears to be that chronic antisocial behavior after preadolescence is the continuation of a pattern that begins in childhood (e.g., Gottfredson & Hirschi, 1990; Lahey, Waldman, & McBurnett, 1999; Loeber, 1990; Lynam, 1996; Moffitt, 1993a; Sampson & Laub, 1992). These theories specify both the developmental trajectories of the phenomena over time and the factors that are responsible for a person's trajectory of antisocial behavior. The present study aims at testing some theoretical assumptions about antisocial behaviors by identifying developmental trajectories with a longitudinal cohort design and testing the effects of hypothetical causal factors on trajectories of antisocial behaviors with a randomized experimental preventive intervention design.

Testing Developmental Theories

Recent developmental theories of antisocial behavior differ with respect to the number of developmental trajectories that individuals are postulated to follow. For instance, Gottfredson and Hirschi (1990) suggested the existence of a single pathway, starting with low levels of self-control in childhood and leading to criminality later in life. Moffitt (1993a) distinguished between two groups of antisocial individuals: those who are antisocial across the life course, and those whose antisocial behavior is limited to adolescence. Loeber and colleagues (Loeber, 1991; Loeber et al., 1993) suggested three distinct antisocial pathways: overt (violent), covert (property offences), and conflict with authority pathway.

These developmental theories are largely based on data from longitudinal studies submitted to analytical techniques that allowed investigating for the presence of a priori defined groups. More recently, new statistical methods using an inductive approach with prospective longitudinal studies were used to examine developmental taxonomies. An important advantage of this approach is that it avoids the use of subjectively (and a priori) defined criteria for categorizing people in distinct groups. For instance, semiparametric statistical analyses using a statistical criterion for model selection are particularly well suited to test the extent to which there are groups in a population that follow distinct developmental trajectories (Jones, Nagin, & Roeder, 2001; Nagin, 1999; Nagin & Land, 1993; Nagin & Tremblay, 2001). Studies using this methodology have revealed the existence of several distinct groups of developmental trajectories of antisocial behavior from childhood to adolescence. For example, a longitudinal study of male physical aggression from 6 to 15 years of age identified two groups of boys with declining levels, a group with stable low levels, and a group with chronically high levels (Nagin & Tremblay, 2001). Similar results were obtained with samples of boys and girls from longitudinal studies in Canada, New Zealand, and the United States (Brame, Nagin, & Tremblay, 2001; Broidy et al., 2003; Côté, Zoccolillo, Tremblay, Nagin, & Vitaro, 2001; Nagin & Tremblay, 1999). Thus, studies using statistical criteria to generate taxonomies have uncovered a larger number of distinct developmental trajectories as compared to studies using a priori defined taxonomies.

Testing Factors Leading to Differing Developmental Trajectories

An underlying assumption of developmental models is that different causal factors will lead to different developmental trajectories and in some cases to different trajectories for different types of antisocial behavior. Thus, Gottfredson and Hirschi (1990) attribute the origin of all forms of antisocial behavior to parents' inability to foster self-control in their children. Moffitt (1993b) suggests that neuropsychological deficits present at birth provide the starting point for a life course-persistent trajectory of antisocial behavior, whereas the maturity gap between adolescence and adulthood is proposed to drive adolescence-limited delinquency. Others have suggested an accumulation of causal factors (Coie et al., 1993; Loeber, 1990; Yoshikawa, 1994).

Several other models have also emphasized the importance of parenting. (e.g., McCord, 1991; Shaw & Bell, 1993). For instance, Patterson and colleagues (Patterson & Reid, 1984; Patterson, Reid, & Dishion, 1992), postulated that deficient parenting was involved in the

emergence of coercive family interactions that reinforce and maintain behavior problems. Similarly, Hawkins and Weis (1985) proposed that a negative family environment interferes with children's acquisition of adequate social skills, which increases the potential for behavior problems.

These models imply that interventions that would target putative causal factors such as parenting practices, children's cognitive deficits, or children's social skills have the potential to modify the postulated developmental trajectories. Thus, adequately assessed preventive and corrective interventions that target postulated causal factors are not only pragmatic tests of an intervention's effectiveness, they also offer an exceptional opportunity to test causal hypotheses of developmental theories (Cicchetti & Toth, 1992; Farrington, Ohlin, & Wilson, 1986; Kellam & Rebok, 1992; Koretz, 1991; Robins, 1992; Schwartz, Flamant, & Lellouch, 1980; Tonry, Ohlin, Farrington et al., 1991; Tremblay & Craig, 1995; Vitaro, Brendgen, & Tremblay, 2001; Vitaro, Brendgen, Pagani, Tremblay, & McDuff, 1999). Indeed, demonstrating that an intervention that successfully changes a postulated causal factor also effectively modifies a trajectory of antisocial behavior can be considered an experimental test of a causal theory, and thus a better test than correlational evidence from a prospective longitudinal study.

However, there is a way of harnessing the power of both experimental and prospective longitudinal studies. By nesting a preventive or corrective experiment within a longitudinal study, different characteristics of developmental theories can be tested. For example, the longitudinal study can be used to test the types of developmental trajectories that exist in a given population and the preventive or corrective intervention can test whether the developmental trajectories have been modified by manipulating those variables that the theoretical models suggest to be causal factors. Furthermore, such a design can test whether there are different types of developmental trajectories for different types of behavior, as well as to what extent a given intervention can have an impact on trajectories for different types of behavior. For instance, a longitudinal-experimental design can first test whether there are significant groups of early- and late-onset cases of antisocial behavior and then test whether increasing parenting skills can move children from an early-onset trajectory of antisocial behavior to a trajectory of rapid or slow desistance. Furthermore, such designs can also test whether children who were deflected from an early-onset trajectory maintain low levels of antisocial behavior throughout adolescence or become involved again in frequent antisocial behaviors when factors thought to be related to an adolescent-onset trajectory start appearing. One would indeed expect that individuals deflected from an early-onset trajectory by an early intervention would be more at risk of an adolescence-onset trajectory if there are no further interventions targeting risk factors during adolescence (Tremblay, Pagani-Kurtz, Mâsse, Vitaro, & Pihl, 1995).

The Present Study

The general aim of the present study was to test hypothetical taxonomies of antisocial behavior development and their causal factors by using data from a longitudinal-experimental study. We tested five hypotheses. We first addressed the issue of developmental taxonomies. To achieve this general objective we identified groups of boys who followed, during adolescence, distinct developmental trajectories for three types of antisocial behaviors: physical aggression, vandalism, and theft. In so doing, we first tested whether the number (hypothesis 1) and shape

(hypothesis 2) of the trajectories were consistent with predictions from developmental theories. We also tested the hypothesis that disruptive children at school entry were more at risk of following high-level antisocial trajectories during adolescence (hypothesis 3).

The second general objective was to assess the impact of the experimental prevention program on developmental trajectories of antisocial behavior. The intervention was nested within the prospective longitudinal study. The multimodal program targeted parents' management skills and children's social-cognitive skills. This program has been shown to have a significant impact on parental supervision, disruptive behavior, and association with deviant peers (Vitaro et al., 1999, 2001). We first examined whether targeting hypothetical causal factors, such as parents' management skills and children's social-cognitive skills, had an impact on trajectories of physical aggression, vandalism, and theft (hypothesis 4). In cases where the experimental intervention had a significant impact, we tested the differential effect of the intervention on types of trajectories; more specifically, we tested whether frequent antisocial behavior reemerged at a given point in time during adolescence or whether the intervention had a long-term impact and thus prevented the reemergence of frequent antisocial behavior (hypothesis 5).

METHOD

Sample

The subjects were part of a longitudinal study that began in 1984. All males, from kindergarten classes in 53 schools of low socioeconomic areas of Montreal, Canada, were recruited. The sample was reduced from 1,161 to 1,037 participants by creating a homogeneous sample of French-speaking children whose parents were born in Canada and by eliminating subjects who refused to participate or could not be traced. For the present paper, we used 909 boys (87.7%) who responded to a self-reported antisocial behavior questionnaire at least three times when they were between 11 and 17 years of age.

At their first assessment in kindergarten, 67% of the boys lived with both parents and 24% lived with their mothers only. The mean age of parents at birth of the child was 25.4 years ($SD = 4.8$) for mothers and 28.4 years ($SD = 5.6$) for fathers. The mean number of school years completed by the parents was 10.5 ($SD = 2.8$) for the mothers and 10.7 ($SD = 3.2$) for the fathers. The mean score on the Canadian socioeconomic index for occupations (Blishen, Carroll, & Moore, 1987) was 38.15 for mothers and 39.19 for fathers.

Using the disruptiveness scale of the Social Behavior Questionnaire (SBQ; Tremblay et al., 1991), teachers rated boys' behavior at the end of kindergarten, when they were turning 6 years of age. The disruptiveness scale includes 13 items, which measure hyperactive, aggressive, and oppositional behaviors. Teachers indicated whether items: did not apply (0), applied sometimes (1), or applied often (2). Internal consistency was high ($\alpha = .87$). Those who received scores above the 70th percentile on the SBQ disruptiveness scale in kindergarten ($n = 259$) were classified as disruptive and considered at risk for antisocial behaviors during adolescence. The 259 disruptive boys were randomly assigned to one of the following groups: (a) intervention group (IN group; $n = 75$); (b) no treatment control group (CO group; $n = 60$); and (c) sensitization contact group (SC group; $n = 124$). The numbers of participants were reduced to 42

(IN group), 41 (CO group), and 74 (SC group) because of missing data on the variables of interest and because some parents refused to participate in the study. The boys who were lost in each group (due to refusal or missing data) did not differ across the three groups. The SC group was included to control for the possible influence of mere contact with researchers and participation in the study. Over a 6-year period, every 2nd year, the boys in the SC group participated in the following activities: (a) they spent one-half of a day with their families in the university laboratories to participate in a series of tests and observation sessions; (b) families were visited during four evenings for observations in the home setting; (c) each boy was observed at school for half a day on four occasions; and (d) each boy spent a whole day in the university laboratories during the summer. In contrast, CO boys were only followed through questionnaires sent to parents and teachers during the intervention period. They were then met once a year at school to fill in questionnaires which included the self-reported antisocial scales.

Analyses revealed that boys in the SC and CO groups did not differ on any variable measured at pre- or posttests. Therefore, it was decided to collapse the CO and SC boys into one group (i.e., CO group) to increase statistical power.

Prevention Program

The prevention program was implemented over a 2-year period from ages 7 to 9. The program included two main components (i.e., social skills training with the children and improvement of parenting skills) that were believed at that time to be most likely to alter the boys' disruptive behaviors (Kazdin, 1985). It was expected that they would become less disruptive if they learned alternate and more appropriate social behaviors through social skills training (Milan & Kolko, 1985). Improvement of parenting skills (i.e., use of reinforcement contingencies and sustained supervision) was also used as a strategy to reduce disruptive behaviors at home and facilitate the generalization and consolidation of the skills learned by the children at school.

Social and problem-solving skills training was conducted at school in small groups. Four trained professionals (two child-care workers, one social worker, and one psychologist) conducted the sessions. In each group, there were four or six teacher-nominated prosocial boys and one or two target boys. Including the prosocial boys in the sessions served two purposes. First, they were positive models and reinforcement agents. Second, their presence allowed the target children to participate without being stigmatized by classmates. The school-based biweekly training sessions took place between November and April for 2 consecutive years. Each session lasted approximately 45 min. Verbal instructions, positive reinforcement, modeling, and behavioral rehearsal were used to teach the specific skills to the target boys.

Parent Training was adapted from the program developed by the Oregon Social Learning Center (Patterson, Reid, Jones, & Conger, 1975). The same four professionals, who conducted the social and problem solving sessions at school, conducted the parent training sessions in the boys' homes. However, to stimulate teamwork among the professionals, each family had different professionals for parent training and social skills training. Parents were first taught to recognize, observe, and record their children's problem behaviors. Next, they were taught to define appropriate behaviors and to set clear objectives for their child. Third, they learned how to

use verbal and material reinforcement in a systematic and contingent manner to favor the child's acquisition of appropriate behaviors. Parents also learned to punish inappropriate behavior systematically and moderately with short time-out periods. Response-cost strategies involving the use of naturally occurring consequences for inappropriate behavior were also used (i.e., if the child broke something that did not belong to him, he had to replace it). Parents were encouraged to supervise their children's schoolwork and monitor their child's behavior outside the home. Finally, parents were taught how to manage family crises through problem solving and how to use negotiation strategies in everyday situations.

Parents participated in an average of 17.4 sessions (*SD* = 13.2; *median* = 15). The maximum was 47. Six families participated in only two training sessions. For most of the families, the number of training sessions required depended on how well the therapist believed the parents had mastered the targeted skills. For 14 families, however, the training ended prematurely because the parents were unmotivated. The boys from these families were nevertheless kept in the IN group for the purpose of the following analyses.

Implementation assessment. At the end of each child or parent session, the professionals responsible for the program application indicated whether the session had taken place and the percentage of content delivered during the session relative to a preplanned standardized content. More than 85% of the children attended at least two-thirds of the social skills training sessions. For parents, the number of sessions varied greatly. Despite variation, more than 75% of the parents covered at least two thirds of the content and objectives of the parent training component. In addition, child sessions were videotaped and parent sessions were audiotaped; these tapes were used by the program coordinator to give weekly feedback to each of the professionals and maintain the standardization of the program.

Measures

Self-reported antisocial behaviors. In the present study, we measured three facets of antisocial behaviors: physical aggression, vandalism, and theft. These subscales are in part of a more general antisocial behavior questionnaire (Tremblay, Pihl, Vitaro, & Dobkin, 1994). Physical aggression was assessed by creating an index based on the frequency, during the previous 12 months, of 7 self-reported behaviors: threatening to attack someone, fist fighting, attacking someone innocent, gang fighting, throwing objects at people, carrying weapons, and using weapons in a fight. The internal consistency (Cronbach's alpha) for this subscale was .72–.81 (*M* = .77). Vandalism was assessed by 6 items: destroying or breaking music or sports equipment at school, destroying or breaking somebody else's things, destroying or breaking windows at school, destroying or breaking something that belongs to the parents, destroying or breaking parts of a car (antenna, tires, etc.), and setting a fire. The internal consistency (Cronbach's alpha) for this subscale was .59–.77 (*M* = .68). Theft was assessed by 11 items: stealing from a store, stealing something worth less than $10, keeping objects worth more than $10 at school, stealing something more then $100, entering an event without paying admission, stealing money from home, stealing a bicycle, stealing something worth between $10 and $100, buying stolen goods, being in an unauthorized place, and breaking and entering. The internal consistency index for the scale was 0.76–0.87 (*M* = 0.83). These items are all coded on a 4-point

Likert scale (0 = *never*, 1 = *once or twice*, 2 = *sometimes*, 3 = *often*) and were answered every year at ages 11–17.

Analysis

The analysis proceeded in two separate steps. Using the whole sample, we first identified the best fitting trajectory models for physical aggression, vandalism, and theft. Then we compared the trajectories followed by different subgroups: the IN group, the CO group, and the nondisruptive kindergarten boys.

To identify the trajectories we used a group-based method described in Jones et al. (2001), Land and Nagin (1996), Nagin (1999), Nagin and Land (1993), and Roeder, Lynch, and Nagin, (1999). A finite mixture of Poisson distributions was used to identify distinctive clusters of individual trajectories within the sample.

Similar to hierarchical or latent growth curve modeling, a polynomial relationship is used to link age to behavior with the following quadratic equation:

$$\log(\lambda_{it}^{j}) = \beta_{0}^{j} + \beta_{1}^{j}\,\text{age}_{it} + \beta_{2}^{j}\,\text{age}_{it}^{2},$$

where λ_{it}^{j} is the rate of physical aggression, vandalism, and theft for individual i at age t given membership in group j. Age_{it} is the participant's age at time t, age_{it}^{2} is the square of subject i's age at time t; and β_{0}^{j}, β_{1}^{j}, β_{2}^{j} are the maximum likelihood coefficients estimated by the model to fit the trajectory. The superscript j means that these parameters can differ across the j groups. For any given j, conditional independence is assumed for the sequential realizations of the elements λ_{it} over the t periods of measurement.

A key issue in the application of a group-based model is determining how many groups define the best fitting model. We followed the lead of D'Unger, Land, McCall, and Nagin (1998) and used the Bayesian Information Criterion (BIC) as a basis for selecting the optimal model.

Using the "posterior probability" of membership to a trajectory, every individual was assigned to the trajectory that best conforms to his behavior over time. Following this maximum probability assignment rule, trajectory membership was made conditional on membership in the intervention, control, and low-risk group. We used one-tailed t tests to test for significant differences in probabilities of following a specific trajectory conditional on the treatment conditions (i.e., CO group, IN group, and low-risk [nondisruptive] group).

RESULTS

The results are reported in two parts. We first present findings on the number, shape, and prevalence of trajectories for physical aggression, vandalism, and theft using the whole sample (hypotheses 1 and 2). We then examine whether membership in the IN, CO, and low-risk groups distinguishes trajectory group membership (hypotheses 3-5). Recall that the control and intervention groups were created by random assignment of boys displaying high levels of disruptive behavior in kindergarten (age 6). The low-risk group comprises all boys below this

threshold. Of specific interest for hypothesis 3 is whether boys in the high-risk group who received no treatment (i.e., the CO group) are more likely to follow higher level trajectories of antisocial behavior during adolescence compared to the low-risk group. We then test whether the intervention group is (a) significantly less likely than the control group to follow such high-level antisocial trajectories, (b) correspondingly more likely to follow a trajectory of low-level antisocial behavior, and (c) follows trajectories that are similar to those of the low-risk group (hypothesis 4). Finally, we compare the trajectory group memberships of the IN and low-risk groups specifically for the rising trajectories to assess if a short-term impact of the intervention was followed by a later increase in antisocial behavior (hypothesis 5).

Hypotheses 1 and 2

For each of the three types of antisocial behaviors, a six-group model was chosen as the best model. In this analysis, the BIC score continued to improve after six groups had been identified. However, after these six groups, the new groups were simply subdivisions of already existing groups who engaged in low levels of antisocial behavior. Specifically, the procedure tended to split large groups of boys with infrequent antisocial behavior into two parallel trajectories while leaving the high level trajectories intact. We chose the six-group model because in our judgment it is the most parsimonious and informative model.

Figure 1 presents the shape of the trajectory groups for the three dependent variables: physical aggression, vandalism, and theft. They vary widely in shape; some are rising, some are declining, some are high, and some are low. The shapes of the trajectories show some similarities across the three different types of antisocial behaviors. Table 1 describes the percentage of individuals in the sample following the different developmental trajectories. One group, termed high rising, comprises individuals with a high rate of antisocial behaviors throughout the adolescent period that reaches a peak at around age 16. Across the three types of antisocial behavior, from 4.4 to 5.8% of the sampled population belong to the high rising trajectory. A second group labeled medium decline, starts with a high rate of antisocial behavior and tends to be relatively stable or slightly decline through age 17. A somewhat greater proportion of individuals followed this trajectory compared to the high rising trajectory for physical aggression (12%); proportions are similar for vandalism (5.9%) and for theft (6.9%). Subjects on the low rising trajectory group start at a relatively low level and steadily increase their rate of antisocial behaviors throughout adolescence. For physical aggression and vandalism this group is estimated to comprise 11.4 and 6.9%, respectively, of the population. For theft the estimated size of this group is larger, 16.4% of the population. An even larger group followed a trajectory that we termed low decline because the level starts relatively low at age 11 and declines until age 17. For physical aggression 26.3% of the population is estimated to follow this trajectory. For vandalism and theft the corresponding group membership probabilities are 11.1 and 14.2%, respectively. Finally, close to half of the population is estimated to be on the two low-level trajectories: 29.9 and 15.6% for physical aggression, 58.0 and 13.6 for vandalism, and 32.2 and 24.4% for theft.
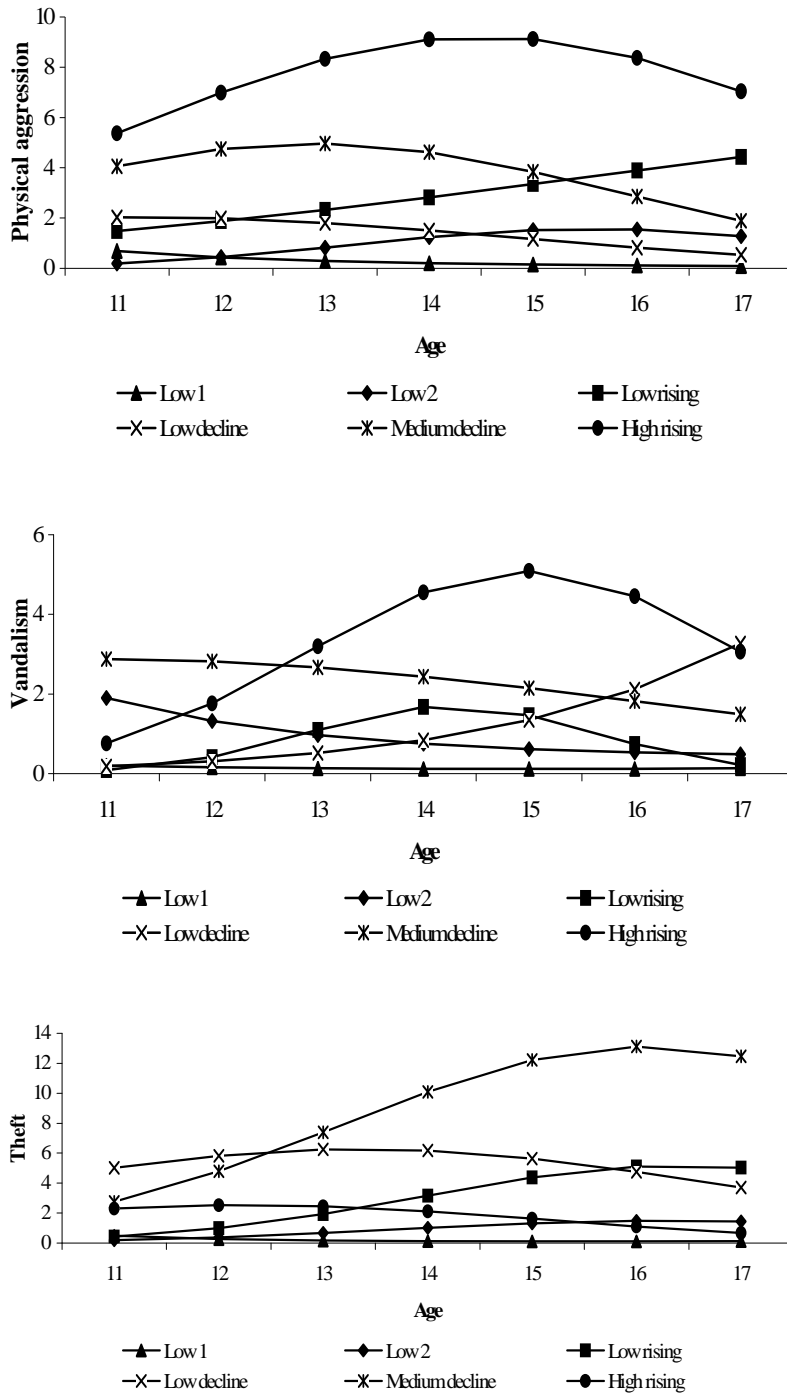
Figure 1. *Developmental Trajectories of Physical Aggression, Vandalism, and Theft throughout Adolescence*

Table 1. *Prevalence of Trajectory Groups for Physical Aggression, Vandalism, and Theft*

		Low 1	Low 2	Low Rising	Low Decline	Medium Decline	High Rising
Physical aggression							
	Control	18.3	11.3	10.4	30.4	21.7	7.8
	Intervention	31.0	16.7	7.1	28.6	9.5	7.1
	Low risk	31.6	16.2	11.8	25.5	10.6	4.1
	Total sample	29.9	15.6	11.4	26.3	12.0	4.7
Vandalism							
	Control	46.1	9.6	12.2	14.8	9.6	7.8
	Intervention	64.3	11.9	4.8	9.5	7.1	2.4
	Low risk	59.4	14.4	6.3	10.6	5.3	4.0
	Total sample	58.0	13.6	6.9	11.1	5.9	4.4
Theft							
	Control	27.0	20.9	18.3	13.9	12.2	7.8
	Intervention	31.0	33.3	14.3	14.3	2.4	4.8
	Low risk	33.1	24.5	16.2	14.2	6.4	5.6
	Total sample	33.2	24.4	16.4	14.2	6.9	5.8

Hypothesis 3

Figure 2 presents the conditional probabilities linking the control, intervention, and low-risk groups to the developmental trajectories from ages 11 to 17. As expected, the control group had the smallest probability of following the low-level trajectory for each specific behavior. Specifically, 18.3, 46.1, and 27.0% of the CO group followed the Low 1 trajectories of physical aggression, vandalism, and theft, respectively. By contrast, the counterpart probabilities are substantially larger for the low-risk group: 31.6, 59.4, and 33.1%, respectively. As shown in Table 2, these differences are statistically significant at $p < .001$ with the exception of theft, at $p < .09$. This pattern reverses itself for the highest level trajectories. The CO group has greater probabilities of following the medium decline and high rising trajectories than the low-risk group. We combined the two highest trajectories for the difference tests because the probabilities are small and otherwise would create statistical power problems. For physical aggression, 29.5% of the CO group follows these combined trajectories, whereas among the low-risk group, only 14.7% belong to one of these high-level trajectories. For vandalism, the counterpart membership rates are 17.4% for the controls and 9.3% for the low risks, and for theft the rates are 20 and 12%, respectively, for the control and low-risk groups. The control group is significantly more likely than the low-risk group to follow the combined medium decline and high rising trajectories of physical aggression ($p < .00$), vandalism ($p < .01$), and theft ($p < .02$).

Physical Aggression
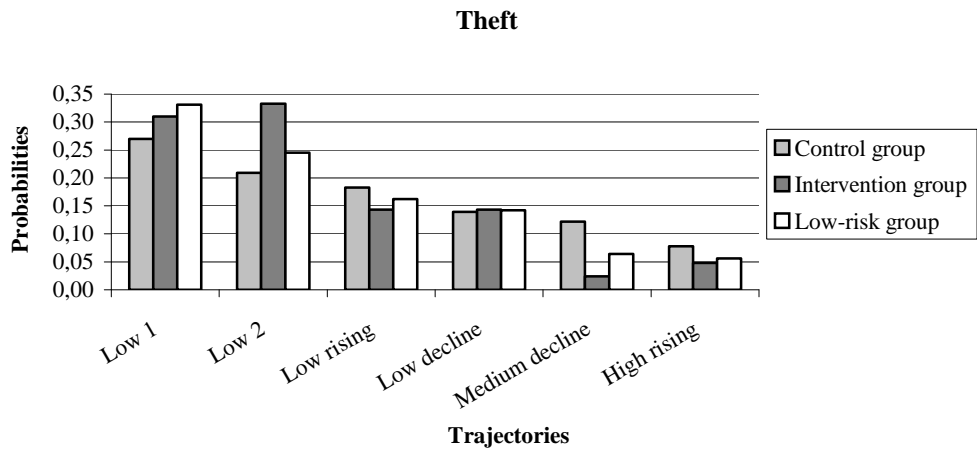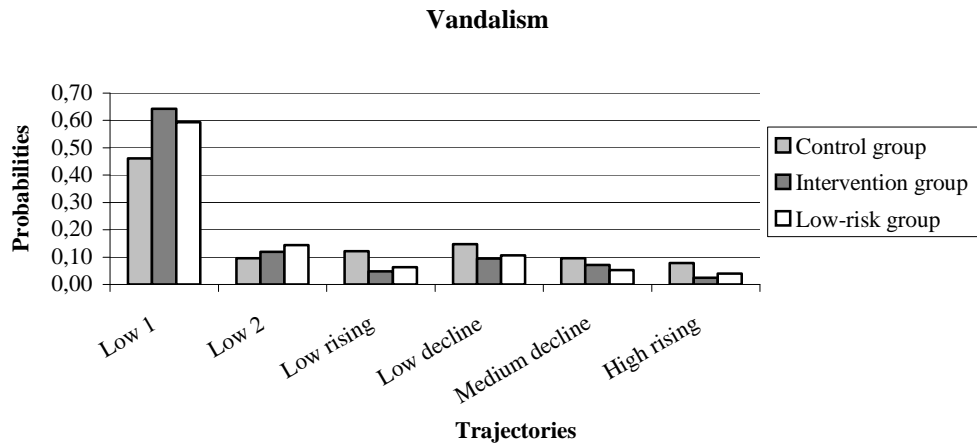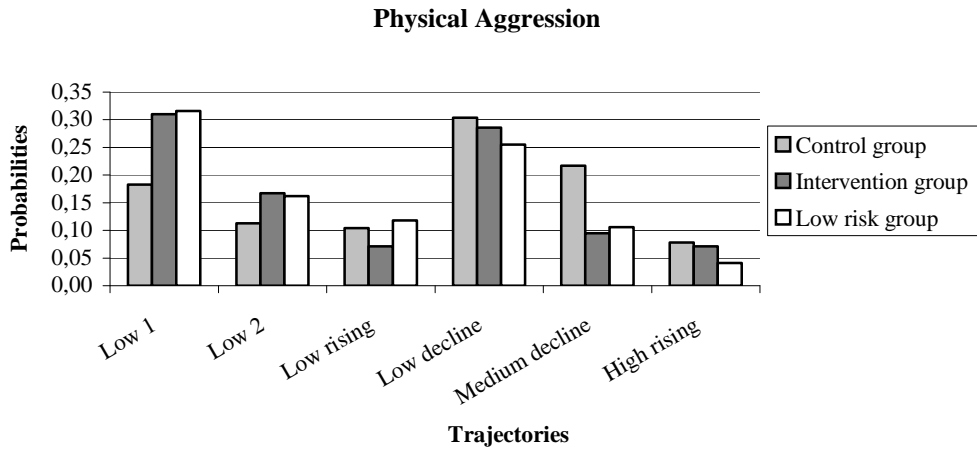
Vandalism

Theft

Figure 2. *Physical Aggression, Vandalism, and Theft Trajectory Probabilities Conditional on Low-Risk, Control, and Intervention Group Membership*

Table 2. *The p Values for Differences in Percentages of Boys in the Low-Risk Group, Control Group, and Intervention Group Who Followed the Two Trajectories During Adolescence*

Comparisons	Low 1	Medium Decline - High Rising
Physical violence		
Control group vs. low-risk groups	.00	.00
Intervention group vs. control group	.05	.04
Intervention group vs. low-risk group	.47	.37
Vandalism		
Control group vs. low-risk group	.00	.01
Intervention group vs. control group	.02	.08
Intervention group vs. low-risk group	.26	.48
Theft		
Control group vs. low-risk group	.09	.02
Intervention group vs. control group	.31	.01
Intervention group vs. low-risk group	.39	.13

Hypotheses 4 and 5

To test the short- (hypothesis 4) and long-term (hypothesis 5) impact of the intervention, we compared the differences in trajectories between the intervention group and two other groups: first with the control group to compare disruptive kindergarten boys with and without the preventive intervention, and second with the low-risk boys (not disruptive in kindergarten) to see to what extent the intervention was successful in reducing the difference described, in the previous section, between high- and low-risk kindergarten boys.

As hypothesized, the intervention group has higher probabilities of following the Low 1 trajectory of physical aggression, vandalism and theft compared to the control group. The respective probabilities for the two groups were 31.0 versus 18.3% for physical aggression, 64.3 versus 46.1% for vandalism, and 31.0 versus 27.0% for theft. Group differences are significant for physical aggression and vandalism ($p < .05$) but not significant for theft. We observe the opposite trend for the two highest trajectories combined. The intervention group is less likely than the control group to follow these high-level trajectories of physical aggression (16.6 vs. 29.5%), vandalism (9.5 vs. 17.4%), and theft (7.2 vs. 20%). These differences are significant for physical aggression ($p < .04$) and theft ($p < .01$) and close to significance for vandalism ($p < .08$).

The second set of analyses shows that the preventive program not only created significant differences between the IN and CO groups, but it also apparently eliminated differences between the IN group and the low-risk groups in terms of trajectory group conditional probabilities. For physical aggression, 31.0 and 31.6% of the intervention and low-risk groups were respectively assigned to the low-level trajectories. At the other end of the physical aggression spectrum, 16.6% of the intervention group was estimated to follow the medium declining or high rising

trajectory, nearly identical to the membership probability for the low-risk group (14.7%). Similar results were observed for the vandalism and theft trajectories.

Finally, the intervention could have deflected the disruptive boys from higher to lower level trajectories, but only for the first few years after the intervention. If this were the case, we would expect to find more of the IN group than the CO group boys on the low rising trajectories (hypothesis 5). Statistical analyses did not show any significant differences between the intervention and the control group for physical aggression (7.1 vs. 10.4%), vandalism (4.8 vs. 12.2%), and theft (14.3 vs. 18.3%). Moreover, there were no significant differences between the intervention and low-risk groups for the percentage of boys who followed a low rising trajectory.

DISCUSSION

The aim of the present study was to use a prevention experiment nested in a longitudinal study to test developmental hypotheses of antisocial behavior. We first tested hypothetical taxonomies for trajectories of antisocial behavior development with the longitudinal data and then tested the impact of the preventive intervention on the developmental trajectories.

The first two hypotheses dealt with the number and shape of developmental trajectories for physical aggression, vandalism, and theft. The semiparametric analyses indicated that the boys followed at least six types of trajectories for each of these three forms of antisocial behavior from 11 to 17 years of age. These results display important heterogeneity in the development of antisocial behavior and confirm previous studies using the same analytical methodology (e.g., Brame et al., 2001, Broidy et al., 2003; Nagin, Farrington, & Moffitt, 1995; Nagin & Land, 1993; Nagin & Tremblay, 2001). The results clearly indicate that, in contrast to the recent developmental theories of antisocial behavior, there are more than two or three developmental paths for antisocial behavior during adolescence. We did observe a small group of subjects who showed a high level of antisocial behavior throughout adolescence and could be considered chronic cases (i.e., the high rising group). This was seen most clearly for physically aggressive behavior. The high rising group had the highest level of physical aggression at the first measurement point, and it remained highest at every other assessment. The patterns for vandalism and theft appear different from the physical aggression trajectory. For vandalism, the two groups with the highest level at first assessment showed declining trajectories and, by age 17, had medium and low levels compared to the other four groups. For theft, the group with the highest level at the first assessment remained almost at the same level until age 17, but it was by then overtaken by two other groups who were on a rising trajectory. Thus, we did observe groups of subjects whose antisocial behavior increased substantially from the pre-adolescent to adolescent years. However, we did not observe, as predicted by the "age crime curve" hypothesis (e.g., Farrington, 1987; Quetelet, 1833), that there was a substantial increase in physically violent offending during adolescence. Only 11.4% of the subjects were on a rising trajectory of physical aggression. We also failed to find support for the more recent "late onset hypothesis" (Moffitt, 1993a; Patterson, DeBaryshe, & Ramsey, 1989), that there is a large percentage of individuals who increase their level of antisocial behavior during adolescence to the point that they become undistinguishable from those with a chronic pattern. Those who at ages 11 and 12 had the highest level of physical aggression (i.e., high rising, 4.7%) never had any rivals, but those who at the same age appeared to be on the chronic trajectory for vandalism and theft (i.e., medium

decline, 5.9 and 6.9% respectively) did ultimately have rivals, because they eventually were in fact largely outperformed by boys who had started at substantially lower levels (i.e., high rising, 4.4 and 5.8% respectively). Note also the very small percentage of boys involved in the latter trajectories that could be considered "late-onset" vandalism and theft. Finally, we observed that a substantial number of boys were following a declining trajectory of antisocial behavior from 11 to 17 years of age. To our knowledge, none of the developmental theories of antisocial behavior predicted this phenomenon. In the case of physical aggression, the declining trajectories (38.3%) are probably the extension of the general decline in frequency of physical aggression that appears to start in early childhood (Tremblay, 2000). The number of subjects on a declining trajectory for vandalism (17.0%) and theft (21.1%) is also important. These appear to mirror the decline in physical aggression and may be the result of a general socialization process. However, to our knowledge, no data has been published on the development of vandalism and theft from early childhood to adolescence, and consequently we do not know the developmental links between physical aggression, vandalism, and theft. It is interestingly that there are more boys on a low level trajectory for vandalism and theft than for physical aggression. We clearly need longitudinal studies with repeated measurements of different forms of antisocial behavior from early childhood to adolescence, in order to understand the different pathways for different types of antisocial behavior.

To test our third hypothesis, we compared the developmental trajectories of disruptive kindergarten boys who were not in the experimental intervention with their nondisruptive counterparts. Results supported the numerous developmental models of antisocial behavior since the pioneering work of Robins (1966), which predict that disruptive children are more likely to follow a chronic antisocial behavior trajectory. Consistent with these predictions, the result showed that disruptive kindergarten boys are less likely to be on low-level trajectories of antisocial behavior and more likely to follow high-level trajectories. These results were clearest for physical aggression and for theft, with vandalism in between. Such results not only support theoretical models that suggest that disruptive behavior during early childhood is an important antecedent of antisocial behavior during adolescence, they also reinforce the idea that the prevention of adolescent antisocial behavior should start during early childhood (e.g., Kellam & Rebok, 1992; Robins, 1992; Tremblay, LeMarquand, & Vitaro, 1999; Tremblay et al., 1992; Yoshikawa, 1994).

Having shown that disruptive kindergarten boys who did not participate in the preventive intervention were at higher risk of following a high-level antisocial trajectory and less likely to be on a low-level antisocial trajectory, we then proceeded to test whether a preventive intervention targeting the disruptive kindergarten boys and their families would deflect them to a low-level antisocial behavior trajectory. It was hypothesized that intensive parent training and social skills training over a 2-year period, at the start of elementary school, would change the course of their antisocial behavior not only during the preadolescent years but also throughout adolescence. Results confirm this hypothesis, especially for physical aggression. Boys from the IN group compared to those from the CO group were more likely to follow the lowest level trajectory and less likely to follow high-level trajectories. We also did not observe any differences in the probability of following specific physical aggression trajectories between the boys from the IN group and those from the low-risk group.

To our knowledge, this is the first demonstration that an intervention with disruptive children has shown such a significant impact on the developmental course of physical aggression. In fact, we have found no evidence in the literature of an intervention program with a long-term follow-up that showed any significant reduction in levels of physical aggression. The results from the present study are impressive because the intervention could have had a significant impact by simply deflecting some of the high-risk boys from a medium-level trajectory to a low-level trajectory. However, the analyses do indicate that the high-risk boys who participated in the intervention were moved from high-level trajectories to lower level trajectories. Furthermore, there is no evidence that those who were deflected to the lower trajectories after the intervention had problems later on that would have placed them on a rising trajectory. Thus, the impact of the intervention for physical aggression was to put a statistically significant number of the high-risk boys on the same developmental trajectories as the low-risk boys. The intervention appeared to have a similar impact on the trajectories for vandalism, except that the comparison between the IN and CO groups showed only a marginally significant effect on those who were following the high-level trajectories. For theft, there was also a significant impact of the intervention according to comparisons of the IN and CO groups. In contrast to physical aggression and vandalism trajectories, boys in the intervention group were more likely to follow the Low 2 instead of the Low 1 trajectory.

We offer both a theoretical and a methodological explanation for the apparently differential impact of the intervention on trajectories of physical aggression, vandalism, and theft. First, although we partially confirm theoretical models of general deviance during adolescence for the early-onset disruptive group (Gottfredson & Hirschi, 1990; Jessor & Jessor, 1977), the developmental trajectories of physical aggression, vandalism, and theft may not be driven by the same distal and proximal causal factors. Hence, an intervention targeting parent training and social skills training may impact differentially on physical aggression, vandalism, and theft. From this perspective, the intervention that was aimed at disruptive behavior may not have dealt sufficiently with factors leading to high-level trajectories of vandalism, for example. The alternative methodological explanation is one of statistical power. Indeed, because the trend of the results is all in the same direction, we may not have had the statistical power to detect all the positive impacts of the intervention.

In summary, the present study used two methodological innovations to test developmental theories of antisocial behavior. A preventive experimental intervention was nested within a longitudinal study, and developmental trajectory analyses were employed to test the differential impact of the intervention on subgroups defined by different developmental trajectories found in the longitudinal study. The results showed that recent developmental theories of antisocial behavior have underestimated the number of developmental trajectories for antisocial behavior. There are clearly many developmental trajectories for any given type of antisocial behavior, and there are possibly different types of developmental trajectories for different types of antisocial behavior. Developmental theories that attempt to address the whole domain of antisocial behavior will need to take this complexity into account, as well as consider the added complexity generated by the associations among the different types of antisocial behavior over time, which we may label developmental comorbidity. Second, results confirmed that disruptive kindergarten children are at high risk for antisocial behavior during adolescence. Third, the impact of the experimental intervention confirmed that a relatively early and intensive intervention could

change the developmental course of physical aggression vandalism, and theft followed by boys who leave kindergarten with disruptive behavior problems. Thus, disruptive behavior during the preschool years is not destiny. Furthermore, the developmental trajectories of physical aggression for disruptive kindergarten boys appear to be amenable to deflection by interventions that do not specifically target the neuropsychological deficits often hypothesized to cause chronic physical aggression (e.g., Arseneault, Tremblay, Boulerice, & Saucier, 2002; Arseneault, Tremblay, Boulerice, Séguin, & Saucier, 2000; Moffitt, 1993b; Raine, 1993; Raine, Brennan, & Mednick, 1997; Séguin, Pihl, Harden, Tremblay, & Boulerice, 1995). Interventions targeting social behavior may help children adjust to their social environments without necessarily modifying underlying physiological deficits, or they may have an indirect impact on these deficits (Keating & Hertzman, 1999).

The study had a number of important limitations. First, the longitudinal data that were used to trace developmental trajectories of antisocial behavior used only self-report and were limited to the period between 11 and 17 years of age. There is good evidence, including from the present study, that antisocial behavior problems start during the preschool years (Hay, Castle, & Davies, 2000; Keenan & Wakschlag, 2000; Loeber & Farrington, 2000; Tremblay, 2000). To fully understand developmental trajectories of antisocial behavior and their transformation by preventive interventions, we need studies that trace these developmental trajectories from early childhood to adulthood. A second important limitation of the study was the relatively small group of subjects submitted to the intervention. This not only resulted in low statistical power but also prevented more sophisticated analyses, such as the effect of the intervention on joint trajectories to explore its impact on comorbidity. Although the intervention showed a significant long-term impact on physical aggression, vandalism, and theft, it was applied to a specific group of male subjects in a given context, and replications will be needed to assess the extent to which these results can be generalized. Preventive studies with disruptive girls will be especially useful in clarifying the extent to which the present results can be generalized across gender in similar, and different contexts. Future studies will also need to investigate risk factors associated with each of these trajectories and possible interaction effects of these risk factors with the intervention. Such studies will also need to include dose-response and cost-effectiveness analyses.

Acknowledgements

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5 Preventive Intervention: Assessing Its Effects on the Trajectories of Delinquency and Testing for Mediational Processes[1]

Frank Vitaro, Mara Brendgen and Richard E. Tremblay

ABSTRACT

This study assessed the impact of a prevention program on the growth of delinquency from 13 to 16 years of age and examined whether its impact operated through a chain of events compatible with many developmental models. The multicomponent prevention program targeted disruptive low socioeconomic status boys when they were aged 7 through 9 years. A growth-curve analysis showed that the level of delinquency for the prevention group was lower at 13 years (i.e., the intercept) than in the control group. There was, however, no direct effect of the program on the growth (i.e., the slope) of delinquency from 13 through 16 years of age. Path analysis showed that reduction in disruptiveness and increase in parental supervision by age 11, as well as association with nondeviant peers by age 12, were part of a chain of events that was found to mediate the effect of the program on the initial level of delinquency at 13 years. The analysis also showed that the program had an indirect effect through these variables on the growth of delinquency from 13 to 16 years of age. The discussion focuses on the possibility of using prevention studies to validate developmental models.

The science of prevention consists essentially of alleviating some modifiable risk factors or putting in place some modifiable protective factors that have been shown to be predictive of the targeted outcome (Coie et al., 1993). Risk factors for delinquency are relatively well-known (Robins, 1992). Prevention scientists usually design their program components with the purpose of modifying these early risk factors and with the hope that initial changes will set into motion a chain of events that will result in a strong effect on the final outcome.

Developmental Sequence of Risk Factors

Children's early behavioral dispositions, particularly aggressive-hyperactive-oppositional behaviors (i.e., disruptiveness) represent a well-established risk factor toward delinquency (Tremblay, Pihl, Vitaro, & Dobkin, 1994). Other authors have stressed the contribution of parenting practices to the prediction of delinquent behaviors. Parental supervision, in particular, has been linked to later delinquent behaviors, especially among children living in poor urban areas (Larzelere & Patterson, 1990). Still, other researchers reported data showing that involvement with delinquent companions reliably predicted self-reported delinquency (Elliott, Huizinga, & Ageton, 1985).

The previous risk factors can be linked in a chain of events that is imbedded in many established developmental models of delinquency (Coie, 1996; Patterson, Reid, & Dishion, 1992). In many of these models, it has been specifically suggested that ineffective parenting and difficult temperament lead to disruptive behaviors. In turn, disruptive behaviors lead to academic difficulties and rejection by peers and adults at school. Disruptive behaviors also foster association with deviant peers. Lack of parental supervision and support also contributes to this process, which eventually leads to initiation or escalation in delinquent behaviors.

As already mentioned, most preventionists select their program components so as to influence the risk or protective factors that, according to established developmental models, have the potential to initiate the chain of events (also called intermediate variables or mediators) through which changes on these initial risk or protective factors should influence the final outcome. Yet, few authors have actually examined if the mechanisms through which their prevention program impacted the final outcome corresponded to the hypothesized chain of events. This "black box" approach, which focuses solely on the assessment of distal outcomes, is still very much present despite the acknowledged potential of prevention studies to contribute to the validation of the developmental models that initially inspired them (Kellam & Rebok, 1992; Loeber & Farrington, 1995; Robins, 1992).

Use of Prevention to Test Developmental Sequences of Risk/Protective Factors

Some notable exceptions do, however, exist. Dishion and Andrews (1995) reported data showing that a change in coercive parent-child exchanges following an intervention program was associated with a reduction in antisocial behavior at home and at school. Coie and collaborators from the FASTTRACK program (1997) also showed that a number of child and parent factors mediated the effects of the program on teacher- and parent-rated conduct problems by the end of Grade 3 (i.e., by ages 9-10). Finally, Vitaro, Brendgen, Pagani, Tremblay, and McDuff (1999) found that association with less deviant peers partly mediated the effect of their prevention program on age 13 conduct disorder. Altogether, these studies included elements covering three important domains represented in most developmental models of delinquency or conduct problems as described earlier: child characteristics, parental disciplinary practices, and peers. None of them, however, included elements from all three developmental domains to test whether they operated as a chain to mediate the effects of the program on later delinquency as prescribed by the models from which they originated.

The first purpose of this study was to examine whether a program designed to prevent delinquency operated through a chain of events that included child-related (i.e., reduction in disruptive behaviors), parent-related (i.e., parental supervision), and peer-related (i.e., association with deviant peers) variables. According to the typical theoretical model described earlier, reduction in children's disruptiveness and improvement in parental supervision were considered proximal effects of the program and were collected at postintervention (Patterson, 1982). Association with deviant peers during early adolescence was considered as an intermediate variable that would be influenced by the proximal effects of the program (which were considered as triggers) and contribute additional mediation for the effect of the program on delinquency during adolescence (Elliott et al., 1985).

The prevention program used in this study was targeted to disruptive boys and their families when the boys were 7 through 9 years of age and included two components: a parental

management skills training program in the home and a child social and social-cognitive skills training program at school. A two-component program, including parent and child training, was deemed more promising than single-component programs (Kazdin, 1985). In addition, each component was intended to trigger the first two elements of the theoretical pathway we wanted to influence to prevent delinquency: the parent management skills training component was intended to improve parents' disciplinary practices and supervision deficits, whereas the social and social-cognitive skills training component with the children in small group formats involving prosocial peers was intended to reduce children's aggressive and hyperactive behaviors by teaching them alternative behaviors to aggression and self-control strategies. Follow-up data showed that the program reduced teacher-rated disruptiveness up to age 12 and self-reported delinquency up to age 15, in comparison to a control condition (Tremblay, Pagani-Kurtz, Mâsse, Vitaro, & Pihl, 1995). However, no data on later delinquent behaviors have been reported and the pathway(s)[2] through which the program achieved its impact on later delinquency have not been examined.

Use of Trajectories as Outcome Measures

This article presents new data showing the impact of the prevention program on self-reported delinquency up to age 16 years, which is 7 years after the end of the program. Because age 16 corresponds to the age when delinquency peaks during adolescence (Elliott, 1994), it seemed appropriate to assess the impact of the program and the role of possible mediators up to that point in time.

As a preliminary analysis, we examined the impact of the prevention program on the trajectories (i.e., growth curves) for delinquency from early to midadolescence. The program might not have had an effect on age 16 delinquency when the prevalence of delinquency is highest, but this negative finding would not preclude the possibility that the program could still have had an effect on delinquency at earlier ages. If this were the case, it could be concluded that the program delayed the onset of delinquency, but did not reduce it during the critical period of midadolescence. According to this model (i.e., Model 1), the boys in the prevention group would follow a trajectory similar to the late-onset-adolescence-limited delinquents: During early adolescence they would score lower than the control group but they would catch up by midadolescence (Farrington et al., 1990). Consequently, the intercept for their delinquency curve by early adolescence should be lower than for the boys in the control group, but the slope should be steeper because they would be increasing their delinquent behaviors more rapidly through midadolescence (i.e., up to age 16).

It is also possible that the program had an impact on delinquency by early adolescence and that this impact remained constant throughout adolescence (i.e., up to age 16 years; Model 2). In other words, the intercept of the prevention boys' delinquency curve would be lower than the control boys' curve, but their slopes would be similar (i.e., positive in both groups). It could be concluded that the program reduced the overall level of delinquency, but did not modify the tendency in both groups to increase their delinquent behaviors.

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[2] Although the variables included in the present pathway are illustrative of four important domains of a youth's life (i.e., personal characteristics, family, peer, and school) they are by no mean exhaustive of all the variables that might play a role on the trajectories toward delinquency.

Finally, it is possible that the prevention program was successful in mitigating the increase in delinquency during adolescence, in addition to, lowering the initial level of delinquent behaviors (Model 3). Therefore, it could be concluded that the boys in the prevention group would resemble well-adjusted adolescents who tend to refrain from engaging in delinquent behaviors despite the general and rapid rise in delinquency during midadolescence (Elliott, 1994).

Other possibilities, such that the prevention program neither influenced early adolescent nor midadolescence delinquency or that it influenced only midadolescent delinquency (i.e., had a sleeper effect), also exist. These possibilities, however, can be ruled out because it has been established already that the program had an impact on early delinquency (Tremblay et al., 1995). Thus, the second purpose of this study was to examine in which way the prevention program influenced the delinquency trajectory from age 13 (early adolescence) through age 16 (midadolescence) and examine if the chain of theoretically relevant variables described earlier played a mediating role. The three possible ways in which the prevention program could have influenced delinquent trajectories during adolescence in comparison with the control condition are illustrated in Figure 1. To avoid possible confounds in the analyses assessing the effect of the program on delinquency and the analyses exploring the putative mediating chain of events, we controlled for family and socioeconomic factors as well as for children's cognitive abilities (i.e., IQ) because of their links with delinquency in past research (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998).
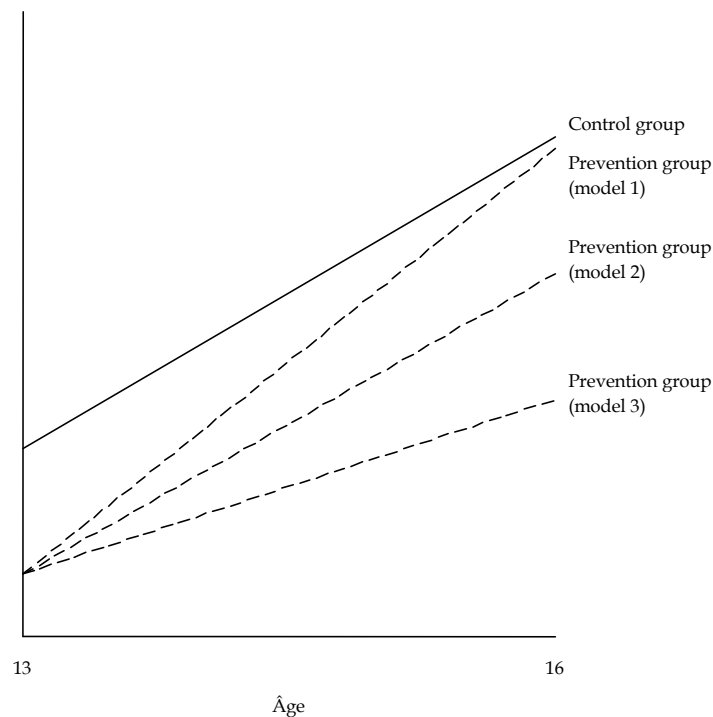
Figure 1. *Three Possible Models of Delinquency Development during Adolescence as a Function of Participation in the Prevention Program*

METHOD

Participants

The 120 boys who participated in this study were drawn from a sample of 904 White boys whose disruptiveness was assessed by their teachers in kindergarten (*M* age = 6.0 years, *SD* = 0.3). In kindergarten, the boys in the sample were in 53 schools located in low socioeconomic status (SES) areas of Montreal, Canada. All the boys' parents were French-speaking and had fewer than 14 years of schooling (*M* = 10.5). In addition, their average SES level was lower than the national norm as indicated by the parents' scores on the Blishen and McRoberts (1976) occupational prestige scale, which was used to score parents' occupations (occupational prestige averaged across both parents or of working parent = 38.87, *SD* = 12.48, compared with 42.08, *SD* = 12.09, for a representative sample of parents with sons of the same age living in the Province of Quebec). The 13% of boys who lived in families on social welfare or unemployment insurance received the minimum score on the scale (i.e., 17.8).

Selection Instrument and Group Composition

Kindergarten teachers rated boys' behavior at age 6 using the disruptiveness scale of the Social Behavior Questionnaire (SBQ; Tremblay et al., 1991). Ratings took place near the end of the school year, in April or May. The disruptiveness scale included 13 items that tapped hyperactivity-aggressiveness and opposition-related behaviors. Teachers indicated whether items (a) did not apply (0), (b) applied sometimes (1), or (c) applied often (2). Internal consistency was high (*α* = .87).

From the original sample of 904 boys, those who received scores above the 70th percentile on the SBQ disruptiveness scale in kindergarten (*n* = 259) were classified as disruptive and considered at risk for delinquency. We considered those boys at risk for delinquency, because, although this cutoff point is not particularly stringent, it has been used successfully to predict serious maladjustment in this sample (Tremblay et al., 1994). In addition, the boys in this sample originated from low SES neighborhoods and from parents with low educational backgrounds, which has been shown to contribute to the prediction of delinquency above and beyond children's personal dispositions (Farrington, 1992).

The 259 disruptive boys were randomly assigned to one of the following groups:[3] (a) prevention group (IN group; *n* = 75); (b) no treatment-control group (CO group; *n* = 60); and (c) sensitization-contact group (SC group; *n* = 124). In addition, 32, 19, and 42 parents from the IN, CO, and SC groups, respectively, refused to participate in the study. Consequently, the IN, CO, and SC groups included 43, 41, and 82 participants, respectively, at the beginning of the study. These numbers were further reduced to 31 (IN group), 34 (CO group), and 55 (SC group), because of missing data on the variables of interest. The boys in each group who were lost due to refusal or missing data did not differ across the three groups. The remaining boys in the three groups did not differ on age 6 measures (i.e., teacher-rated disruptiveness, mother and father occupational prestige, mother and father educational level). A series of *t* tests also showed that

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[3] Because of limited resources, a little more than one out of four boys was selected to participate in the prevention group. Also, because of our interest in examining family interactions in the laboratory, the remaining boys were subdivided in a ratio of 2 for 1 in the sensitization-contact group and the no treatment-control group, respectively. This resulted in unequal number of participants in the three groups.

the boys in the three groups who dropped out were not rated more disruptive in kindergarten and did not come from more economically disadvantaged families than those who remained in the study throughout (mean disruptiveness scores—14.91 vs. 14.08; mean occupational prestige scores—35.02 vs. 35.27).

The SC group was included to control for the possible influence of mere contact with researchers and participation in a research study. Boys in this group and their families spent 1 half-day every 2nd year in the university lab to participate in a series of tests and observation sessions. Families were also visited during 4 evenings for observation purposes in the home setting. Finally, each child was observed at school for half a day on four occasions and spent a whole day in the university lab during the summer. In contrast, CO boys were only followed through questionnaires sent to parents and teachers.

Preliminary analyses revealed that boys in the SC and CO group did not differ on any variable measured at pretest or posttest or during follow-up to age 16 years. Therefore, it was decided to collapse the CO and SC boys into one group (i.e., CO group).

Prevention Program

The prevention program was implemented over a 2-year period, from ages 7 to 9 (typically during Grades 2 and 3). In current terminology, the program could be called an "indicated" preventive intervention (Mrazek & Haggerty, 1994).

The program included two components (i.e., social skills training with the children and improvement of parental skills) that were believed at that time to be most likely to alter the boys' disruptive behaviors (Kazdin, 1985). Because many disruptive children are deficient in social skills and problem-solving strategies, it was believed necessary to teach them these skills. It was expected that they would become less disruptive if they learned alternate appropriate behaviors (Milan & Kolko, 1985). Improvement of parental skills (i.e., use of reinforcement contingencies and sustained supervision) was also selected as a strategy to reduce disruptive behaviors at home and facilitate the generalization and consolidation of the skills learned by the children at school.

Social and problem-solving skills training was conducted at school in small groups. Four trained professionals (two childcare workers, one social worker, and one psychologist) conducted the sessions. In each group, there were four or six teacher-nominated prosocial boys and one or two target boys. Including the prosocial boys in the sessions served two purposes: First, they were positive models and reinforcement agents. Second, their presence allowed the target children to participate without being stigmatized by classmates.

The school-based biweekly training sessions took place between the months of November and April for 2 consecutive years. Each session lasted for about 45 minutes. Verbal instructions, positive reinforcement, modeling, and behavioral rehearsal were used to teach the specific skills to the target boys.

The professionals responsible for the training sessions met twice with each teacher to monitor the child's progress in the classroom and help the teacher set up reinforcement contingencies to support production of the learned skills in the classroom. This procedure,

however, was implemented in only half of the classrooms with a target child, because half of the teachers refused to participate in this part of the program.[4]

Parent training was adapted from the program developed by the Oregon Social Learning Center (Patterson, Reid, Jones, & Conger, 1975). The same four professionals who conducted the social and problem-solving sessions at school conducted the parent training sessions in the boys' homes. Parents were first taught to recognize, observe, and record their children's problem behaviors. Next, they were taught to define appropriate behaviors and to set clear objectives for their child. Third, they learned how to use verbal and material reinforcers in a systematic and contingent manner to reinforce the child's appropriate behaviors. Parents also learned to punish inappropriate behavior systematically and moderately with short time-out periods. Response-cost strategies involving the use of naturally occurring consequences for inappropriate behavior also were used (i.e., if the child broke something that did not belong to him, then he had to replace it). Parents were encouraged to supervise their children's schoolwork and monitor their children's behavior outside the home. Finally, parents were taught how to manage family crises through problem solving and how to use negotiation strategies in everyday situations.

Parents participated in an average of 17.4 sessions (*SD* = 13.2; *Mdn* = 15). The maximum number of sessions was 47. Six families participated in only two training sessions. For most of the families, the number of training sessions depended on how well the therapist believed the parents had mastered the targeted skills. For 14 families, however, the training ended prematurely because the parents were unmotivated. The boys from these families were nevertheless kept in the IN group for the purpose of the following analyses.

Implementation Assessment. At the end of each child or parent session, the professionals responsible for the program application indicated whether the session had taken place and the percentage of content delivered during the session relative to a preplanned standardized content. More than 85% of the children attended at least two-thirds of the social skills training sessions. For parents, the number of sessions varied greatly as already indicated. Although debatable on purely methodological grounds, this seemed sound practice from a clinical, ethical and administrative perspective.[5] Despite variation, more than 75% of parents covered at least two-thirds of the content and objectives of the parent training component. In addition, child sessions were videotaped and were used by the program coordinator to give weekly feedback to each of the professionals and maintain standardization in program elements across them.

Instruments Used to Assess Proximal and Potential Mediating Variables

Postintervention Disruptiveness. Six items of the SBQ disruptiveness scale (Tremblay et al., 1991) were used to assess boys' behavior problems 1 year after the end of the program (i.e., when the boys were 11 years old). These items were selected because they specifically tapped

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[4] We compared prevention group (IN) boys whose teachers implemented the teacher component to those whose teachers did not but found no significant differences on any of the dependent measures (i.e., postintervention disruptiveness, friends' deviancy, delinquent behaviors). This result, however, should be examined in light of the weak statistical power attributable to the small size of the two subgroups of IN boys and in light of the absence of possible confounding factors such as teacher characteristics or other interventions in the classroom (which, unfortunately, we did not assess).

[5] Given that number of training sessions for parents depended on their success towards achieving the parent component objectives, it did not seem appropriate to perform a dosage-effect analysis.

physical aggressiveness (three items), hyperactivity (two items), and lack of discipline (one item). The teachers who did the ratings had not been involved in any way with the application of the program during the previous years. The internal consistency of the disruptiveness scale at age 11 years was high ($\alpha = .92$).

Parental Supervision. Three items relating to parental supervision were rated by the boys when they were 11 years old. These items were "Do your parents know where you are when you go out?" "Do your parents know who you hang around with?" and "Is there a rule in your family about the friends you can hang around with?". Each item was rated on a 4-point scale ranging from 0 (*never*) to 1 (*sometimes*) to 2 (*most of the time*) to 3 (*all the time*). Alpha was .72.

Friends' Deviancy. The Pupil Evaluation Inventory (PEI; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976) aggressiveness-disturbance scale was used to gather classmates' assessments of IN and CO participants' mutual friends when they were 12 years old.

First, the item "those who are your best friends" was used to identify participants' mutual friends (i.e., boys who had been rated as a best friend by the participant and who, in turn, had rated the participant as one of their four best friends; Bukowski & Hoza, 1989). Because only boys could be nominated, all mutual friends were boys. When participants had more than one mutual friend, average scores were computed across mutual friends. About half of the boys in each group had no mutual friend. To avoid losing these participants, the score of their first nominated friend was used in the analyses. The PEI aggressiveness-disturbance scale was then used to assess friends' characteristics. The aggressiveness-disturbance scale includes 20 items such as, "those who are mean and cruel to others" and "those who say they can beat everybody up." Participants' classmates (boys and girls) nominated up to four boys in the classroom who best fit each descriptor. PEI assessment took place near the end of the school year. Scores were standardized within each classroom. Limiting nomination of friends to the classroom probably did not overly restrict nominations to real friends because for schoolchildren a majority of friends are classmates (Kupersmidt, Burchinal, & Patterson, 1995) and because children went to school in their own neighborhoods.

Instrument Used to Assess the Distal Outcome – Delinquency

Participants answered a 27-item Self-Reported Delinquency Questionnaire (SRDQ; LeBlanc & Tremblay, 1988) when they were 13, 14, 15, and 16 years old. The SRDQ assesses involvement in delinquent behaviors over the last 12 months. It comprises physical violence, theft, vandalism, and drug abuse subscales. The physical violence subscale includes 10 items. Examples are (a) used a weapon during a fight, (b) beat someone up for no reason, (c) engaged in a fistfight; and (d) threw rocks or other objects at someone. The theft subscale includes seven items. Examples are (a) stole $100 or more, (b) broke a door or window to steal something, and (c) stole a bicycle. The vandalism subscale includes six items. Examples are (a) vandalized a car, (b) intentionally set a fire, and (c) intentionally destroyed school property. Finally, the drug abuse subscale included three items. Examples are (a) got drunk and (b) used marijuana. Each question was rated on a 4-point scale 1 (*never*) to 2 (*once or twice*) to 3 (*often*) to 4 (*very often*). Cronbach's alphas varied from .87 to .92 (from ages 13 through 16 years). LeBlanc and McDuff (1991) reported temporal stability and satisfactory concurrent validity of the SRDQ with adolescent boys. Others have also documented the validity of self-reported delinquency

(Hindelang, Hirschi, & Weiss, 1981; Klein, 1989). The SRDQ items were embedded in a series of questions about school, hobbies, social relations, and parent relations.

Control Variables

Sociofamily Adversity. When the boys were 6 years old, mothers provided information pertaining to family structure, educational levels of parents (or the parent with whom the child was living), occupations of parents (or the parent with whom the child was living), and ages of parents at the birth of their first child. The Blishen, Carroll, and Moore (1987) scale for occupational prestige was used to score each parent's occupation on a continuous scale. Family structure and parental education and occupation have been linked to children's behavior problems or delinquency (Huesmann, Eron, Lefkowitz, & Walder, 1984; Velez, Johnson, & Cowen, 1989). Mother's age at the child's birth has also been negatively related to prevalence and persistence of children's externalizing problems (Stouthamer-Loeber, Loeber, Van Kammen, & Zhang, in press). An index of family socioeconomic disadvantage was compiled in the following manner: parental age at the birth of the first child, number of years in school, and occupation were each given scores of 1 if the parent was in the lowest 30th percentile and scores of 0 if the parent was above the 30th percentile. Children living with both biological parents received scores of 0, and all others were scored 1. For single-parent families, only the custodial parent's occupation, education, and age at the first child's birth were considered. A sociofamily adversity index ranging from 0 to 1 was computed by dividing the total score by the number of variables used.

Verbal IQ. Because IQ has been shown to predict delinquency above and beyond sociofamily variables, it was also controlled for in this study (Moffitt, Gabrielli, Mednick, & Schulsinger, 1981). Verbal IQ was assessed at age 13 using the Sentence Completion Test (SCT; Lorge & Thorndike, 1950). Because IQ is stable from childhood to adolescence (Moffitt, Caspi, Harkness, & Silva, 1993), age 13 verbal IQ was used as a proxy for preintervention IQ, which was not assessed. Veroff, McClelland, and Marquis (1971) reported high correlations between the SCT and different measures of intelligence. They also found that SCT scores predicted school dropout rates. Finally, a significant relationship ($r = .67$) was obtained between the SCT at age 13 and the Wechsler Intelligence Scale for Children-Revised at age 10 for a random subsample ($n = 80$) of boys drawn from the initial sample of 904 boys used in this study.

RESULTS

Testing the General Shape of the Delinquency Trajectory from 13 to 16 Years of Age

The effect of the intervention program on the trajectory of delinquency from age 13 to age 16 and the potential mediating pathways were tested by means of growth curve analysis using the LISREL software package (Jörëskog & Sörbom, 1996) and following the procedure described by Willet and Sayer (1994). On the first step of the analyses, the general shape of the trajectory of delinquency was examined. For that purpose, a model was specified where the four measures of delinquency (i.e., from ages 13 through 16) were used as indicators of the latent growth parameters, intercept, slope, and slope-squared. The squared growth parameter was included to test for the possibility of a curvilinear trajectory of delinquency. In this initial model, the measurement errors of the indicators were assumed to be both independent and

homoscedastic. The following parameters were of specific interest for the evaluation of the trajectories of delinquency:

1. The mean of the intercept, which describes the average level of delinquency at time equal 0 (i.e., age 13 in this model).
2. The mean of the slope, which describes the average rate of change across time.
3. The mean of the slope-squared parameter, which describes the acceleration or deceleration in the growth of delinquency over time.
4. The variances of these three growth parameters, which describe their interindividual variability.
5. The covariances among intercept, slope, and slope-squared.

Due to the directed nature of the expectations, one-sided tests were employed to examine the significance of the estimated parameters. The correlations among the variables used in this analysis, as well as their respective means and standard deviations, are presented in Table 1.

Table 1. *Correlations, Means, and Standard Deviations of the Variables Used in the Growth Curve Analysis without Predictor Variables*

	A	**B**	**C**	**D**
A. Delinquency at Age 13	1.00			
B. Delinquency at Age 14	0.63*	1.00		
C. Delinquency at Age 15	0.48*	0.77*	1.00	
D. Delinquency at Age 16	0.42*	0.73*	0.73*	1.00
M	32.06*	34.17	35.95*	36.93
SD	5.55	8.98	10.50	12.43

Note. N = 120.
* *p* < .001.

The overall fit of the initial growth model to the data was acceptable, $\chi^2_{(4)}$ = 27.74, p < .001, Goodness-of-Fit Index (GFI) = .92, Comparative Fit Index (CFI) = .94, Incremental Fit Index (IFI) = .94. Inspection of the residuals and LISREL modification indexes indicated, however, that a relaxation of the homoscedacity assumption regarding the measurement errors across time would significantly improve model fit. The relaxed model indeed showed a significant improvement in fit compared to the previous one, $\Delta\chi^2_{(\Delta 3)}$ = 27.15, p < .001, GFI = 1.00, CFI = 1.00, IFI = 1.00. The parameter estimates of this model showed that both the mean of the intercept and the mean of the slope were significantly different from zero, whereas the mean of the slope-squared parameter did not significantly differ from zero. The variances of both the intercept and the slope parameter were also significantly different from zero, but the variance of the slope-squared parameter was not. Because none of the values associated with the curvilinear component of the delinquency-trajectory (i.e., the slope-squared parameter) had reached statistical significance, the growth model was reestimated including only the intercept and the linear growth component. The fit of this new model was somewhat lower than that of the previous one, yet still acceptable, $\chi^2_{(5)}$ = 21.86, p < .001, GFI = .93, CFI = .94, IFI = .94. This model was therefore used as the baseline model to examine the shape of the delinquency trajectory from 13 to 16 years of age. Specifically, the average level of delinquency at age 13 in

our sample was 32.16, $p < .001$, and it linearly increased by a value of 1.72 per year, $p < .001$. The variances of both the intercept and the slope parameter were also significantly different from zero, 25.48, $p < .001$, and 10.38, $p < .01$, respectively. In addition, the intercept and slope were positively associated, $r = .20$, $p = .08$. This pattern of results indicates that "the average boy" followed a linear growth trajectory of delinquent behavior, although participants varied considerably in their initial level of delinquency at age 13 and also with respect to the amount of increase in delinquent behavior per year. Moreover, boys who displayed higher initial levels of delinquent behavior at age 13 also tended to show a larger amount of increase in delinquency from 13 to 16 years of age.

Testing the Direct and Meditated Effect of the Intervention Program on the Delinquency Trajectory from 13 to 16 Years of Age

The next set of analyses examined whether participation in the intervention program could explain some of the variance associated with the intercept and the slope of the delinquency trajectory and whether the link was mediated through postintervention disruptiveness, postintervention parental supervision, and friends' deviancy. To avoid potential confounds, the effects of family adversity, children's IQ, and preintervention disruptiveness were controlled for in the analyses. To reduce model complexity, the effects of these variables were controlled by partialling their effect from the covariance matrix used in the analyses. The partial correlations among all the variables used in the analysis (controlling for family adversity, children's IQ, and preintervention disruptiveness), as well as their respective means and standard deviations, are presented in Table 2.

Table 2. *Correlations, Means, and Standard Deviations of the Variables Used in the Growth Curve Analysis with Predictor Variables*

	A	B	C	D	E	F	G
A. Delinquency at Age 13	1.0						
B. Delinquency at Age 14	0.64****	1.0					
C. Delinquency at Age 15	0.48****	0.77****	1.0				
D. Delinquency at Age 16	0.42****	0.72****	0.73****	1.0			
E. Friends' Deviancy	0.29****	0.40****	0.42****	0.26***	1.0		
F. Disruptiveness	0.20**	0.17**	0.19**	0.30****	0.10	1.0	
G. Parental Supervision	-0.29****	-0.36****	-0.29****	-0.32****	-0.35****	-0.11	1.0
H. Intervention	-0.16**	-0.15**	-0.11	-0.18**	-0.17**	-0.20**	0.13*
M	32.06	34.17	35.95	36.93	-0.17	5.18	7.51
SD	5.55	8.98	10.50	12.43	0.57	2.85	1.93

Note. $N = 120$. Correlations are partial correlations adjusted for family adversity, adolescents' IQ, and preintervention disruptiveness. The intervention variable is coded so that a higher value represents participation in the program.
$* p < .10; ** p < .05; *** p < .01; **** p < .001$.

First, the direct effect of the prevention program on the trajectory of delinquency was tested without the potential mediator variables in the model. For this purpose, a model was specified where participation in the intervention program was included as a predictor of the two growth parameters, intercept, and slope. This model showed an acceptable fit, $\chi^2_{(7)} = 23.34$, $p < .01$, $GFI = .94$, $CFI = .94$, $IFI = .94$. The results showed that participation in the intervention program was related to a lower intercept (i.e., the initial level of delinquency at age 13), $\beta = -.17$,

p < .05, which corresponds to a reduction of the delinquency level at age 13 by 1.95 associated with the intervention program. Thus, the mean rate of delinquency exhibited by the boys in the control group was 32.15, whereas the boys in the intervention group had a mean level of 30.20.[6] The effect of the intervention program on the rate of increase in delinquency per year did not reach statistical significance, however, $\beta = -.12$, $p = .13$.

On the next step of the analyses, the potential mediating variables were included in the model and all possible direct relations among the variables were estimated. Specifically, the intercept and the slope parameter were regressed on friends' deviancy at 12 years of age, postintervention parental supervision and postintervention disruptiveness[7] at 11 years of age, and program participation. Friends' deviancy was in turn regressed on postintervention parental supervision, postintervention disruptiveness, and program participation. Postintervention parental supervision and postintervention disruptiveness were themselves regressed on program participation. In addition, postintervention parental supervision and postintervention disruptiveness were allowed to covary. The fit of this model was also acceptable, $\chi^2_{(14)} = 39.47$, $p < .001$, *GFI* = .93, *CFI* = .92, *IFI* = .93. The full model with the estimated parameters obtained from this analysis is presented in Figure 2.
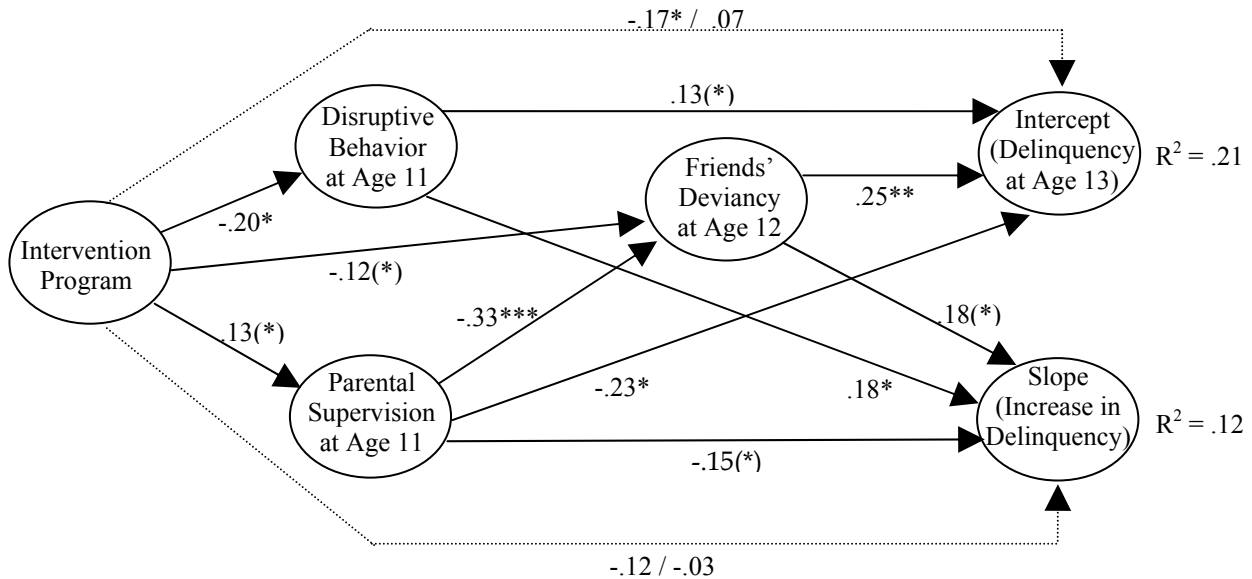
Figure 2. *Model including the direct and indirect effects of the intervention program and post-intervention parental supervision, post-intervention disruptiveness and friends' deviancy on the trajectory of adolescents' delinquent behavior from 13 to 16 years of age. Standardized coefficients are based on LISREL maximum-likelihood estimates. For simplicity, coefficients that are not significant at p < .10 are not presented. The dotted lines pertain to the direct effects of the intervention on the intercept and the slope of the delinquency trajectory before and after the inclusion of post-intervention parental supervision, post-intervention disruptiveness and friends' deviancy.* † *p* < .10; * *p* < .05; ** *p* < .01; *** *p* < .001

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[6] The mean values of the intercept in this model do not necessarily exactly correspond to the one reported previously for the whole sample, because values are LISREL-maximum-likelihood estimates that take into account whether predictor variables are included in the model.

[7] In fact, these are residual change scores since age 6 preintervention disruptiveness was controlled for.

As can be seen in Figure 2, the participation in the intervention program no longer had a significant direct effect on the intercept (i.e., adolescents' initial delinquent behavior at 13 years of age), $\beta = .07$, $p = .24$, after inclusion of the mediator variables. Instead, the intervention program was indirectly related to the intercept, mediated via four different pathways. First, participation in the intervention program was related to a higher level of postintervention parental supervision, $\beta = .13$, $p = .08$, which, in turn, was directly related to a lower level of the intercept of delinquency at 13 years of age, $\beta = -.23$, $p < .05$. The second pathway was also mediated through postintervention parental supervision. Specifically, parental supervision had, in addition to a direct effect, also an indirect effect on the intercept, because a higher level of postintervention parental supervision was related to a lower level of friends' deviancy, $\beta = -.33$, $p < .001$, which, in turn, was also related to the intercept of delinquency at 13 years of age, $\beta = .25$, $p < .01$. The third indirect pathway from the intervention program to the intercept of delinquent behavior was mediated through postintervention disruptiveness. Program participation was related to a lower level of postintervention disruptiveness, $\beta = -.20$, $p < .05$, which, in turn, was related to the intercept of delinquency at 13 years of age, $\beta = .13$, $p = .08$. The fourth indirect pathway from the intervention program to the intercept of delinquent behavior was mediated only through friends' deviancy, as program participation was also directly related to a lower level of friends' deviancy, $\beta = -.12$, $p = .09$. The overall indirect effect of the intervention program on the intercept of delinquent behavior via these four pathways was $\beta = -.10$, $p < .05$. Overall, the model explained 21% of the variance associated with the intercept.

Although the previous analysis had shown that the intervention program had no significant direct effect on the slope of delinquency (i.e., the annual rate of increase in delinquent behavior from 13 to 16 years of age), the full model with the mediator variables showed that the intervention program had an indirect effect on the slope. Although this indirect effect on the slope does not represent a mediation effect like the one described previously for the intercept, it nevertheless indicates that the intervention program significantly, albeit indirectly, contributes to the explanation of the variance of the slope of the delinquency trajectory. As can be seen in Figure 2, this indirect effect on the slope worked through the same four pathways that were associated with the previously described indirect effect on the intercept of delinquency. Specifically, the intervention program was related to the slope of delinquency through a direct effect of postintervention parental supervision on the slope, $\beta = -.15$, $p = .08$, and through an indirect effect of postintervention parental supervision on the slope via friends' deviancy, which was also related to the slope of delinquency, $\beta = .18$, $p = .06$. There was also an indirect effect of the intervention program on the slope only through friends' deviancy. Finally, there was an indirect effect of the intervention on the slope via postintervention disruptiveness, which itself had a direct effect on the slope of delinquency, $\beta = .18$, $p < .05$. The overall indirect effect of the intervention program on the slope of delinquency (i.e., the yearly rate of change in delinquency) via these four pathways was $\beta = -.09$, $p < .05$, which corresponds to a reduction of the slope of the delinquency trajectory by .63. Overall, the model explained 12% of the variance associated with the slope. In Figure 3, the observed and the estimated delinquency trajectories are presented for the intervention and the control group.

DISCUSSION

Results from the growth curve analysis indicated that boys in the IN group displayed less delinquency by age 13 relative to boys in the CO group. They did not, however, increase more

slowly between ages 13 and 16. It is worth mentioning that the *p* value for the direct effect of the program on the slope for delinquency was .13 and did not attain statistical significance probably because of the relatively small sample size. As suggested by Tukey (1991), *p* values up to .15 may be indicative of tendencies that should not be totally overlooked. In addition, by 16 years of age the IN boys became indistinguishable from the rest of the boys in the sample who scored below the 70th percentile on kindergarten teacher-rated disruptiveness and whose mean delinquency score by age 16 years was 34.32 (*SD* = 7.4). This finding adds social validity to the already significant effect of the program on delinquency. It also supports Model 3 that the IN boys have become adjusted with respect to delinquency although, as mentioned earlier, their rate of increase in delinquency from age 13 to age 16 was not significantly different from the rate of increase for the CO boys (which suggests that Model 2 is supported). In conclusion, it is not clear whether the delinquency trajectories for the IN boys relative to their CO counterparts support Model 2 or Model 3, even if strictly speaking they seem to support Model 2.
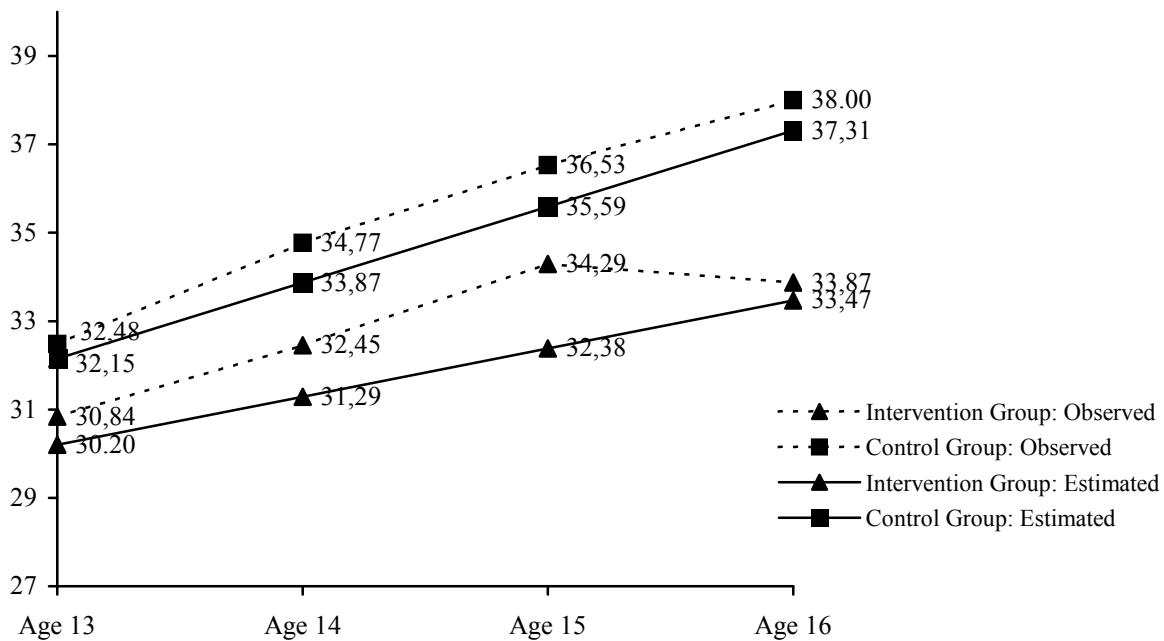
Figure 3. *Observed and Estimated Delinquency Trajectories from Age 13 to Age 16 from the Intervention and the Control Group. Estimated values are LISREL maximum-likelihood estimates based on the direct effect of the program on the intercept and the indirect effect of the program on the slope (see text).*

Results from this study also showed that the prevention program decreased children's disruptiveness and improved parent supervision (as perceived by the participants themselves). In addition, the program directly and indirectly (through parental supervision) influenced the association of IN boys with less deviant peers. This chain of events mediated (*β* dropped from .17 to .07) the direct effect of the program on the initial level of delinquency by age 13 years. Consequently, the developmental models that include a chain of events similar to the one in this study are supported. It should be noted, however, that although plausible, this model is but one of many possible models and that a comparison between alternative models is needed. This is

indicated by the finding that the prevention program retained a residual direct effect suggesting additional mediators. The current chain of events was not expected, however, to completely mediate the impact of the prevention program on the intercept. Also, after the inclusion of the mediators the effect of the program on the growth in delinquency from age 13 to age 16 (i.e., the slope) dropped from $\beta = .12$ to $\beta = .03$), a difference that is comparable to the change in the direct effect of the program on the intercept after inclusion of the mediators. No mediation, however, can be claimed because the program did not have a clear statistical impact on the slope to start with. These results nevertheless suggest an indirect effect of the program on the rate of increase in delinquency from age 13 through age 16.

In accordance with suggestions made by Coie (1996) and Reid (1993), these results confirm the relevance of targeting child and parent skill deficits during the first elementary school years. Once modified, these elements manage to trigger the chain of events that will result in lowered delinquency. Association with less deviant peers might have contributed to this effect by decelerating the growth in delinquency in the prevention group compared to the control group. Unexpectedly, no link was found between postintervention disruptiveness and association with less deviant peers, although postintervention disruptiveness predicts the intercept and the slope for delinquency. This finding seems to contradict the homophily process described by Cairns, Cairns, Neckerman, Gest, and Gariépy (1988)—that is, boys are attracted to each other on the basis of behavioral similarity. This finding also contradicts Elliott et al.'s (1985) theoretical model according to which the link between early disruptiveness and later delinquency is mediated through peers' deviancy. Maybe the homophily principle is not as strong in preadolescence (i.e., at ages 11 and 12) as it is during adolescence. Also, because all boys were disruptive initially and given that very few became clearly nondisruptive after the intervention (despite an overall significant effect of the program), the variance on postintervention disruptiveness was somewhat reduced. In addition, the use of different sources to assess peers' deviancy and boys' disruptiveness at two different ages in this study is different from most studies that use the same source to assess participants' and friends' characteristics, resulting in inflated correlations as stressed by Aseltine (1995). Finally, parental supervision that predicted peers' deviancy might have done so by using the variance it might have shared with postintervention disruptiveness, leaving little for postintervention disruptiveness to explain on its own. Incidentally, the relatively strong link between parental supervision and peers' deviancy is in accordance with results reported by Snyder, Dishion, and Patterson (1986).

Given that delinquency in the prevention group, although reduced, was not completely eliminated, the addition of new components that would target additional proximal risk or protective factors seems advisable. Relevant additional targets to consider could be school readiness and school achievement because (a) deficits on these abilities constitute a risk factor for delinquency (Maughan, Gray, & Rutter, 1985), and (b) improvement on these abilities was found to protect against delinquency during adulthood through the fostering of a positive attitude towards school (Weikart & Schweinhart, 1992). The relevance of additional targets is enhanced by a cumulative risk perspective (i.e., more risk factors are related to more delinquency; Loeber et al., 1998) and by the moderate (although significant or nearly significant) effect of this prevention program on parents' competence and children's skills. In other words, the reduction of more risk factors or activation of more protective factors might either facilitate the setting in motion of these mediators or set in motion additional mediators to achieve a stronger impact on the distal outcome.

This study has many assets: long term follow-up until delinquency peaks; moderate sample size and only moderate attrition; assessment of possible mediating variables; use of self, teacher, and peer ratings to minimize shared method variance; evaluation of the effect of the program on trajectories instead of single points in time; and, most of all, significant effects of the program and the mediators on the intercept and the slope (except for the program) of these trajectories, without which no examination of the developmental model could have been possible. In light of the iatrogenic effects reported lately by authors of programs aimed at preventing delinquency (Dishion, McCord, & Poulin, 1999), the positive findings of this program deserve a comment: Contrary to these authors who unintentionally created a "negative environment" by grouping youngsters with behavior problems, this program included a majority of nonproblematic children in the social and social-cognitive skills training sessions. The initial reasons were to avoid labeling of the problem children and capitalize on the positive influence of nonproblem peers. It seems that this strategy paid off, although it meant many more training groups and, consequently, more investment of money and time. Now that we are aware of the possible iatrogenic effects of aggregating at-risk youth, the extra cost in money and time required by individual or mixed group (i.e., disruptive and prosocial peers) interventions seem to be a necessity rather than a luxury. A recent meta-analysis by Ang, Woldbeck, Arnold, and Hugues (1998) showing that social skills training in group of mixed peers produced stronger effects than in group of deviant-only children supports this important point.

This study also suffers some limitations. First, the sample size, although moderate, precluded the inclusion of additional putative mediators (e.g., peer rejection, attachment to school, academic performance) or the examination of the effect of some relevant moderators (e.g., children's initial level of disruptiveness or other personal dispositions or family related factors). Furthermore, sample size precluded the use of a "complete" causal model where the mediators as well as the outcome would have been measured at each and every point in time after the end of the program until the measurement of the final outcome (Gollob & Reichardt, 1991). A last element, which can be considered as much an asset (because it increases diversity of sample characteristics represented in scientific literature) as well as a limitation, is the nature of the sample (i.e., White, French-speaking Canadian boys) and of the context (poor areas of a Canadian city) in which this study has been conducted.

Despite these limitations, this study clearly demonstrated that the prevention program positively influenced the initial level of delinquency by early adolescence and possibly its growth throughout adolescence when this behavior is most prevalent. The absence of a downward curvilinear trend indicates that it is still too early by age 16 to witness desistance from delinquency. It will be interesting to see whether this expected desistance over the next years is more rapid in the IN than in the CO group, as the last observed data point on Figure 3 seems to suggest. Incidentally, the slight tendency to desist that can be seen in Figure 3 for the IN boys has been treated as a measurement error in these analyses because it was too timid yet to be picked up by the quadratic term. This might change in the future. Finally, the assessment of potential mediators suggested by developmental models made possible the examination of a chain of events that helped explain the effects of the program on delinquency and, consequently, validate the developmental models from which they originated. We advocate the use of prevention programs to test developmental models in future studies.

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6 Disruptive Behavior, Peer Association, and Conduct Disorder: Testing the Developmental Links through Early Intervention[1]

Frank Vitaro, Mara Brendgen, Linda Pagani, Richard E. Tremblay and Pierre McDuff

ABSTRACT

We tested three competing models regarding the role of deviant friends in the trajectory linking early disruptiveness with later conduct problems through the use of a preventive intervention program. The program was implemented during the second and third grade. One model predicted that the program would positively affect later conduct problems by facilitating nondeviant peer association during early adolescence. The second model predicted a direct impact of the program on later conduct problems through the reduction of early disruptiveness. The third model predicted an interaction between postintervention disruptiveness and association with less deviant friends. The results showed that the program's effects on later conduct problems were mediated by the reduction in disruptiveness and by the association with less deviant friends. However, the positive effect of associating with less deviant friends depended on whether children's disruptiveness had been reduced or not by their participation in the program, thus supporting the third model. We recommend using intervention studies to test developmental models.

It is established that early disruptive (i.e., aggressive and hyperactive-impulsive) behaviors predict later adjustment problems referred to by authors as delinquency, antisociality, or conduct disorder (CD) depending on their disciplinary perspective (e.g., criminology, psychology, psychiatry)[2] (Farrington, 1994; Loeber, Green, Keenan, & Lahey, 1995; Moffitt, 1990; Tremblay, Pihl, Vitaro, & Dobkin, 1994; White, Moffitt, Earls, Robins, & Silva, 1990). These findings motivated researchers to prevent or reduce the later outcomes of disruptiveness by reducing early disruptive behaviors. Most of these preventive interventions focused directly on children's behaviors by teaching social-cognitive skills incompatible with disruptive behaviors or indirectly through the teaching of educative skills to parents (see Kazdin, 1987; Peters & McMahon, 1996; Reid, 1993). However, none of the programs targeting disruptive children actually examined their impact on the prevalence of later conduct disorder assessed according to DSM criteria. Most authors determined the impact of their preventive interventions on delinquent or antisocial behaviors assessed according to a dimensional perspective. Because the DSM is becoming more widely accepted as a diagnostic tool, it becomes necessary to establish whether a prevention program could reduce the prevalence of childhood onset conduct disorder

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[2] Indeed, instruments designed to assess delinquency, antisociality, and conduct disorder often share many items, many of which refer to aggressive behavior, violence, theft, vandalism, and truancy (see for example conduct disorder items in DSM-IV; delinquency items used by Elliott, Huizinga, and Menard (1985); or antisociality items proposed by Patterson (1992).

(which may prove the most resistant to treatment). By extension, no study analyzed the process through which CD could be prevented, if at all. This is surprising in the face of the insistence of several authors regarding the importance of process variables in the models of developmental psychopathology and the possibility of using preventive intervention studies to test them (Cicchetti & Toth, 1992; Kellam & Rebok, 1992; Loeber & Farrington, 1995; Parker & Asher, 1987; Robins, 1992; Spilton Koretz, 1991).

One possible way that an intervention program aimed at reducing early disruptive behaviors can prevent later CD might be through its impact on the association with nondeviant friends. According to this "Peer Influence" model, deviant friends play a causal role on the trajectory leading to later conduct disorder or delinquency (Elliott, Huizinga, & Ageton, 1985; Farrington et al., 1990). In contrast, nondeviant friends influence peers not to engage in antisocial behaviors (Brown, Lohr, & McClenahan, 1986; Clasen & Brown, 1985). Consequently, an intervention program aimed at reducing disruptive behaviors and improving parenting skills should lead to fewer cases of conduct disorder because reduction of disruptive behaviors would increase access to nondeviant friends (or less deviant friends in comparison with a control group). The program should also help parents increase their monitoring skills, thereby positively influencing their children's selection of friends. In any case, if successful in preventing later CD, the program should at first foster positive associations with less deviant friends. These positive associations would then mediate the impact of the program on later conduct problems. In other words, the association with less deviant friends is a necessary and sufficient condition to prevent later conduct problems according to the Peer Influence model.

Other theorists hold a different view about the role of peers in the trajectory leading to later antisocial behavior. According to the proponents of the "Individual Characteristics" model, childhood disruptive behaviors independently lead to antisocial behavior and to incidental association with deviant peers (Gottfredson & Hirschi, 1990). In this view, association with deviant friends, although a consequence of disruptive behavior, does not help explain later CD (Coie, Terry, Zabriski, & Lochman, 1995). A relationship between these two variables can exist, but this relationship is viewed as spurious and attributable to a common link with the same third variable (i.e., disruptiveness). The Individual Characteristics model predicts that a reduction in early disruptive behaviors through the use of a prevention program should lead directly to less conduct disorder. It could also lead to affiliation with less deviant friends because children tend to be attracted to each other because of their behavioral similarities (Cairns, Cairns, Neckerman, Gest, & Gariépy, 1988). Affiliation with less deviant friends should not play, however, a role in mediating the effects of the program on later conduct disorder. In other words, association with less deviant friends is neither a necessary nor a sufficient condition for the program to achieve its preventive goal.

The position expressed by Moffitt (1993) is somewhat intermediate between the Peer Influence and the Individual Characteristics models. Deviant friends are needed for the adolescence-limited/late-onset conduct disordered individuals. However, presence of deviant friends is not required for life-course-persistent/early-onset conduct disordered adolescents. Given that indicated prevention programs target young children who are already disruptive, we can assume that some of these children already belong to the life-course-persistent/early-onset category, in which case the Individual Characteristics model would apply.

The "Peer-Individual Interactional" model is yet another theoretical position intermediate between the Individual Characteristics and the Peer Influence models. According to the version of this model described by Patterson, Dishion, and their collaborators (Dishion, 1990a, 1990b; Dishion, French, & Patterson, 1995; Patterson, DeBaryshe, & Ramsey, 1989), deviant friends play a moderating rather than a mediating role. Deviant friends are not necessary for disruptive children to become conduct disordered. However, disruptive children who associate with deviant friends will be at higher risk for CD. Hence, association with deviant friends amplifies the link between early disruptiveness and later conduct disorder. Two sets of predictions can be derived from this model: The preventive effect of an early intervention on later CD through the reduction of disruptive behaviors should be enhanced by the association of less disruptive children with nondeviant friends. In other words, the children who already benefited from the intervention would be further helped by associating with less deviant friends. Reduction in disruptive behaviors is considered the putative mediator linking the intervention program to reduced conduct disorder. This mediating process is, in turn, moderated (i.e., amplified) by an association with less deviant friends.

There is, yet, another interpretation of the Peer-Individual Interactional model as proposed by Vitaro, Tremblay, Kerr, Pagani, and Bukowski (1997). Here, children's disruptiveness would moderate the influence of friends' deviancy on later CD. In support to this perspective, Vitaro et al. (1997) reported data showing that moderately disruptive children were adversely influenced by deviant friends by becoming more delinquent over a 1-year interval. A similar tendency was found for highly disruptive children, but it was not significant. Nondisruptive children, however, were at low risk of becoming delinquent regardless of their association with deviant friends. These findings suggest that if disruptiveness is reduced by an intervention program, children would be at reduced risk of CD regardless of whether they associate with deviant friends or not. Conversely, when disruptive behaviors still remain high after the intervention, associating with less deviant friends (relative to the control group) may still play a role in lowering the risk for later conduct disorder in the same way that the presence of deviant friends could increase it.

Both versions of the Peer-Individual Interactional model predict that the impact of the program on later CD is mediated through the combined efforts of a reduction of disruptive behaviors and the fostering of friendships with nondeviant peers. However, the ways in which these two strategies operate is open to question. In version (a), association with nondeviant friends moderates the effect of postintervention disruptiveness on later CD. In version (b), however, postintervention disruptiveness moderates the effect of nondeviant friends on later CD. The demonstration of the way the program influences selection of less deviant friends is not required to test the Peer-Individual Interactional model. What is required by this model, however, is that children's postintervention disruptiveness interacts with their friends' deviancy in predicting later CD.

Tremblay and colleagues (Tremblay et al., 1991b; Tremblay, Pagani-Kurtz, Mâsse, Vitaro, & Pihl, 1995) tested a prevention program with disruptive boys and their families that successfully reduced disruptive behaviors over the short term. The program included social-cognitive-skills training and a parenting-skills training component with 7- to 9-year-old boys. However, they did not examine whether the program reduced the prevalence of CD assessed according to DSM criteria and whether the association with less deviant friends mediated or moderated the effects of the program on later CD. This study examines the impact of the program on the sequence linking early disruptiveness, friends' characteristics, and later conduct

disorder in light of the predictions made according to the Peer Influence, the Individual Characteristics, and the Peer-Individual Interactional models. More specifically, the objectives of the present study were, first, to show that an early multicomponent intervention aimed at reducing disruptive behaviors during childhood (i.e., considered as a proximal effect) can prevent or at least decrease the prevalence of CD during early adolescence (i.e., considered as a distal effect). The second goal was to examine whether the distal impact of the program on risk of CD (if confirmed) worked through (a) the reduction of children's disruptive behaviors only (compatible with the Individual Characteristics model); (b) through the association with less deviant friends only (compatible with the Peer Influence model); or (c) through the combined reduction of children's disruptiveness and selection of less deviant friends in an interactive manner (compatible with the Peer-Individual Interactional model).

METHOD

Participants

The 73 boys who participated in this study were from a sample of 904[3] kindergarten boys whose disruptiveness was assessed by their teachers. In kindergarten, the participants attended 53 schools located in low socioeconomic areas of Montreal, Canada. Their mean age was 6.0 years ($SD = .30$). All the boys' parents were French-speaking, Caucasian, and had fewer than 14 years of schooling (average years of schooling = 10.5). In addition, the participants' familial average SES level was lower than the national norm as indicated by the parents' scores on the Blishen and McRoberts (1976) occupational prestige scale (occupational prestige averaged across both parents or of working parent = 38.56, $SD = 10.03$, compared with 42.08, $SD = 12.09$ for a representative sample of parents with sons of the same age living in the Province of Quebec). The 13% of boys who lived in families on social welfare or unemployment insurance received the minimum score on the scale (i.e., 17.8). These selection criteria produced a relatively homogeneous socially disadvantaged sample. Two-thirds (67.9%) of the children lived in an intact family (i.e., with their two biological parents), whereas the others lived in a nonintact family (i.e., all other cases).

Selection Instrument

When the 904 boys in the original sample were in kindergarten, teachers assessed their behavior using the Preschool Behavior Questionnaire (PBQ; Behar & Stringfield, 1974). A factor analysis of PBQ scores from the present study, confirmed the original two factors: disruptiveness and anxiety-withdrawal. Each item was scored by the teacher on a 0 to 2 scale depending on how applicable it was to the child. The reliability and validity of the PBQ have been established with kindergarten, first, and second grade children (Behar & Stringfield, 1974; Campbell & Cluss, 1982; Hoge, Meginbir, Khan, & Weatherall, 1985; Rubin, Moller, & Emptage, 1987; Rutter, 1967; Tremblay, Desmarais-Gervais, Gagnon, & Charlebois, 1987).

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[3] Initially, the sample included 1,034 boys from low SES areas. After eliminating the non-French speaking boys of European origin and those whose parents had more than 14 years of schooling and whose occupational prestige scores were one standard deviation above the national norm, this number was reduced to 904.

The French translation of the PBQ has been back-translated into English, and English speaking teachers have judged the similarity between the original items and their back-translated counterparts. All items obtained high mean scores (> 4) on a five-point scale.

Group Composition

From the original sample of 904 boys, those who received scores above the 70th percentile on the PBQ disruptiveness scale ($n = 259$) in kindergarten were classified as disruptive and designated as at risk for CD. Even though this cut-off point is not particularly stringent, it has been used successfully to predict serious maladjustment in this sample (Tremblay et al., 1994).

Of the 259 disruptive children, 135 were randomly selected to participate in the present study.[4] Parents were given the opportunity to participate in the program before the boys were randomly assigned to either the intervention group (IN group) or to the no treatment-control group (CO group). The parents of 84 (62.2%) of the boys accepted to participate in the intervention program. The 51 boys whose parents refused to participate in the program did not significantly differ on disruptiveness ratings collected in kindergarten from those whose parents accepted to participate (refused: $M = 13.01$, $SD = 4.34$; accepted: $M = 14.38$, $SD = 4.42$, $t = 1.68$, $p = .10$). They did not differ on parental occupational prestige, education level, nor on family configuration (i.e., intact/nonintact). The remaining 84 boys were randomly assigned in the IN or the CO group. However, 11 boys were excluded from the analysis (4 IN, 7 CO) because of incomplete data on all measures, yielding a final sample of 73 boys (39 IN, 34 CO). The 11 boys that were lost because of missing data on some of the measures (mostly the outcome variable) did not differ from the 73 boys who remained in the study on teacher-rated disruptiveness in kindergarten nor any of the sociofamilial variables.

No differences were found between the 39 IN and the 34 CO boys who remained in the study on pre-intervention teacher-rated disruptiveness, $t(71) = .12$, $p = .91$, or pre-intervention anxiety-withdrawal, $t(71) = -.12$. Similarly, no differences were found between the two groups with respect to family configuration, parental occupational prestige, maternal age at the birth of the first child, or parental education. Parents had completed the Child-Rearing Attitude Questionnaire (PC-RA; Falender & Mehrabian, 1980), when their child was 6 years old. Consequently, we also compared the IN and CO groups on the three scales of the PC-RA (i.e., exasperation, arousal, and authority). No significant differences were found. Nonetheless, since these concepts have been shown to predict later conduct disorder and influence the outcomes of intervention programs (Kerr, Tremblay, Pagani, & Vitaro, 1997; Tremblay, Charlebois, & Gagnon, 1986; Velez, Johnson, & Cowen, 1989), the PC-RA scales were considered as covariates in subsequent analyses to avoid biasing the estimates of the mediation process tested (Judd & Kenny, 1981). However, because of the high intercorrelations between the scales and our desire to reduce the number of covariates, only the exasperation scale of the PC-RA was used.

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[4] The remaining 124 disruptive children composed an intensive observation group. These children were observed regularly at school, at home, and at the laboratory. They were not included in the analyses because of missing data on diagnostic interviews for a large proportion (approximately 30%) of them.

Intervention Program

The intervention program was implemented over a 2-year period, from ages 7 to 9 years (typically during Grades 2 and 3). In current terminology, the intervention could be called an "indicated" preventive intervention because it targeted boys with adjustment problems (Mrazek & Haggerty, 1994). Even though the initial screening took place at the end of kindergarten, considerable time was required to adjust the logistics of the intervention; therefore, the intervention program did not begin before the children were in Grade 2. In Grade 1, 73% of the children were still rated above the 70th percentile on the PBQ disruptiveness scale by their teachers. Equal proportions of CO and IN participants scored above the 70th percentile.

The prevention program included components that, at that time, were believed to most likely alter disruptive behaviors (Kazdin, 1987). Because many disruptive children are deficient in social skills and problem solving strategies, it was believed necessary to teach them these skills (Richard & Dodge, 1982). It was expected that they would become less disruptive if they learned alternate appropriate behaviors (Milan & Kolko, 1985). If they became less disruptive, then conventional peers should be less likely to reject them and they should begin associating with less deviant friends (Cairns et al., 1988; Coie, Belding, & Underwood, 1987). Improvement of parental skills (i.e., use of reinforcement contingencies and sustained supervision) was also selected as a strategy to reduce disruptive behaviors at home and influence IN boys to select less deviant friends (Loeber & Dishion, 1983).

Social and problem solving skills training was implemented at school in small groups. Four trained professionals (two child care workers, one social worker, and one psychologist) conducted the sessions. In each group there were three or four teacher-nominated prosocial boys and one or two target boys. Including the prosocial boys in the sessions served two purposes. First, they were positive models and reinforcement agents. Second, their presence allowed the target children to participate without being stigmatized by classmates. For about half of the IN boys, sessions were held once a week for 45 min during classtime. For the other half, they were held during lunch time or after school, depending upon arrangements with teachers. No differences were found between these two subgroups of IN boys in their behavioral attributes, family characteristics or outcome measures (to be described later).

During the first year of the prevention program, nine prosocial skills were taught over nine training sessions. Some were how to invite a bystander to play; how to ask "why"; how to give a compliment; how to help. These were inspired by existing programs (Michelson, Sugai, Wood, & Kazdin, 1983; Schneider & Byrne, 1987). The 10 second-year training sessions were devoted to problem solving and self-control skills (Kettlewell & Kaush, 1983; Meichenbaum, 1977). Some stimulus situations for these sessions were how to react to teasing, how to react when angry, what to do if other children refuse to play. For each situation, the children reviewed ways to define the problem, identified the intentions of the instigator, analyzed their feelings if they were in the role of the victim, suggested different action plans to solve the problem, anticipated their consequences, selected one action plan and, finally, reinforced themselves for their cognitive work. Verbal instructions, coaching, modeling, behavior rehearsal, and positive (verbal and material) reinforcement were all used. Children were encouraged to use their newly learned skills before the next training session. At the following meeting, the children were reinforced for having performed their new skills in the interim. Teachers and parents were informed through

one-page letters of the new skills learned by the children during each session. They were encouraged to praise the child for using these new skills as often as possible.

Parenting skills training was adapted from the program developed by the Oregon Social Learning Center (Patterson, Reid, Jones, & Conger, 1975). Briefly, parents were first taught to recognize, observe, and record their children's problem behaviors. Next, they were taught to define appropriate behaviors and to set clear objectives for their child. Third, they learned how to use verbal and material reinforcers in a systematic and contingent manner to reinforce the child's appropriate behaviors. Parents also learned to punish inappropriate behavior systematically and moderately through the use of short time-out periods. Response-cost strategies involving the use of naturally occurring consequences for inappropriate behavior were also used (i.e., if the child broke something that did not belong to him of her, then he or her had to replace it). Parents were encouraged to monitor their children's behavior outside the home. Finally, parents were taught how to manage family crises through problem solving and how to use negotiation strategies in everyday situations. The skills were taught through a descriptive booklet, modeling and coaching by the trainers, role playing, and verbal reinforcement.

Parents participated in an average of 17.4 sessions (*SD* = 13.2; *MD* = 15). The maximum was 47. Six families participated in only two training sessions. For most of the families, the number of training sessions depended on how well the therapist believed the parents had mastered the targeted skills. For 14 families, however, the training ended prematurely because the parents were unmotivated. Parenting skills training sessions were held in the boys' homes by the same four professionals who conducted the social and problem solving sessions at school.

Instruments for Assessing the Proximal Effects and the Potential Mediating Variables

Teacher ratings of postintervention disruptiveness. Teachers rated the boys' behavior at the end of the 2-year program. This took place in the Spring when the boys were 9 years old. They used the Social Behavior Questionnaire (SBQ; Tremblay et al., 1991a). The SBQ is similar to the PBQ, but is more appropriate for older children. Given that the prevention program was aimed at reducing aggressive-hyperactive-inattentive behaviors, and many items on the SBQ disruptiveness scale do not assess aggressiveness or hyperactivity-attention deficits, a new subscale was constructed (Tremblay et al., 1991a). It comprised three physical aggressiveness items (i.e., fights with other children; bullies other children; kicks, bites, hits other children) and the three hyperactivity-inattention items (i.e., squirmy, fidgety, does not keep still; easily distractible; cannot keep his attention concentrated on one thing very long). By selecting these specific items, we constructed a scale that includes two dimensions (i.e., aggressiveness and hyperactivity) which are highly predictive of later externalizing problems when combined (Loeber & Dishion, 1983; Loeber & Farrington, 1995). Each item was scored from 0 to 2, depending on how well it described the child. Subscale scores were then computed by summing scores on the six items. For simplicity, this subscale will be referred to as the postintervention disruptiveness scale. Cronbach's *α* was .76 at age 9 years.

Peer ratings of friends' characteristics. The Pupil Evaluation Inventory (PEI; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976) was used to gather classmates' assessments when the boys were 10, 11, and 12 years old. The PEI contains 34 short behavior descriptions grouped into three scales; aggressiveness-disturbance (20 items), social-withdrawal (nine items), and likability (five items). Participants' classmates (boys and girls) nominated up to four boys in the

classroom who best fit each descriptor. PEI assessment took place near the end of the school year at the same time teachers completed the SBQ.

The item "those who are your best friends" was used to identify mutual friends (i.e., boys who had been rated as a best friend by a classmate and who, in turn, had rated the classmate as one of their four best friends) (Bukowski & Hoza, 1989). Since only boys could be nominated, all mutual friends were boys. When participants had more than one mutual friend, average scores were computed across mutual friends. Each year, between 50 and 60% of boys who had a mutual friend had more than one. The PEI aggressiveness-disturbance scale was then used to assess mutual friends' characteristics. The aggressiveness-disturbance scale includes 20 items such as, "those who are mean and cruel to others" and "those who say they can beat everybody up" (αs at age 10 years = .94; age 11 years = .97; age 12 years = .96). Scores were standardized within each classroom. Mutual friends' scores were averaged across ages 10, 11, and 12 years. As demonstrated by Berndt and Keefe (1995), composite friends' scores may exert a stronger effect than single best friends' scores because they capture more of the influences on preadolescents and adolescents. Twelve boys had no mutual friend at either of the two ages (seven in the CO and five in the IN group). To avoid losing these participants, the scores of their first unilateral friend were averaged across ages 10, 11, and 12 and used in the analyses.

Instrument for Measuring the Outcome Variable: Conduct Disorder

The Diagnostic Interview Schedule for Children (DISC-2; Shaffer, Fisher, Piacentini, Schwab-Stone, & Wicks, 1991) was used when participants were 13 years old. The DISC-2 is a structured interview designed to assess symptoms over the past 6 months. An earlier version of the DISC-2 has proven valid (Costello, Edelbrock, & Costello, 1985).

The DISC-2 was administered to the boy and one parent, usually the mother. Cohen, Velez, Kohn, Schwab-Stone, and Johnson (1987) recommend that information originating from different sources should be pooled at the symptom level. Accordingly, DSM-III-R diagnoses (American Psychiatric Association, 1987) were computed using total number of symptoms originating from the child or the mother. This method was used in most studies combining information by both informants (Piacentini et al., 1993) and has proven to be as effective as more sophisticated statistically derived procedures in aggregating data from multiple informants (Bird, Gould, & Staghezza, 1992). Conduct Disorder diagnosis was computed using the scoring algorithm supplied by the authors of the DISC-2. A cutoff of two symptoms instead of three was adopted, however, in order to obtain sufficient cases in the prevention and control conditions. Because the number of possible symptoms in DSM-IV for a CD diagnosis have increased by two and because these two additional symptoms refer to physical aggressiveness which, by age 13 years, could still be applicable to many of our participants (particularly those in the control group), the use of two symptoms with DSM-III-R criteria does not excessively dilute the clinical significance of resulting CD diagnoses.

RESULTS

Overall Analytical Strategy

To examine the potential mediating effects of children's postintervention disruptiveness and their friends' aggressiveness on the effect of the intervention program on children's risk for a CD diagnosis in early adolescence, hierarchical regression analyses were conducted.

According to Judd and Kenny (1981) and Baron and Kenny (1986), the following criteria need to be met to demonstrate a mediating process: (a) participation in the program would have to significantly impact on the mediators (i.e., children's disruptiveness and/or friends' aggressiveness), (b) the effect of the program on the outcome (i.e., CD) should be reduced once the mediator(s) is(are) added to the regression equation, while each mediator should significantly predict the outcome (perfect mediation would be obtained if the effect of the intervention program is almost reduced to zero when the potential mediator(s) is(are) included in the model). In the first set of regressions, the impact of the program on the potential intermediate variables was tested. Specifically, the children's disruptiveness at age 9 years (i.e., postintervention disruptiveness) was first regressed on their previous participation in the intervention program. In addition, the effect of the intervention program on the aggressiveness of children's friends across ages 10, 11, and 12 years was tested. By doing so, we also determined whether the reduction of children's disruptiveness mediated the impact of the program on friends' aggressiveness. In the next set of regressions, we tested whether postintervention disruptiveness or postintervention friends' aggressiveness mediated (separately or in a combined manner) the impact of the program on the distal outcome (i.e., later conduct disorder). An interaction term between the boys' postintervention disruptiveness and friends' aggressiveness was added to the equation to test the possibility that friends' aggressiveness moderated the link between postintervention disruptiveness and later CD or that boys' postintervention disruptiveness moderated the link between friends' aggressiveness and later CD. For the sets of analyses that consider the intermediate variables as outcomes, linear multiple regression was used. For the other sets of analyses that use CD diagnosis as the outcome, a hierarchical logistic regression analysis was conducted. Throughout all analyses, the children's pre-intervention disruptiveness and anxiety-withdrawal scores as well as their family configuration, and maternal age at birth of first child and educational attitudes (through the use of the PC-RA exasperation scale) were controlled. In all statistics, the collinearity statistics indicated that there was no multicollinearity problem among the variables.

Table 1. *Hierarchical Multiple Regression Analysis to Test the Effect of the Intervention Program on Boys' Disruptiveness at Age 9*

Step	Predictor	B	$SE\ B$	β	R^2	ΔR^2
1[a]	Family configuration	0.75	0.77	0.12	0.08	
	Mother's age at birth of first child	0.03	0.10	0.01		
	Boys' pre-intervention anxiety-withdrawal	0.36	0.28	0.16		
	PC-RA exasperation scale	0.17	0.15	0.08		
2	Family configuration	0.65	0.75	0.10	0.14*	0.06
	Mother's age at birth of first child	-0.02	0.10	-0.05		
	Boys' pre-intervention disruptiveness	0.36	0.27	0.16		
	Boys' pre-intervention anxiety-withdrawal	0.17	0.15	0.13		
	PC-RA exasperation scale	0.17	0.15	0.14		
	Program participation	-1.68	0.76	-0.27**		

[a]Control variables
*$p \leq .10$. **$p \leq .05$

Effects of the Program on the Intermediate Variables

First, it was examined whether the program had a significant effect on children's postintervention disruptiveness. As shown in Table 1, the program had a significant effect even after controlling child-related and family-related pre-intervention variables, $\beta = -.27$, $p = .05$, and the overall F-test reached, albeit marginal, statistical significance, $F = 2.26$, $p = .09$. Thus, children who participated in the intervention program were less disruptive at age 9 years than the children in the control group.

Next, the effect of the intervention program on the aggressiveness of children's friends was examined. As can be seen in Table 2, participation in the program showed a significant effect on friends' aggressiveness, $\beta = -.28$, $p < .05$, and the amount of overall explained variance was significant, $F = 2.58$, $p < .05$. Thus, children in the intervention group had less aggressive friends at ages 10, 11, and 12 years than children in the control group, even when controlling for family-related and child-related pre-intervention variables.[5] When, on the next step, children's postintervention disruptiveness was entered into the equation, disruptiveness significantly contributed to the prediction of friends' aggressiveness, $\beta = .24$, $p < .05$, and the amount of explained variance increased from 9% to 15%. After inclusion of children's disruptiveness in the model the effect of the program on friends' aggressiveness was somewhat reduced ($\beta = -.22$, $p > .08$). The change in standardized betas associated with the program variable (i.e., from -.28 to -.22) after inclusion of children's postintervention disruptiveness, however, was not statistically significant, which indicated that the effect of the program on friends' aggressiveness was direct rather than being mediated by children's postintervention disruptiveness. The significance of the difference between the two betas was tested through a procedure that is similar to the test of overlap for confidence intervals (Pedhazur, 1982), with the additional advantage of being a conditional test which is less affected by the nonindependence of the two parameter estimates and by the partial confound between the mediator and the mediated variable: First, the independent variable (i.e., the intervention program) was weighted by its initial effect on the outcome (i.e., friends' aggressiveness). This new variable then substituted the original unweighted independent variable as predictor in a regression equation, which naturally yields an unstandardized regression coefficient of $\beta = 1$ for the predictor. In the next step, the potential mediator variable (i.e., boys' postintervention disruptiveness) was included. The difference between the effect of the independent variable on the outcome with and without the potential mediator in the model was assessed next in the following manner: if the unstandardized regression coefficient of the weighted predictor in the regression equation that includes the potential mediator significantly differs from 1 (through the use of a z score test), the effect of the independent variable on the outcome differs significantly depending on whether the potential mediator variable is included in the model or not. Following this procedure, an asymptotic one-sided z score test showed that the weighted regression coefficient of the program obtained after the inclusion of children's postintervention disruptiveness was not significant by different from 1.

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[5] A multivariate analysis of covariance including preintervention child-related and family-related covariates was also used to test the effect of the intervention program on postintervention disruptiveness and friends' aggressiveness. The multivariate F was significant ($F(2, 68) = 3.52$, $p < .05$, as well as each univariate F (for children's postintervention disruptiveness: $F[1, 69] = 3.89$, $p = .05$; for friends' aggressiveness: $F[1, 69] = 5.01$, $p < .05$). As expected, IN boys had become less disruptive than CO boys after the intervention (adjusted M to the covariates = 5.08 vs. 6.53). IN boys also associated with less deviant friends than CO boys (adjusted $M = -.19$ vs. .17). On the other hand, children's postintervention disruptiveness and friends' aggressiveness were moderately, but significantly correlated ($r[68] = .29$, $p < .05$).

Table 2. *Hierarchical Multiple Regression Analysis to Test the Mediating Effects of Children's Disruptiveness at Age 9 Between the Effect of the Intervention Program and the Aggressiveness of Children's Friends Across Ages 10, 11, and 12 Years*

Step	Predictor	B	$SE\ B$	β	R^2	ΔR^2
1[a]	Family configuration	0.05	0.17	0.04	0.02	
	Mother's age at birth of first child	-0.01	0.02	-0.03		
	Boys' pre-intervention disruptiveness	0.06	0.06	0.12		
	Boys' pre-intervention anxiety-withdrawal	-0.01	0.03	-0.03		
	PC-RA exasperation scale	0.01	0.03	0.04		
2	Family configuration	0.03	0.17	0.02	0.09*	.07**
	Mother's age at birth of first child	-0.02	0.02	-0.09		
	Boys' pre-intervention disruptiveness	0.06	0.06	0.12		
	Boys' pre-intervention anxiety-withdrawal	0.01	0.03	0.02		
	PC-RA exasperation scale	0.01	0.03	0.04		
	Program participation	-0.38	0.17	-0.28**		
3	Family configuration	0.00	0.16	0.00	0.15**	0.06**
	Mother's age at birth of first child	0.00	0.02	-0.08		
	Boys' pre-intervention disruptiveness	-0.01	0.06	0.08		
	Boys' pre-intervention anxiety-withdrawal	0.00	0.03	-0.01		
	PC-RA exasperation scale	0.00	0.03	0.02		
	Program participation	-0.29	0.17	-0.22*		
	Boys' postintervention disruptiveness	0.01	0.03	0.24**		

[a]Control variables
*$p \leq .10$. **$p \leq .05$

Effect of the Intervention Program on CD and the Mediating Effects of Children's Postintervention Disruptiveness and Friends' Aggressiveness

The rationale for testing the mediating effects of children's postintervention disruptiveness and friends' aggressiveness on the effect of the intervention program on children's risk of developing CD was comparable to the one used in hierarchical linear multiple regression analysis. However, because the dependent variable is dichotomous, odds ratios instead of regression coefficients are commonly used to explore the effects of the independent variables on the outcome. The odds of an event are defined as the ratio of the probability of an event occurring to the probability of the event not occurring. Thus, the odds ratio associated with a specific predictor variable represents the ratio by which the odds of being diagnosed with CD change when the predictor increases by one unit, and when all other predictors remain constant. If this value is higher than 1, the odds are increased, whereas a value lower than 1 indicates that the odds are decreased. For the logistic regression, regression coefficients, standard errors, odds ratios, partial correlations and χ^2 values for model improvement after entrance of the putative mediators are presented in Table 3.

The results of the two tests of mediation using each intermediate variable separately are not reported for sake of simplicity because each variable separately did not significantly mediate the impact of the program on later conduct disorder (in accordance with the procedure described previously). Instead, the results obtained when both intermediate variables were included as potential combined mediators are presented.

Table 3. *Hierarchical Logistic Regression Analysis to Test the Combined Mediating Effect of Children's Postintervention Disruptiveness and Friends' Aggressiveness on the Effect of the Program on the Risk of CD in Early Adolescence*

Step	Predictor	B	SE	Wald	Odds Ratio	Improv. χ^2
1[a]	Family configuration	-0.02	0.52	0.00	0.97	
	Mother's age at birth of first child	-0.06	0.07	0.70	0.94	
	Boys' pre-intervention disruptiveness	0.04	0.19	0.05	1.04	
	Boys' pre-intervention anxiety-withdrawal	-0.09	0.11	0.69	0.91	
	PC-RA exasperation scale	-0.01	0.10	0.00	0.99	
2	Family configuration	-0.06	0.54	0.01	0.94	3.24*
	Mother's age at birth of first child	-0.09	0.08	1.44	0.91	
	Boys' pre-intervention disruptiveness	0.05	0.20	0.06	1.04	
	Boys' pre-intervention anxiety-withdrawal	-0.06	0.11	0.27	0.94	
	PC-RA exasperation scale	-0.01	0.11	0.00	0.99	
	Program participation	-0.97*	0.55	3.13	0.38*	
3	Family configuration	-0.25	0.60	0.18	0.78	10.39***
	Mother's age at birth of first child	-0.08	0.09	0.78	0.93	
	Boys' pre-intervention disruptiveness	-0.08	0.22	0.14	0.92	
	Boys' pre-intervention anxiety-withdrawal	-0.11	0.13	0.74	0.89	
	PC-RA exasperation scale	-0.07	0.12	0.33	0.93	
	Boys' postintervention disruptiveness	0.21**	0.11	3.68	1.23**	
	Friends' aggressiveness	0.89**	0.46	3.77	2.43**	
	Program participation	-0.35	0.62	0.32	0.70	
4	Family configuration	0.30	0.62	0.23	0.74	4.40***
	Mother's age at birth of first child	-0.04	0.09	0.25	0.96	
	Boys' pre-intervention disruptiveness	-0.08	0.23	0.12	0.92	
	Boys' pre-intervention anxiety-withdrawal	-0.15	0.14	1.17	0.86	
	PC-RA exasperation scale	-0.08	0.13	0.37	0.92	
	Boys' postintervention disruptiveness (B)	0.26**	0.12	4.43	1.30**	
	Friends' aggressiveness (F)	-1.58	1.29	1.50	0.21	
	Program participation	-0.48	0.17	4.02	0.62	
	BXF	0.34**	0.65	0.54	1.41**	

[a]Control variables
*$p \leq .077$. **$p \leq .05$. ***$p \leq .01$

As shown in Table 3, participation in the program had a marginally significant effect on later CD, reducing the risk of a CD diagnosis by more than half, even after controlling for pre-intervention family- and child-related variables. Specifically, while 14 boys (41%) of the control group met the criteria for a CD diagnosis in adolescence, this was true for only 9 (23%) of the boys in the intervention group. When children's postintervention disruptiveness and friend's aggressiveness were included on the third step of the equation, both variables were positively related to an increased risk of later CD. More importantly, with the inclusion of those two variables in the model, the effect of the program on later CD was reduced from $B = -.97$, p .08 to $B = -.35$, $p = .57$. The statistical significance of this reduction was tested by the procedure described previously. An asymptotic one-sided z-score test revealed that the regression coefficients of the program before and after inclusion of children's postintervention disruptiveness and friends' aggressiveness tended to be different from each other, $z = -1.00$, $p =$

.08 (one-tailed test). Because of low power and high error terms, this result did not reach statistical significance. Nevertheless, we elected to consider this result as indicating that the effect of the intervention program tended to be mediated by the combined effects on children's disruptiveness and their friends' aggressiveness for the following reasons: First, we followed Tukey's (1991) suggestion to consider p values up to .15 as indicative of a "trend" about the direction of an effect. Robins (1992) expressed a similar view about effects of prevention experiments that are in a positive direction although not statistically significant. Second, Baron and Kenny (1986) warned that presence of measurement error in the mediator can produce an underestimate of the effect of the mediator and an overestimate of the effect of the independent variable on the dependent variable, thus running the risk of overlooking successful mediation (p. 177). To support the importance of the trend in the mediation effect, we tested the significance for the indirect effect of the program on the dependent variable (i.e., CD status) via the mediators (i.e., postintervention disruptiveness and friends' aggressiveness) using a formula provided by Baron and Kenny. The indirect effect of the program was marginally significant, $t(71) = 1.32$, $p = .08$. This marginal mediation effect was in turn reflected in the change in the program's odds ratios that went from .38 without friends' aggressiveness and boys' postintervention disruptiveness to .70 after inclusion of both variables.

On the final step, the interaction term between children's postintervention disruptiveness and friends' aggressiveness was included in the model. As shown in Table 3, the interaction term significantly contributed to the prediction of later CD. At the same time, the effect of children's postintervention disruptiveness on CD remained significant whereas the effect of friends' aggressiveness on CD was no longer significant after the inclusion of the interaction term. Those results indicated that children's postintervention disruptiveness moderated the effect of friends' aggressiveness on later CD. The breakdown of the interaction is shown in Figure 1. For children with postintervention disruptiveness scores around the mean[6] (= 5.75) and one standard deviation below the mean (2.57), friends' aggressiveness had no effect on later CD above and beyond the control variables and the intervention program. Conversely, for children with postintervention scores one standard deviation above the mean (8.93), friends' aggressiveness had a major impact in predicting later CD, odds ratio = 9.58, $p < .01$. As can be seen in Figure 1, the probability of developing CD was relatively low for these boys, provided they associated with friends whose peer-rated aggressiveness was .5 standard deviation or more below the mean. This probability, however, increased steadily with friends' aggressiveness. It must be acknowledged, however, that the interaction between boys' postintervention disruptiveness and friends' aggressiveness could be partly dependent on the correlation between these two variables. Ranges in friends' aggressiveness scores were somewhat more restricted in the below average (from -1.14 to .98) and average (-1.75 to 1.05) groups than in the highly disruptive group (from -.92 to 2.11). Even more importantly, the range of friends' aggressiveness scores was sufficiently extended in all three window categories (i.e., from -1 SD to +1 SD). In addition, the correlation between these two variables was only moderate, $r = .31$. Thus, each category included sufficient cases to allow the breakdown of the interaction and its interpretation as partly independent of the correlation between boys' disruptiveness and friends' aggressiveness.

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[6] For comparison purposes, the mean and standard deviation for a normative sample of boys of the same age from the same schools was 4.35 and 2.31, respectively.
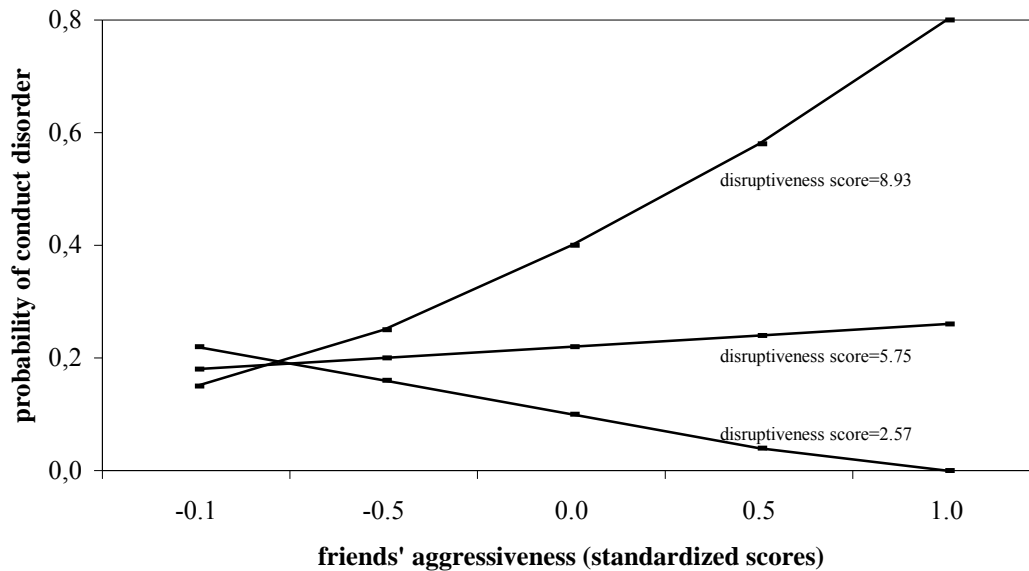
Figure 1. *Relation between Friends' Aggressiveness and Probability of Conduct Disorder According to Three Levels of Boys' Disruptiveness: One SD above the Mean, the Mean, One SD below the Mean. Interaction Illustrated for Boys in the Prevention Group from Intact Families, with All Other Control Variables Set to the Mean.*

In summary, the present results indicate that the effect of children's participation in the intervention program on their risk of CD diagnosis in later years was mediated by a combined reduction in their disruptive behavior and their affiliation with less aggressive friends as compared to control boys. However, the role of deviant friends differed depending on boys' postintervention disruptiveness scores. For the children whose disruptiveness scores were reduced to the mean or below, friends' aggressiveness played no role with respect to later CD. Because the majority of the children with postdisruptiveness scores below the mean originated from the intervention program (i.e., 62.5% from the IN group vs. 37.5% from the CO group), it can be concluded that the program prevented these boys from becoming CD through a reduction of their disruptive behaviors without further contribution of friends.

Conversely, for the children whose postintervention disruptiveness remained high, associating with deviant friends further increased their risk for later CD. If, however, they associated with less deviant friends, the risk for later CD decreased. Thus, the program could be beneficial even for the high-disruptive children.

DISCUSSION

The first aim of this study was to show that the intervention aimed at reducing disruptive behaviors through the teaching of social and social-cognitive skills to the children and parental skills to the parents could prevent CD assessed according to DSM-III-R criteria. Results indicated that the program had a marginally significant effect on conduct disorder assessed at age 13 years. The risk of a CD diagnosis for boys who participated in the intervention program was reduced by almost 60%. Even though it did not attain statistical significance, this effect may

suggest clinical significance given the difficulties in treating conduct disorder (Kazdin, 1987) and the time elapsed between the end of the program and assessment of conduct disorder.

During this time interval a host of events can take place, some of which might be triggered by the intervention program. Theoretically, these events are responsible for the linkage between proximal and distal effects of the intervention. However, theoretical models do not all agree on the specific processes that may play a critical role in the development, consolidation, or prevention of conduct disorder in disruptive children. An important, yet controversial process, is association with deviant friends.

In consequence, the second aim of this study was to test three competing models (i.e., Peer Influence, Individual Characteristics, and Peer-Individual Interactional models). According to the Individual Characteristics model, the intervention program should have achieved its preventive effect on conduct disorder through its reduction of disruptive behavior. In contrast, the Peer Influence model predicted prevention would be achieved by modifying the tendency of disruptive children to associate with similarly aggressive friends. As expected, the program had an effect on each hypothesized mediator variable. However, neither of the two putative mediator variables was strong enough on its own to significantly mediate the effects of the program on later CD. The present intervention program triggered both processes and both processes proved necessary to explain the effect of the program on CD during early adolescence. Consequently, neither of the two "pure" theoretical models was supported by the present data. The two processes, however, did not operate equally across different categories of children. For some children, the reduction of CD resulted through the reduction of their disruptive behaviors. For those children whose disruptiveness scores remained high after the intervention, the program reduced their risk for later CD through its impact on their association with less deviant friends. Overall, these results are consistent with the second version of the Peer-Individual Interactional model described previously. Specifically, according to this version, boys whose disruptive behaviors were reduced through the intervention should be less at risk for developing later conduct problems even without the contribution of nondeviant friends (or despite the presence of deviant friends). In contrast, for those who remain disruptive after the intervention, association with less deviant friends may still play an important role in reducing their risk for later CD. The present results support this reasoning. Taken together, reduction in disruptiveness and association with less deviant friends significantly mediate, although not totally, the impact of the intervention program on the prevention of later CD. Moreover, reduction in disruptiveness conditioned the role of association with less deviant friends in this process in a manner compatible with the Peer-Individual Interactional model.

The children whose disruptive behaviors remained high after the intervention (as well as many of those in the control group) can be assimilated to the life-course/early-onset behavior problem children described by Moffitt (1993). The present results suggest that these children can still modify their trajectory, provided that they are exposed to nondeviant friends. The effect of nondeviant friends for the disruptive boys who established such friendships can be explained by the possibility that friendship tends to increase behavioral similarity (Boivin & Vitaro, 1995; Cohen, 1983; Epstein, 1983), through modeling processes or positive reinforcement of conventional values and behaviors. For example, Dishion, Andrews, Patterson, and Poe (1994b; Dishion et al., 1995) reported that normal boys elicit more positive reactions from their friends following normative talk than antisocial boys with their friends. A reversed process of differential reinforcement for normative behavior could be operative if friends are prosocial.

Results from Brown and colleagues (Brown et al., 1986; Clasen & Brown, 1985) are in line with these speculations. Disruptive children who associate with less deviant friends might also learn social-problem strategies (Brendgen, Bowen, Rondeau, & Vitaro, 1999). These strategies might, in turn, help them resolve conflictual situations they might otherwise have addressed with inappropriate or unacceptable solutions. They might also avoid practicing negative-conflictual interactions which typically represent interactions between disruptive children and their deviant friends (Dishion, Andrews, & Crosby, 1994a).

Surprisingly, few authors tried to influence disruptive children's trajectories by directly manipulating their friendship affiliation (see Feldman & Caplinger, 1983). One possible explanation for the dearth of such studies may be that such manipulation involves insurmountable practical and ethical considerations. First, some disruptive boys might not have nondeviant friends (or may not have friends whatsoever). Second, iatrogenic effects similar to those reported by Dishion and Andrews (1995) and McCord (1997) are possible if nondeviant children are put into contact with disruptive children to serve as models or cotrainers and if the ratio is not clearly in favor of the former. Obviously, more research is needed to examine the optimal combination of disruptive/nondisruptive children in a group setting to keep the group's orientation favorable to social norms and effective in influencing disruptive children's behavioral repertoires (Coie & Jacobs, 1993). On the other hand, nondisruptive children (including those who diminish their disruptive behavior through intervention) do not need the help of conventional friends because, supposedly, they have already adopted the positive values and the behaviors incompatible with disruptiveness in addition to having acquired the social-cognitive skills to resolve or avoid social problems.

The finding that the present intervention program fostered selection of friends with less negative characteristics is in need of a tentative explanation. This might occur partly because less disruptive children are attracted to similarly less disruptive others (Cairns et al., 1988). It might also occur because less disruptive children are less likely to be rejected and thus have more access to conventional peers. It is also possible that the intervention program had a partial direct impact on selection of friends because it produced proximity between target boys and their prosocial training partners. However, this possibility can be ruled out because few prevention boys established friendships with their prosocial training partners, some of whom were not in the same classrooms at ages 10 through 12 years because class composition changed each year. Finally, it is possible that intervention boys' parents became more aware or more proficient in monitoring their children's friendships. If confirmed, this effect could result from the program through the parent skills training component. These speculations are based on data presented by Dishion, Patterson, Stoolmiller, and Skinner (1991) showing that rejection from conventional peers and poor parental monitoring predicted affiliation with deviant friends, even after controlling for children's initial levels of antisocial behavior.

Parental monitoring and other parenting practices might also have had a direct impact on children's later conduct disorder as suggested by many authors (see Dishion et al., 1995). In this study, this possibility is supported by the fact that the coefficient associated with the intervention program, although significantly reduced after the mediators were added to the regression equation, still retained some (nonsignificant) predictive power and was far from being reduced to zero. In future studies, the mediating role of parental supervision or other potential mediators could be tested in the same way as the present mediators.

Prevention studies should be used more often to test developmental models such as these. However, there are certain challenges in doing so. First, we must ensure that the prevention strategy has a sufficient impact on proximal and distal variables to make the experimental manipulation successful. Second, we must only manipulate the independent variables. Finally, we must assess all the intermediate and process variables that might link the proximal effects to the distal effects. Despite these challenges, this analytic strategy is useful for establishing the causal or mediating roles of variables that appear as risk or protective factors in longitudinal studies.

This study offers some strong methodological features. Different sources of assessment and multiple points of measurement were obtained for each variable. Likewise homogeneous sampling was obtained, which resulted in strong internal validity. However, this study is not without limitations. For example, although the sample was homogeneous, the nature of the sample (i.e., low SES, French-speaking boys) and an attrition rate of above 40% may also limit external validity. The attrition rate, although important, did not, however, bias the final sample of children who participated in the study. In intervention studies in which parents or children are offered participation without having requested it, attrition rates are often in this range or worse (see Kazdin, Mazurick, & Bass, 1991). Another limitation is the use of a reduced criterion to establish caseness in CD diagnosis. A final limitation is the content of the intervention program itself. Because this program was developed and implemented in the mid 1980s, it does not represent the state of the art of present prevention science. More comprehensive and promising prevention programs are presently being administered and tested. This limitation has few consequences, however, with respect to the objectives of this study because the program we used must be viewed as an experimental manipulation to test three competing developmental theories rather than a formal report of an intervention oriented towards optimal effectiveness.

Acknowledgements

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7   Prevention of School Dropout through the Reduction of Disruptive Behaviors and School Failure in Elementary School[1]

Frank Vitaro, Mara Brendgen and Richard E. Tremblay

ABSTRACT

We report the effects of a preventive intervention program on dropping out of school in a sample of disruptive boys from low socioeconomic status (SES). We tested the role of grade retention/special classroom placement as a putative mediating variable in the trajectory linking the proximal impact of the prevention program on early disruptiveness and its distal impact on dropping out of school. The program was implemented during the second and third grades. It included a component aimed at improving social-cognitive skills at school and a component aimed at improving parental management skills in the home. The results showed that the program had an indirect effect on later school dropout problems through its impact on grade retention/special classroom placement. The reduction of grade retention/special classroom placement was, in turn, partially mediated by the program's proximal effect on children's early disruptiveness. We recommend using intervention studies to test developmental models.

Dropping out before the completion of secondary school has become a major problem in North America. In 1992, 11% of all American youths aged 16 to 24 were dropouts, meaning they were not enrolled in school and had not graduated (McMillen, Kaufman, Hausken, & Bradby, 1993). Prevalence rates in the United States, however, vary greatly depending on ethnic origin and socioeconomic status (SES) variables. Dropout rates in Canada are also dramatically high – around 20% since 1992 (Statistics Canada, 1995) Quebec's dropout rates are the highest in Canada, ranging from 25-36% (between 32% and 42% when only boys are considered, Statistics Canada, 1995). These rates remain high even after considering that about 10% of dropouts return to school and manage to graduate by age 20.

Personal and societal consequences of dropping out of school are costly. Weidman and Freedman (1984) estimated that the unemployment rate of dropouts is roughly twice that of graduates. By the end of the 1990s, new job market requirements might cause the gap to widen even more. Rumberger (1987) estimated that the difference in expected lifetime earnings between dropouts and graduates is more than US $250,000. Finally, prevalence rates for suicide, mental health problems, and delinquency are higher for dropouts (Rumberger, 1987).

Many studies have shown that dropping out of school is influenced by a wide variety of factors associated with children's personal, familial, peer group, and environmental

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characteristics (see Natriello, Pallas, & McDill, 1986; Rumberger, 1987). Among personal factors, a disruptive behavioral profile (i.e., aggressive-hyperactive-oppositional behaviors) has repeatedly been shown to predict early withdrawal from school, even after controlling for familial and socioeconomic factors (see Parker & Asher, 1987). For example, Ensminger and Slusarcick (1992) showed that aggressive behaviors and low grades as early as first grade predicted later school dropout. This link was stronger for children living in poor neighborhoods. In a follow-up study, Ensminger, Lamkin, and Jacobson (1996) confirmed that, for boys, math grades and aggressive behavior in the first grade predicted the number of years of schooling. Similarly, Vitaro, Larocque, Janosz, and Tremblay (1997) showed that disruptiveness rated as early as kindergarten was related to dropping out of school even after controlling for sociodemographic variables and IQ.

Disruptiveness may lead to early withdrawal from school because it contributes to school problems that are conducive to grade retention or special classroom placement (Jimerson, Carlson, Rotert, Egeland, & Sroufe, 1997). In Canada, as in the United States, grade retention has been and still is a frequently used strategy for children with learning or conduct problems (American Federation of Teachers, 1997; Statistics Canada, 1995; U.S. Bureau of the Census, 1995). The result of this strategy is that retained children end up in regular classrooms with younger classmates (i.e., non age-appropriate regular classroom environment [AARC] environments). Special classroom or special school placement is a more extreme and less frequently used remedial strategy, at least in Canada. Despite many criticisms of this strategy, it is nevertheless still used, mainly for conduct-disordered children. The consequence is that problem children end up spending most of their time with other problem children, but in a reduced teacher-student ratio classroom. For the sake of simplicity and because of their relative rarity, special classroom and special school remedial strategies were considered in this paper as other forms of non-AARC environment, even if, strictly speaking, the children in special classrooms or special schools are most of the time grouped with children of the same age and are not in "regular" classrooms.

The overlap between externalizing behavior problems and grade retention is dramatic (Hinshaw, 1992), and longitudinal studies show that the odds of being placed in a non-AARC environment at some point are much greater for early disruptive than for nondisruptive children (Jimerson et al., 1997; Loeber, Tremblay, Gagnon, & Charlebois, 1989; Sandoval, 1984). Non-AARC placement, in turn, has been shown to be one of the strongest precursors of subsequent school dropout. For example, Cairns, Cairns, and Neckerman (1989) found that students who were held back in school were significantly more at risk of dropping out than students who were not held back, even after controlling for concurrent academic and behavioral problems, as well as family background variables. Rumberger (1995) reported similar findings, identifying non-AARC placement as one of the most salient predictors of school dropout.

Non-AARC placement might be a marker of underlying academic and behavioral problems that are themselves caused by previously existing developmental deficits that, in the long term, result in school dropout. It is also possible that being placed in a non-AARC environment itself contributes to early school withdrawal by aggravating children's preexisting school-related difficulties and fostering a further lack of interest in school. In line with this notion, findings by many authors (Grissom & Shepard, 1989; Jimerson et al., 1997; Kaufman & Bradby, 1992) suggest that being retained has serious, detrimental effects on students' long-term academic

achievement and emotional adjustment. Children who do poorly at school become more likely to dislike school and be less attached to the school and the values it represents than those who do well (Gottfredson & Hirschi, 1990; Hawkins, Doueck, & Lishner, 1988). This, in turn, may cause them to leave school before graduation.

In light of (a) the considerable disadvantages related to early school dropout and (b) the relations among early disruptiveness, non-AARC placement, and school dropout, reducing children's early disruptiveness should decrease their risk of non-AARC placement and of subsequent school dropout. The specific pathway linking changes in disruptiveness, on the one hand, and a reduced risk of school dropout, on the other hand, may be direct or indirect, via a reduced risk of being placed in a non-AARC environment. A direct pathway would indicate that non-AARC placement is a marker of preceding behavioral and academic problems that are responsible for early school withdrawal. An indirect trajectory would suggest that it is non-AARC placement, itself a consequence of preceding difficulties, that determines final school dropout. To our knowledge, there are no studies that have fully tested the sequential links among early disruptive behaviors, subsequent non-AARC placement, and later school dropout through the use of an intervention design aimed at reducing children's disruptive behavior. Tremblay and colleagues (Tremblay et al., 1991b; Tremblay et al., 1992) tested a prevention program with disruptive boys and their families that successfully reduced disruptive behaviors in the short term and non-AARC placement in the midterm. The program included social-cognitive-skills training and a parental skills-training component when the boys were between 7 and 9 years of age. However, it was not examined whether the proximal change in disruptive behaviors and the subsequent reduction in non-AARC placement that the program triggered actually had an impact on children's later risk of dropping out of school and whether non-AARC placement operated as a mediator in this process.

The present study examines the causal pathway from early disruptiveness to non-AARC placement and subsequent dropping out of school, and the impact of the program on this putative causal sequence. Specifically, we investigated the trajectory to early school withdrawal by testing (a) whether an intervention aimed at reducing disruptive behaviors during childhood (i.e., considered as a proximal effect) can decrease school dropout during adolescence (i.e., considered as a distal effect) and (b) whether a reduced risk of non-AARC placement mediated the relation between proximal changes in early disruptiveness and the distal effect on school dropout (if confirmed).

METHOD

Participants

The 149 boys (*mean age* = 6.0 years, *SD* = 0.3) who participated in this study were from a sample of 904 Caucasian boys whose disruptiveness was assessed by their teachers in kindergarten. In kindergarten, the boys were enrolled in 53 schools located in low socioeconomic areas of Montréal, Canada. All the boys' parents were French-speaking and had fewer than 14 years of schooling (*M* = 10.5). In addition, their average SES level was lower than the national norm, as indicated by the parents' scores on the Blishen and McRoberts (1976) occupational prestige scale (occupational prestige averaged across both parents or of working parent = 38.87,

SD = 12.48, compared with 42.08, *SD* = 12.09, for a representative sample of parents with sons of the same age living in the Province of Quebec). The 13% of boys who lived in families on social welfare or unemployment insurance received the minimum score on the scale (i.e., 17.8).

Selection Instrument and Group Composition

Kindergarten teachers rated the boys' behavior at age 6 using the disruptiveness scale of the Social Behavior Questionnaire (SBQ) (Tremblay et al., 1991a). Ratings took place near the end of the school year, in April or May. The disruptiveness scale includes 13 items that tap hyperactivity-aggressiveness and opposition-related behaviors. The items comprising this scale are: restless; squirmy; destroys; fights; not liked; irritable; disobedient; tells lies; bullies; doesn't share; blames others; inconsiderate; and kicks, bites, and hits. Teachers indicated whether items did not apply (0), applied sometimes (1), or applied often (2). Internal consistency was high (*alpha* = .87).

From the original sample of 904 boys, those who received scores above the 70th percentile on the SBQ disruptiveness scale in kindergarten (*n* = 259) were classified as disruptive and considered at risk for school dropout. We considered these boys at risk for school dropout because, although this cutoff point is not particularly stringent, it has been used successfully to predict serious maladjustment in this sample (Tremblay, Pihl, Vitaro, & Dobkin, 1994). In addition, the boys in the present sample originate from low SES neighborhoods and from parents with low educational background, which has been shown to contribute to predicting school dropout above and beyond children's behavioral and academic problems (Ensminger et al., 1996). Consequently, the boys with disruptiveness scores above the 70th percentile were exposed to several sociofamilial risk factors in addition to their personal at-risk profile with respect to school dropout. In support of this position, 56.8% of the at-risk children in the control condition were in a non-AARC environment by age 12 (compared to 25.6% for the non-at-risk counterparts) and 26.1% dropped out of school by age 17 (compared to 12.2% for the non-at-risk children).

The 259 disruptive boys were randomly assigned to one of the following groups: (a) intervention group (IN group; *n* = 75); (b) no-treatment control group (CO group; *n* = 60); and (c) sensitization contact group (SC group; *n* = 124). Thirty-two, 19, and 42 parents from the IN, CO, and SC groups, respectively, refused to participate in the study. Therefore, the IN, CO, and SC groups included 43, 41, and 82 participants, respectively, at the beginning of the study. These numbers were further reduced to 38, 40, and 71 because of missing data on the variables of interest. The boys in each group who were lost due to parental refusal or missing data did not differ across the three groups. The remaining boys in the three groups did not differ on age 6 measures (i.e., teacher-rated disruptiveness, mother and father occupational prestige, mother and father educational level), *p* > .05.

The SC group was included to control the possible influence of mere contact with researchers and participation in a research study. Boys in this group and their families spent one half-day every second year in the university lab to participate in a series of tests and observation sessions. Families were also visited during four evenings for observation purposes in the home setting over a two-year period. Finally, each child was observed at school for half a day on four

occasions and spent a whole day in the university lab during the summer every year. In contrast, CO boys were only followed through questionnaires sent to parents and teachers.

Preliminary analyses revealed that boys in the SC and CO groups did not differ on any variable (i.e., parental education and occupational prestige, and posttreatment disruptiveness, non-AARC placement, and school dropout). Therefore, it was decided to collapse the CO and SC boys into one group (i.e., CO group).

Intervention Program

The intervention program was implemented over a two-year period, from ages 7 to 9 (typically during second and third grade). In current terminology, the intervention could be called an "indicated" preventive intervention (Mrazek & Haggerty, 1994). Although the initial screening took place at the end of kindergarten, considerable time was required to adjust the logistics of the intervention; therefore, the intervention program did not begin before the children were in second grade. In first grade, 76.3% IN and 72.1% CO children were still rated above the 70th percentile on the SBQ disruptiveness scale by their teachers. Out of the 40 participants (9 IN and 31 CO) who did not meet the 70th-percentile criterion in first grade, only 14 (3 IN and 11 CO) obtained disruptiveness scores in first grade that were below the median (i.e., the 50th percentile), thus indicating that most participants were still rather disruptive in first grade. Because selection was based on disruptiveness scores collected in kindergarten and because the proportions of IN and CO boys who were below the 70th percentile were equivalent, it was decided to keep them in the study to avoid a further reduction in the sample size.

The preventive intervention is described in detail elsewhere (Tremblay, Pagani-Kurtz, Mâsse, Vitaro, & Pihl, 1995; Tremblay et al., 1992) and will only be outlined here. The program included two components (i.e., social skills training with the children and improvement of parental skills) that were believed at that time to be most likely to alter boys' disruptive behaviors (Kazdin, 1987). Because many disruptive children are deficient in social skills and problem-solving strategies, it was believed necessary to teach them those skills. It was expected that they would become less disruptive if they learned alternate appropriate behaviors (Milan & Kolko, 1985). If they became less disruptive, then they might concentrate more on academic tasks and be less at risk for learning difficulties and grade retention or expulsion from their regular classroom. They would also be more accepted by classmates and more supported by the teachers. Improvement of parental skills (i.e., use of reinforcement contingencies and sustained supervision) was also selected as a strategy to reduce disruptive behaviors at home. Parents were trained to help and encourage their child during schoolwork at home and solve conflicts over homework. It was thought at that time that the addition of the parent-training component to the training at school would facilitate generalization and consolidation of the skills the children learned, in addition to producing positive effects on their own with respect to behavioral and academic goals. Multimodal and multitarget programs that include home-based parent training and school-based social skills training have now become the norm if the objective is to achieve an optimal impact on children's disruptive behaviors (see Kazdin, 1987; Kazdin, 1997).

Social and problem-solving skills training were done at school in small groups. Four trained professionals (two child-care workers, one social worker, and one psychologist) conducted the sessions. In each group there were four or six teacher-nominated prosocial boys

and one or two target boys. Including the prosocial boys in the sessions served two purposes. First, they were positive models and reinforcement agents. Second, their presence allowed the target children to participate without being stigmatized by classmates.

The school-based, biweekly training sessions took place between the months of November and April for two consecutive years. Each session lasted about 45 minutes. Verbal instructions, positive reinforcement, modeling, and behavioral rehearsal were used to teach the specific skills to the target boys.

The professionals responsible for the training sessions also met twice with each teacher to monitor the child's progress in the classroom and help the teacher set up reinforcement contingencies to support production of the learned skills in the classroom. This procedure, however, was implemented in only half of the classrooms with a target child because half of the teachers refused to participate in this part of the program.

Parent training was adapted from the program the Oregon Social Learning Center developed (Patterson, Reid, Jones, & Conger, 1975). The same four professionals who conducted the social and problem-solving skills sessions at school held parent training sessions in the boys' homes. Briefly, parents were first taught to recognize, observe, and record their child's problem behaviors. Next, they were taught to define appropriate behaviors and to set clear objectives for their child. Third, they learned how to use verbal and material reinforcers in a systematic and contingent manner to reinforce the child's appropriate behaviors. Parents also learned to punish inappropriate behavior systematically and moderately with short time-out periods. Response-cost strategies involving the use of naturally occurring consequences for inappropriate behavior were also used (i.e., if a child broke something that did not belong to him, then he had to replace it). Parents were encouraged to supervise their children's schoolwork and monitor their children's behavior outside the home. Finally, parents were taught how to manage family crises through problem solving and how to use negotiation strategies in everyday situations.

Parents participated in an average of 17.4 sessions ($SD = 13.2$; $MD = 15$). The maximum was 47. Six families participated in only 2 training sessions. For most of the families, the number of training sessions depended on how well the therapist believed the parents had mastered the targeted skills. For 14 families, however, the training ended prematurely because the parents were unmotivated. The boys from these families were nevertheless kept in the IN group for the purpose of the following analyses.

Implementation assessment. At the end of each child or parent session, the professionals responsible for the program application indicated whether or not the session had taken place and the percentage of content delivered during the session relative to a preplanned, standardized content. More than 85% of the children attended at least two thirds of the social skills training sessions. For parents, the number of sessions varied greatly, as already indicated. Although debatable on purely methodological grounds, this seemed sound practice from a clinical, ethical, and administrative perspective. Despite variation, more than 75% of parents covered at least two thirds of the content and objectives of the parent-training component. In addition, child sessions were videotaped and used by the program coordinator to give weekly feedback to each of the professionals and maintain standardization in program elements across them.

Control Variables

Family background. Family structure (intact-nonintact) and both parents' education levels (or mothers', for single-parent families) were used as indicators of family background. These measures were collected through a telephone interview when the children were in kindergarten. Occupational prestige was not included because it was highly redundant (i.e., correlated) with each of the two previous measures.

Verbal IQ. In order to ascertain that remaining in an AARC environment did not result from differences in the boys' cognitive abilities but from the influence of the prevention program, we controlled for IQ. Verbal IQ was assessed at age 13 using the Sentence Completion Test (SCT) (Lorge & Thorndike, 1950). Because IQ is stable throughout the life span, age 13 verbal IQ was used as a proxy for preintervention IQ, which was not assessed. Veroff, McClelland and Marquis (1971) reported high correlations between the SCT and different measures of intelligence. They also found that SCT scores predicted school dropout. Finally, a significant relationship ($r = .67$) was obtained between the SCT at age 13 and the Wechsler Intelligence Scale–Revised at age 10 for a random subsample ($n = 80$) of boys drawn from the initial sample of 904 boys used in the present study.

Instruments for Assessing Potential Mediating Variables

Postintervention disruptiveness. Using the SBQ, teachers rated children's disruptiveness over a three-year period, following the end of the two-year intervention program. This took place in the spring, when the boys were 9, 10, and 11 years old. In order to get a more representative score of children's postintervention disruptiveness, an average score was computed across the three years. Only when age 9 disruptiveness scores were collected were teachers aware of children's group membership because we needed the teachers' collaboration to implement the second-year social and social-cognitive skills component. At ages 10 and 11, teachers were not aware of the boys' group membership.

Non-AARC placement. The boys were regarded as having school difficulties if they were not in an AARC environment when they were 12 years old. Age 12 normally coincides with the end of primary school in the province of Quebec. Not being in an AARC environment meant that the boys had been held back for at least one year or placed in a special environment (i.e., special class, special school, or residential institution). This measure seemed more appropriate than grades as an indicator of school adjustment because by age 12 many children were already in a non-AARC environment and because grades in this context would not adequately reflect the children's difficulties. Of the 77 children in the present sample who were placed in non-AARC environments by age 12, 51 were grade retained and 26 were placed in special classroom environments (10 for learning disabilities and 16 for conduct problems).

Instrument for Measuring the Outcome Variable: Dropping Out of School

A dropout was defined as an individual who stopped attending school before age 17, whether or not he reentered school at a later time. This age corresponds to the normal age of high

school graduation in the province of Quebec. Most researchers endorse this definition of a school dropout (Cairns et al., 1989; Ensminger et al., 1996; Rumberger, 1995).

Dropout status was determined from the computerized list of the Montréal School Board and the Ministry of Education. If a participant was not on the annual school board list, we asked the Ministry of Education to indicate whether he was enrolled in another school board within the province. Using a questionnaire (administered either at school or by mail), information regarding dropout status was also collected from 121 of the 149 participants. For all but 1 participant, official data were congruent with self-reports. One participant reported having dropped out of school, although he was registered as a nondropout on the school board and ministry lists, probably because he dropped out after the official lists were compiled. Because the boys spoke French, it is unlikely that many dropouts could have transferred to new schools in another provinces. All participants that are considered dropouts in the present study withdrew from school between age 15 and 17 (which corresponds to the age of the last data collection). Overall, 28 boys (18.8%) had dropped out by age 17 (24, or 21.6%, in the CO group and 4, or 10.5%, in the IN group). Notably, the majority of the nondropouts were in non-AARC environments by age 17 (i.e., 77% in the CO group and 64% in the IN group).

RESULTS

In order to examine the pathway from early disruptiveness to non-AARC placement and subsequent dropping out of school and the impact of the prevention program on this sequence, a path-analytic strategy was used. For this purpose, three separate sets of regression analyses were conducted. First, children's average disruptiveness at ages 9, 10, and 11 was regressed on their participation in the intervention program. Second, we tested whether children's disruptiveness mediated the effect of the intervention program on their risk of being assigned to a non-AARC environment at age 12. Finally, the potential mediating role of children's disruptiveness and non-AARC placement with respect to the program's effect on children's school dropout risk later in adolescence was examined. Linear multiple regression was used for the first set of analyses. For the remaining two sets of analyses, hierarchical logistic regression analysis was used because the respective outcomes, non-AARC placement and school dropout, were dichotomous. Parents' educational background, family structure, children's IQ, and children's preintervention level of disruptiveness were used as control variables throughout all levels of analyses. No differences were found between the CO and IN groups on French and mathematics scores when the boys were in first grade, the year before the start of the prevention program.

Effects of the Intervention Program on the Potential Mediator Variables

Effects of the intervention program on postintervention disruptiveness. In the first set of analyses, a two-step linear multiple regression model assessed the effect of program participation on children's postintervention disruptiveness. On the first step, only the four control variables were included in the equation. On the second step, program participation was included as an additional predictor in the model. The standard beta coefficients, the multiple correlation, and the amount of explained variance for this set of hierarchical multiple regressions are presented in Table 1.

Table 1. *Hierarchical Multiple Regression Analysis to Test the Effect of Participation in the Intervention Program on Children's Postintervention Disruptiveness While Controlling for Family Configuration, Parents' Education, Children's IQ, and Preintervention Disruptiveness*

Step No.	Predictor	B	R	R^2
Step 1	Family configuration	0.08	0.22	0.05
	Parents' education	0.08		
	Age 6 disruptiveness	0.18*		
	Children's IQ	-0.05		
Step 2	Family configuration	0.07	0.27*	0.07
	Parents' education	0.07		
	Age 6 disruptiveness	0.20*		
	Children's IQ	-0.02		
	Program participation[1]	-0.16†		

Note. †$p < .10$; * $p < .05$
[1]*N*: 111 for the CO (control) group and 38 for the IN (intervention) group.

On the first step, only the children's preintervention level of disruptiveness predicted their postintervention disturbance scores, $\beta = .18$, $p < .05$. The overall *F* test, however, did not reach statistical significance. The inclusion of program participation as an additional predictor on the second step showed that the intervention had a marginally significant effect, $\beta = -.16$, $p = .06$. Furthermore, the inclusion of the program participation variable resulted in the overall *F* test reaching statistical significance, $p < .05$. Thus, children who participated in the intervention were less disruptive (*M* = 8.74, *SD* = 5.52) in the three years following the program than children in the control group (*M* = 10.72, *SD* = 5.54). To confirm this finding, two additional analyses were performed. The first was a 2 (group) x 2 (time of assessment: pre- or posttest) repeated measures analysis of covariance on disruptiveness scores. Family configuration, parents' number of years of schooling, and children's IQ served as covariates. As expected, a significant group by time of assessment interaction was found, $F(1, 144) = 5.85$, $p < .05$. A breakdown of this interaction revealed that disruptiveness scores for the boys in the IN and the CO groups did not differ at pretest but tended to differ at posttest ($F(1, 144) = 2.99$, $p = .08$). In addition, the drop in disruptiveness between pre- and postintervention disruptiveness in the IN group (from 15.26 to 8.74 = 6.52) was more important than the reduction in the CO group (from 14.25 to 10.72 = 3.53). The second analysis was a 2 (group) analysis of covariance applied to postintervention disruptiveness. In this analysis preintervention disruptiveness served as a covariate in addition to the same three covariates used in the preceding analysis. As in the previous analyses, the results indicated a nearly significant difference between the two groups, $F(1, 143) = 3.64$, $p = .058$.

Effects of the intervention program on non-AARC placement and the potential mediating effect of children's postintervention disruptiveness. In the next set of analyses, the impact of the intervention program on children's risk of being placed in a non-AARC environment at age 12 was assessed. In addition, the analyses sought to determine whether the children's posttreatment disruptiveness mediated this relation (if confirmed). According to Baron and Kenny (1986), if a mediating process is effective, participation in the program would have to significantly (and negatively) predict children's non-AARC placement. The effect of program

participation, however, should be reduced once children's postintervention disruptiveness is added to the regression equation. Instead, postintervention disruptiveness should significantly predict non-AARC placement. Perfect mediation would be obtained if the effect of the previous predictor (e.g., program participation) is reduced to zero when the potential mediator (e.g., postintervention disruptiveness) is included in the model.

A three-step hierarchical logistic regression was used to assess the impact of the intervention program on children's risk of being placed in a non-AARC environment at age 12. On the first step, only the four control variables were included in the model. On the second step, program participation was added to the equation. Finally, the children's postintervention disruptiveness was added to the model. Results of the logistic regression analysis are presented in Table 2. In a hierarchical logistic regression, odds ratios rather than regression coefficients are commonly used to explore the effects of the independent variables on the outcome. The odds of an event are defined as the ratio of the probability of an event occurring to the probability of the event not occurring. Thus, the odds ratio associated with a specific predictor variable represents the ratio by which the odds of being placed in a non-AARC environment change when the predictor increases by one unit, and when all other predictors are held constant. Values higher than 1 indicate increased odds. Values lower than 1 indicate decreased odds.

Table 2. *Hierarchical Logistic Regression Analysis to Test the Mediating Effects of Children's Postintervention Disruptiveness on the Effect of Participation in the Intervention Program on Non-AARC Placement*

Step No.	Predictor	B	SE	Wald	Odds Ratio	$\Delta\chi^2$
Step 1	Family configuration	1.25	0.45	7.78	3.50**	49.72***
	Parents' education	-0.35	0.13	7.65	0.70**	
	Age 6 disruptiveness	-0.01	0.04	0.07	0.99	
	Children's IQ	-0.46	0.11	19.29	0.63***	
Step 2	Family configuration	1.22	0.46	7.11	3.39**	3.25†
	Parents' education	-0.37	0.13	8.19	0.69**	
	Age 6 disruptiveness	-0.01	0.04	0.01	1.00	
	Children's IQ	-0.45	0.11	17.29	0.64***	
	Program participation	-0.82	0.47	3.16	0.44†	
Step 3	Family configuration	1.15	0.47	5.99	3.17*	9.54**
	Parents' education	-0.42	0.14	9.50	0.66**	
	Age 6 disruptiveness	-0.03	0.05	0.29	0.98	
	Children's IQ	-0.45	0.11	17.34	0.64***	
	Program participation[1]	-0.61	0.49	1.57	0.54	
	Postintervention disruptiveness	0.12	0.04	8.66	1.13**	

Note: $^\dagger p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$; AARC = age-appropriate regular classroom.
[1]*N*: 111 for the CO (control) group and 38 for the IN (intervention) group.

Except for children's preintervention disruptiveness, all of the control variables significantly contributed to the prediction of children's assignment to a non-AARC environment. Specifically, coming from a one-parent family or having parents with a lower educational

background increased the odds of non-AARC placement. In addition, children with lower IQs were at greater risk of being placed in a non-AARC environment than children with higher IQs. Program participation also showed a marginally significant effect ($p = .07$), indicating that children in the intervention group were at lower risk of being assigned to a non-AARC environment than children in the control group. Specifically, 14 of the 38 children (36.8%) who participated in the intervention program were in a non-AARC environment by age 12, relative to 63 of the 111 children (56.8%) in the control group.[2] For comparison purposes, it is worth noting that 25.6% of the children in the initial sample who scored below the 70th percentile on teacher-rated disruptiveness at age 6 were also in a non-AARC environment by age 12.

As expected, children's postintervention disruptiveness significantly increased the odds of being placed in a non-AARC environment, even after controlling for IQ. Moreover, the inclusion of children's postintervention disruptiveness in the model reduced the effect of program participation on non-AARC placement (i.e., the effect was reduced to nonsignificance, but it was not reduced to zero). This indicates that the children's postintervention disruptive behavior partially mediated the effect of the intervention program on non-AARC placement.

In order to determine whether program participation had a different impact on the two types of non-AARC placement (i.e., grade retention vs. special environment), we repeated the hierarchical logistic regression analysis, only predicting grade retention versus regular classroom placement ($n = 51$). The results were very similar to the ones obtained for the combined grade retention/special classroom environment variable. Specifically, program participation reduced the odds of being grade retained to a similar extent (odds ratio = 0.46, $p = .12$) as the odds of being grade retained or placed in a special classroom environment (odds ratio = 0.44, $p = .09$). Also, including children's posttreatment disturbance in the equation increased the odds of being grade retained to a similar extent (odds ratio = 1.11, $p < .05$) as the odds of being grade retained or placed in a special classroom environment (odds ratio = 1.13, $p < .01$). The similar results for grade retention and the combined grade retention/special classroom environment variable indicate that the effects of program participation are the same for both types of non-AARC placement.

Effect of the intervention program on school dropout and potential mediating effects of children's postintervention disruptiveness and non-AARC placement. A four-step hierarchical logistic regression was used to assess the effects of the predictor variables on the children's rate of school dropout. On the first step, the four control variables (i.e., parents' educational background, family configuration, children's IQ, and children's preintervention disruptiveness) were included in the model. On the second step, program participation was included. On the third step, the children's postintervention disruptiveness scores were introduced into the equation. Finally, non-AARC placement was entered into the model. Results of the logistic regression analyses are presented in Table 3.

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[2] A chi-square analysis was also performed to establish the direct effect of the intervention program on non-AARC placement. The resulting chi-square was significant: $\chi^2(1) = 4.50$, $p < .05$. It should be noted, though, that the effect of the intervention is better reflected in the odds ratio based on relative risk than in the difference between the two percentages (i.e., 36.8% vs. 56.8%). Indeed, the odds ratio takes into account the risk of a non-AARC placement by considering the relative number of participants in non-AARC and AARC environments in each group (i.e., 14 vs. 24 in the intervention group, 63 vs. 48 in the control group).

Table 3. *Hierarchical Logistic Regression Analysis to Test the Mediating Effects of Children's Postintervention Disruptiveness and Non-AARC Placement on the Effect of Participation in the Program on Children's Risk of School Dropout in Later Adolescence*

Step No.	Predictor	B	SE	Wald	Odds Ratio	$\Delta\chi^2$
Step 1	Family configuration	1.05	0.50	4.40	2.86*	24.56*
	Parents' education	-0.29	0.13	5.24	0.75*	
	Age 6 disruptiveness	-0.10	0.05	3.21	0.91	
	Children's IQ	-0.34	0.11	9.85	0.71**	
Step 2	Family Configuration	1.04	0.50	4.31	2.83*	1.89
	Parents' Education	-0.31	0.12	6.02	0.74*	
	Age 6 Disruptiveness	-0.09	0.05	2.96	0.91	
	Children's IQ	-0.33	0.11	9.03	0.72**	
	Program Participation[1]	-0.84	0.65	1.69	0.43(*)	
Step 3	Family Configuration	1.01	0.50	4.05	2.75*	1.72
	Parents' Education	-0.32	0.13	6.26	0.73*	
	Age 6 Disruptiveness	-0.11	0.06	3.86	0.90	
	Children's IQ	-0.34	0.11	9.37	0.71**	
	Program Participation[1]	-0.75	0.66	1.32	0.47	
	Postintervention Disruptiveness	0.06	0.05	1.69	1.06	
Step 4	Family Configuration	0.74	0.51	2.06	2.09*	5.39*
	Parents' Education	-0.25	0.13	3.86	0.78*	
	Age 6 Disruptiveness	-0.10	0.06	3.19	0.91	
	Children's IQ	-0.23	0.12	4.03	0.79*	
	Program Participation[1]	-0.49	0.67	0.53	0.62	
	Postintervention Disruptiveness	0.03	0.05	0.37	1.03	
	Non-AARC Placement	1.56	0.72	4.64	4.75*	

Note. * $p < .05$; ** $p < .01$; (*) $p < .15$; AARC = age-appropriate regular classroom.
[1]*N*: 111 for the CO (control) group and 38 for the IN (intervention) group.

All control variables but preintervention disruptiveness contributed to school dropout in later adolescence. Thus, having only one parent or having parents with a lower educational background increased children's risk of dropping out of school. Also, children with a lower IQ had a significantly higher risk of school dropout, relative to children with a higher IQ. The intervention program yielded an odds ratio of 0.43, indicating that it decreased the risk of dropping out by more than half, relative to the control group. Despite this rather impressive effect, considering the difficulty of preventing school dropout (Hinshaw, 1992), it did not reach significance ($p = .14$). The relatively small sample size and the large error terms may be responsible for this result. In this context, we chose to follow Tukey's (1991) advice to consider *p* values up to .15 as indicative of a "trend" about the direction of an effect and Robins' (1991) suggestion to investigate effects of prevention experiments that are in a positive direction even if they aren't statistically significant. Our decision to consider the relevance of the program was further supported by the fact that the proportion of IN group boys who dropped out (i.e., 4 out of 38, or 10.5%) was similar to the proportion of children in the initial sample who dropped out of school even though they were rated below the 70th percentile on disruptiveness by their

kindergarten teachers (78 out of 645, or 12.1%). The proportion of dropouts in the CO group was 21.6%, 24 out of 111.

Children's postintervention disruptiveness did not significantly contribute to the prediction of children's risk of dropping out of school in later adolescence. However, non-AARC placement significantly predicted later school dropout above and beyond the control variables. Specifically, the odds of dropping out of school in late adolescence were more than 4 times higher for children who had been placed in a non-AARC environment at age 12 than for children who remained in AARC environments. Moreover, the inclusion of non-AARC placement in the equation reduced the parameters associated with program participation to nonsignificance. This result suggests a mediating role of non-AARC placement, despite the program not having a clear and significant effect on school dropout (Baron & Kenny, 1986).

In order to determine whether the two types of non-AARC placement (i.e., grade retention vs. special environment) differently predicted dropout status, we repeated the hierarchical logistic regression analysis, using grade retention versus regular classroom placement as predictor variable. The results were very similar to the ones obtained for the combined grade retention/special classroom environment variable. Specifically, grade retention increased the odds of school dropout to a similar extent (*odds ratio* = 4.95, $p < .05$), as did the combined grade retention/special classroom environment variable (*odds ratio* = 4.75, $p < .05$). The similar effect sizes of grade retention and the combined grade retention/special classroom environment variables indicate that the effects of both types of non-AARC placement on school dropout are highly comparable.

DISCUSSION

The major aim of this study was to examine how a prevention program aimed at reducing early disruptiveness would influence the pathway from early disruptiveness to non-AARC placement and subsequent dropping out of school in a sample of low SES boys. The results indicated that the program had a marginally significant effect on disruptiveness assessed at ages 9, 10, and 11. Partially mediated through this proximal effect on disruptiveness, the program also had a marginally preventive effect on non-AARC placement by age 12, even when controlling for IQ and sociofamilial variables. The relative risk of a non-AARC placement for boys who participated in the prevention program was reduced by more than half when considering odds ratios (or by 20% when considering percentages). Even though this effect attained only marginal statistical significance, it is not negligible, given the difficulties associated with the prevention of school problems not attributable to cognitive deficits (Hinshaw, 1992) and the strong link between non-AARC placement and later dropping out of school.

In line with previous studies (Cairns et al., 1989; Rumberger, 1995), the present results suggest that non-AARC placement plays an essential role in children's path toward school dropout. The risk of dropping out of school was more than 4 times as high for children in non-AARC environments than for children who remained in AARC environments. Even more notably, being placed in non-AARC environments significantly predicted later school dropout, even after controlling for IQ and sociofamilial variables. The present results are in line with several studies and meta-analyses showing that grade retention (which constitutes most of the non-AARC placements in this study) had a detrimental (or at best a zero) effect on children's

future school achievement and psychosocial adjustment, let alone their risk of dropping out of school (Holmes, 1989; Holmes & Matthews, 1984; Jimerson et al., 1997; Shepard & Smith, 1990). However, present results contradict findings from recent studies that indicate some beneficial effects of retention on school achievement and personal adjustment (Alexander, Entwisle, & Dauber, 1994; Pierson & Connell, 1992). Notably, these latter studies examined the effects of retention in the short term only, which might explain their finding of a temporary beneficial effect of grade retention. Indeed, Jimerson et al. (1997) who found a zero effect on achievement and a detrimental effect on emotional adjustment over time, first found that the retained group showed a temporary advantage in mathematics achievement. Thus, differential effects of grade retention over time might help reconcile the seemingly contradictory findings. Other explanations, such as sample or school characteristics, are also possible.

Non-AARC placement could be viewed as a marker of underlying problems that might be the true contributors to the process of school dropout, such as learning disabilities or low parental values regarding education. The inclusion of proxies, such as IQ and parental education, as control variables should have reduced this possibility. Consequently, non-AARC placement might be more than merely a marker of preceding adjustment problems predicting later school dropout. In line with this notion, Grissom and Shepard (1989) and Kaufman and Bradby (1992) argue that non-AARC placement represents a humiliating experience for children with learning difficulties or behavior problems, thus increasing their lack of interest in and aversion to school (Gottfredson & Hirschi, 1990; Hawkins et al., 1988). In the same line of thought, non-AARC placement may foster negative self-perceptions, which may eventually motivate youth to avoid the frustrating school environment by dropping out before graduation (Finn, 1989; Jimerson et al., 1997). It also exposes them to peers with similar adjustment problems (for those in special classrooms or special schools) or to younger and unknown peers (for those retained). In the first case, the children might influence each other in a negative direction, reducing each other's school motivation, which may promote and eventually lead to the dropout decision (Cairns et al., 1989; Pittman, 1991). In the second case, the children who are retained may not be easily integrated into their new peer group or may even be rejected by their new classmates. This, in turn, might increase the children's sense of alienation toward school and, finally, lead to withdrawal from the school environment. In line with this notion, Kupersmidt (1983) and Ollendick, Weist, Borden, and Greene (1992) reported evidence showing that peer rejection significantly contributed to early school dropout.

Given the positive, albeit marginal, effect of the intervention on the first two components of the sequence leading to later dropping out (i.e., early disruptiveness and subsequent non-AARC placement), the program was also expected to reduce children's risk of early school withdrawal. Because of low power and high error terms, the program fell short of a significant impact on dropout rates, despite a trend in the expected direction (see Tukey, 1991, for considering p values up to .15 as indications of trends). Sociofamilial adversity and possibly low educational values from parents, many of whom did not achieve a high school diploma, may also have contributed to weaken the impact of the intervention program. As suggested elsewhere (Tremblay et al., 1995), it would have been useful to add a booster program during the transition to high school to maintain and enhance the proximal positive effects of the program. Unfortunately, this was not part of the original plan, and its usefulness became evident only at the outset of the midadolescence follow-up data collection. The rate of dropping out in the IN group was nevertheless comparable to the rate found in the initial sample of non-at-risk children

(i.e., who scored below the 70th percentile on teacher-rated disruptiveness when they were 6 years old). Finally, in the present study, boys who did not drop out by age 17 qualified as nondropouts according to our definition. Some might still drop out at a later point in time, as many did not yet graduate by age 17 because they were retained for one or more years. Future data might reveal a stronger impact of the prevention program than present findings. It can be concluded, however, that the present program achieved a moderate effect size and some socially valid results compared to the rest of the non-at-risk children from the initial sample.

The effect trend of the intervention program on school dropout was, however, indirect. It was achieved through its (marginal) impact on non-AARC placement, which proved a strong predictor of later dropout. In turn, reduction in non-AARC placement was achieved partially through a reduction in disruptiveness that resulted from the intervention. Reducing children's disruptiveness might have increased their task attention at school and, consequently, their academic performance. It might also have reduced their overall level of behavior problems. In turn, this might have resulted in less class retention or special classroom placement for IN group boys. Conversely, CO group boys experienced more non-AARC placement, possibly fuelling their alienation from school because of a lack of support and negative social experiences (Hymel, Comfort, Schonert-Reichl, & McDougall, 1996). The program might also have operated through its impact on other variables that might play a role in children's school adjustment. For example, it is possible that the program improved parental supervision and support for schoolwork, both of which have been shown to be related to children's school adjustment and risk of dropout (e.g., Ensminger et al., 1996; Ensminger & Slusarcick, 1992; Rumberger, Ghatak, Poulos, Ritter, & Dornbusch, 1990). Future studies could focus on testing such possible mediating factors in the same way as in the present study.

It is worth mentioning that the present results do not contradict the notion that early disruptiveness is a predictor of non-AARC placement and, eventually, of early school dropout (Cairns et al., 1989; Ensminger et al., 1996; Ensminger & Slusarcick, 1992; Kupersmidt & Coie, 1990; Loeber et al., 1989; Rumberger, 1995; Vitaro et al., 1997). Although age 6 disruptiveness did not predict non-AARC placement or dropping out of school, this finding may have resulted from a restricted score range in the study sample and thus represent an artifact of the selection procedure. The variance for age 6 disruptiveness scores was 22.9 for the subset of 149 boys who were included in the present study, given they scored above the 70th percentile on the teacher-rated disruptiveness scale. Comparatively, the variance for the whole sample of 904 boys was almost twice as large (i.e., 40.2). Notably, age 6 disruptiveness was found to predict school dropout when the whole sample was considered (see Vitaro et al., 1997).

The present study is not without limitations. First, the teachers who provided the age 9 disruptiveness ratings were not blind to boys' group membership because we needed their collaboration to implement the social-cognitive skills component of the program. However, those teachers' ratings were averaged with ratings collected from teachers who were blind to boys' group membership when they were age 10 and 11 years, thus reducing a possible bias in postintervention disruptiveness ratings. It would be nonetheless useful and interesting to complement teacher ratings with additional sources of assessment. For example, direct observations of children's behaviors on the playground or in the classroom could be used. Second, given that the present study was specific with respect to its focus on low SES Caucasian

boys, future studies should also include girls and children from various ethnic and socioeconomic backgrounds to see whether the present findings are generalizable.

One last point of discussion pertains to the differential use of a standardized package for social and social-cognitive skills training similar for all children, irrespective of their initial deficits, but a tailored package for the parental skills component designed to address the individual needs of each family. Because all the boys had been selected on the basis of their high disruptiveness scores, it was believed that the variability of their social and social-cognitive skills would be minimal, for teacher ratings of disruptive behavior had been related to deficits in these skills (Lochman & Dodge, 1994; Rubin, Bream, & Rose-Krasnor, 1991). Thus, it was believed that a standard package would sufficiently improve the boys' knowledge of social and social-cognitive skills, even though the gaps in this ability were not completely identical from one child to another. In addition, it proved more practical to apply the same training package to all the children because of the group-training format and the number of training groups. Had we targeted a few children only, then it would have been possible and desirable to tailor the content of the training sessions to their specific social-cognitive deficits.

Even if the teaching of social and social problem-solving skills has been related to an overall improvement in functioning (Kendall, Reber, McLeer, Epps, & Ronan, 1990), the mediating role of the acquisition of the social and social-cognitive skills remains to be demonstrated (Kazdin & Weisz, 1998). For these reasons, we planned a reinforcement program in the classroom to promote the production of these skills in a natural environment. As already mentioned, only half of the teachers accepted to implement this component of the program in their classrooms. It is nevertheless suggested that school practitioners complement the acquisition of social and social-cognitive skills with a motivational strategy that can encourage the production of these skills, thus reducing the possibility of an acquisition-production discrepancy. Despite these minor limitations, the present study showed that early withdrawal from school can be reduced through the use of early intervention aimed at reducing disruptive behaviors and preventing non-AARC placement.

Acknowledgements

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8   A Bimodal Preventive Intervention for Disruptive Kindergarten Boys: Its Impact Through Mid-Adolescence[1]

Richard E. Tremblay, Linda Pagani-Kurtz, Louise C. Mâsse, Frank Vitaro and Robert O. Pihl

ABSTRACT

Disruptive kindergarten boys from inner-city low socioeconomic neighborhood schools were randomly allocated to a preventive intervention and control condition. The 2-year prevention program included a home-based parent training component and a school-based social skills training component. Participants were followed up to midadolescence. Results indicated that a significantly greater percentage of treated boys remained in an age-appropriate regular classroom up to the end of elementary school and that the treated boys reported significantly less delinquent behaviors at yearly assessments from 10 to 15 years old, compared with controls. The preventive intervention appeared to have a significant long-term impact on the social development of the disruptive kindergarten boys. Earlier and more intensive intervention may be necessary for some cases, whereas for all disruptive boys, booster sessions between 12 and 15 years of age are recommended.

The search for "the cause" of antisocial behavior has often resulted in an etiological debate regarding the influence of individual versus parent factors (e.g., Dodge, 1990; Lytton, 1990; McCord, 1993; Rowe, 1993). Some studies suggest that ineffective parenting may lead to antisocial disorders (Loeber & Stouthamer-Loeber, 1986), whereas others indicate that genetic and perinatal factors influence the risk of criminality (e.g., Duyme, 1989; Mednick, Gabrielli, & Hutchings, 1987; Plomin, Nitz, & Rowe, 1990). However, parental characteristics before the birth of a child remain strong predictors of both child-rearing practices and behavioral dispositions in children (Huesmann, Eron, Lefkowitz, & Walder, 1984; Frick et al., 1992; Lahey et al., 1988; Serbin, Peters, McAffer, & Shwartzman, 1991), supporting the bidirectional nature of adult-child relationships in the parenting process (Belsky, 1984; Shaw & Bell, 1993). The conclusions drawn from these developmental studies have important implications for the nature, timing, and focus of intervention programs (e.g., Dodge, 1993; Kazdin, 1993; Reid, 1993).

In the past several decades, a multitude of parent effectiveness and social skills training programs have been developed, based on skills determine the course of disruptive disorders. Although such training programs appear promising, the preponderance of evidence suggests that single-focus programs achieve a low level of efficacy (Dumas, 1989; Kazdin, 1987, 1993). It is now generally proposed that interventions aiming to change the course of disruptive behavior

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must focus on modifying the different sources of influence that affect the development of antisocial behavior (Coie & Jacobs, 1993; Dodge, 1993; Reid, 1993). From this perspective, parent-focused and child-focused programs would be considered essential components of any multimodal approach (Dodge, 1993; Kazdin, 1993; Reid, 1993).

The timing of preventive interventions with youths at high risk for antisocial behavior remains an important issue. Because antisocial behavior problems are most salient during adolescence, this period has traditionally been the focus of most efforts. Numerous experimental interventions have also been implemented with prepubertal disruptive children, because it is at this period that troublesome behavior begins to appear as less manageable by adults (Coie & Jacobs, 1993). However, Eron (1990; Eron, Huesmann, & Zelli, 1991) has suggested that aggressive behavior crystallizes at approximately 8 years of age. It logically follows that interventions aiming to reduce antisocial outcomes should focus on at-risk children before this developmental period.

In light of current developmental theories of antisocial behavior, one would expect that a parent-and-child-focused intervention, administered at a theoretically crucial point in development with an adequate level of intensity and duration should alter not only the short-term but the long-term developmental trajectory of young disruptive boys as well (Dodge, 1993). However, long-term effects of treatment are not easily discernible. Kazdin (1993) has underscored the fact that the majority of child treatment studies have not collected follow-up data and that even a follow-up assessment as short as 1 year has been infrequent. Clearly, studies without extended follow-up preclude the assessment of the impact of interventions directed at modifying the developmental course of antisocial behavior. When interventions are conceptualized from a developmental perspective, one can easily imagine that effects that cannot be seen at the end of treatment (because they were not or could not be assessed) could be transformed into developmentally meaningful effects over the long term. Such delayed effects can be positive, as shown by the Perry Preschool Program (Schweinhart, Barnes, & Weikart, 1993), but they can also be negative, as shown by the Cambridge-Somerville study (McCord, 1978, 1992). Thus, the repeated longitudinal assessment of the impact of an intervention on children's lives remains essential from a scientific, clinical, and ethical perspective.

The nesting of experimental interventions within longitudinal studies is one way of ensuring the rigorous assessment of long-term effects of treatments while remaining cost efficient (Farrington, Ohlin, & Wilson, 1986; Tonry et al., 1991). The Montréal Longitudinal-Experimental Study represents such a design. Its general aim was to prospectively examine the development of a large sample of inner-city kindergarten boys, with a particular focus on antisocial behavior. From this sample, a subgroup of boys identified as disruptive in kindergarten was selected to test the effects of a preventive intervention program. Previous studies have noted beneficial effects during the elementary school years (McCord, Tremblay, Vitaro, & Desmarais-Gervais, 1994; Tremblay, Mâsse et al., 1992; Vitaro & Tremblay, 1994). This article investigates the impact of the intervention on school adjustment and the development of delinquent behavior to age 15 (i.e., 6 years after the completion of the 2-year bimodal intervention program), a time when boys are most at risk for delinquent behavior (Farrington, 1986).

METHOD

Participants

Kindergarten teachers from schools in lower socioeconomic areas of Montréal, Quebec, Canada were asked to rate the behavior of their male students at the end of the 1984 school year. Ratings were obtained from 87% of the teachers, for a total of 1,161 boys from 53 schools.

Of the total sample, the boys with a disruptive score above the 70th percentile ($n = 366$) on the Social Behavior Questionnaire (SBQ; Tremblay, Loeber et al., 1991) were considered to be at risk for later antisocial behavior (Tremblay, Mâsse et al., 1992; White, Moffitt, Earls, Robins, & Silva, 1990), 319 of which were randomly allocated to one of three groups (i.e., treatment, attention-control, or control; see Tremblay, Vitaro et al., 1992, for further elaboration regarding the characteristics of each group). A telephone interview with each mother permitted the verification of whether the family met two important criteria for eligibility: (a) ethnicity (only boys with Canadian-born parents whose first language was French were included) and (b) education (only boys whose parents had 14 years or less of schooling were included). Boys were excluded from the study if the family did not meet these criteria. In total, 904 boys met these selection criteria, 259 of which had been rated above the 70th percentile on the disruptive score (see Table 1). Of these, 16 were excluded from the analyses because they could not be located or they refused to answer the pertinent questions.[2]

Table 1. *Participant Selection Process during Treatment and Follow-Up*

Variable	*n* from treatment group	*n* from observation group	*n* from control group	Total
Randomized assignment	96	152	71	319
Ineligible participants	21	28	11	60
Eligible (net)	75	124	60	259
Participants who refused	32	42	19	93
Participants (net)	43	82	41	166

The first of the three at-risk groups experienced the treatment condition for experimental study of the prevention intervention. The attention-control group represents the sensitization-contact condition. These boys participated in an intensive (school-based, home-based, and laboratory-based) observational study (Charlebois, LeBlanc, Gagnon, Larivée, & Tremblay, 1995; Lavigueur, Tremblay, & Saucier, 1995). Every second year (ages 7, 9, 11 or ages 8, 10, 12), the families were visited during four evenings. Families also came to the university laboratory for a 3-hr session on a Saturday. In addition, the child was observed at school for half a day on four occasions and spent a whole day in the university laboratory during the summer. Each family was assigned a resource person who made frequent contacts to plan the observation

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[2] In Tremblay, McCord et al. (1991), 249 participants were reported to have met the criteria for inclusion. Recent verification of the demographic information obtained from the families revealed that six of these participants had one parent (five fathers and one mother) with more than 14 years of schooling. These participants were not included in the analyses reported here.

sessions and to collect questionnaire and interview data. Over the years, the mothers established trusting relationships with their resource persons. When the families asked for help they were referred to local mental health service professionals. A third group of boys form the at-risk population was created to act as a control group for assessing effects of the prevention experiment and also for evaluating the effect of the intensive observation condition. To ensure equivalence with the other two groups, each of which required consent, parents of children assigned to the control group were asked if they would participate in the activities required for the observational group if the research team was able to include them.

The three groups of disruptive boys were compared with a population-based random sample of kindergarten boys from French public schools in the province of Québec, Canada in 1986-1987 ($N = 1,000$). Families participating in this study were found to be significantly more socioeconomically disadvantaged than the representative sample of their same sex peers, as the occupational socioeconomic status (SES) and level of education of both parents were consistently lower (Table 2). Moreover, they were consistently younger at the birth of their son, and the total family income was lower. The average family income was between \$20,000 and \$25,000 (Canadian dollars) for families of the disruptive boys compared with \$30,000 and \$35,000 (Canadian dollars) for families from the population-based random sample, $t (681) = -6.18, p < .001$.

Table 2. *Demographic Characteristics for the Kindergarten Disruptive Sample and a Random Sample of Kindergarten Boys from Across Québec*

Demographic characteristic for each parent	*M* (and *SD*) disruptive (*n* = 165)	*M* (and *SD*) random sample (*n* = 1,000)	*t*
Occupational SES[a]			
Mother	34.99 (11.05)	45.80 (13.10)	-10.04*
Father	35.76 (9.68)	44.41 (15.00)	-9.06*
Level of education			
Mother	10.01 (2.15)	11.91 (2.63)	-10.10*
Father	9.71 (2.38)	12.10 (3.40)	-10.72*
Age at birth of target son			
Mother	24.08 (4.10)	26.87 (4.46)	-7.94*
Father	27.00 (5.21)	29.31 (4.75)	-4.79*

Treatment Procedure

On reviewing the literature addressing early intervention with aggressive children before 1984, two foci of treatment were selected: (a) parent training in effective child rearing and (b) social skills for the children (Bertrand, 1988). Both components were implemented by a multidisciplinary team, consisting of two university trained child-care workers, one psychologist, and one social worker. Working full time and being supervised by a half-time project coordinator, each case worker was responsible for providing individualized home-based training sessions to parents of 12 families and school-based group social skills sessions for 12 boys from 12 other families. This arrangement created a team approach, where two professionals

coordinated their efforts with one family (i.e., one with the parents at home, the other with the child at school).

The parent-training component was based on the Oregon Social Learning Center Model (Patterson, 1982; Patterson, Reid, Jones, & Conger, 1975). The training procedures included giving parents a reading program, teaching parents to monitor their children's behavior and to give children positive reinforcement for prosocial behavior, training parents to discipline effectively without using abusive punishment, teaching parents family crisis management techniques, and encouraging parents to transfer their new knowledge to new situations. The professionals followed this sequence and used as many sessions needed for the parents to master the skills (Bertrand, 1988). The maximum number of sessions given to families was 46, with the mean number of sessions for the duration of the program being 17.4, including parents that refused to continue participation. Teachers were contacted periodically to discuss the child's progress, the parents' involvement, and other issues the teacher would find pertinent.

For the disruptive boys receiving the intervention, it was reasoned that training in social skills would change their behavior toward peers, lead to more social acceptance, making them less inclined to turn to more antisocial activities. Two types of social skills training were administered by the professionals during lunch time within the context of a small group of four to seven prosocial peers from school, with the ratio being three prosocial peers for each disruptive boy. Prosocial peers were nominated by teachers. A prosocial skills training curriculum was implemented in the first year, consisting of nine sessions based on previous work (e.g., Cartledge & Milburn, 1980; Michelson, Sugai, Wood, & Kazdin, 1983). In the second year, 10 sessions were given to enhance children's problem solving and self-control in conflict situations, on the basis of previous work (Camp, Blom, Hebert, & Van Doorninck, 1977; Goldstein, Sprafkin, Gershaw, & Klein, 1980; Kettlewell & Hausch, 1983; Meichenbaum, 1977). The duration of the intervention program was 2 school years, from September 1985 to June 1987. Boys were 7 years old when the treatment was initiated and 9 years old when it ended.

Measures

School adjustment. It was expected that if disruptive behaviors were reduced, academic adjustment would likely show improvement. Being placed out of a regular classroom appropriate for their age served as an indicator of severe school maladjustment (Tremblay, Loeber et al., 1991). No significant group differences had been observed for performance in mathematics and French when the boys were in first grade, the year before the intervention started.

Teacher ratings of disruptive behavior. We obtained these ratings from 10- to 15-year-old boys using the SBQ (Tremblay, Loeber et al., 1991), which had been used to select the disruptive boys in kindergarten age 6). From age 10 to age 12, the boys were in elementary school and had one main teacher for the whole day. From age 13 to15, most boys had more than one teacher every day. Math and French teachers were used as raters because they had the most contact with the boys. The mean internal consistency alpha for that scale between ages 6 and 15 years was .91 (range, .89 to .93). Scores ranged from 0 to 26 (13 items scores 0, 1, or 2).

Self-reported juvenile delinquency. The boys completed a self-report questionnaire addressing their involvement in antisocial behavior from ages 10 to 15 (a) Eleven questions were

asked about theft (kept objects worth $10 or more, stole something from a store, stole $100 or more, entered without paying admission, stole money from home, stole something worth $10, stole something worth between $10 and $100, stole a bicycle, bought a stolen article, broke down a door to take something, been in an unauthorized place), (b) three questions about alcohol and drug use (consumed alcohol, has been drunk, consumed marijuana), and (c) six questions about vandalism (destroyed instruments, intentionally destroyed other's property, intentionally broke parts of school property, purposely broke something belonging to a family member, intentionally destroyed part of an automobile, set fire). At age 10, the boys were asked to report if they had ever misbehaved in the specified ways. From age 11, they were asked whether they had engaged in such behaviors in the previous 12 months. The response format for ach question was never, once or twice, often, very often (scored 1, 2, 3, and 4) providing a range of total scores between 20 and 80. The mean internal consistency alpha between 11 and 15 years of age is .91 (range, .87 to .93).

Juvenile court records. Juvenile court files were used to identify boys who had been placed under the Juvenile Offenders' Act between ages 12 to 15 (this Canadian law does not apply before age 12). Youths are placed under this act if they are arrested by the police, charged, and found guilty of having broken a Canadian law. As such, they are officially designated as "delinquents." From the entire sample of 901 boys that met the criteria, 30 boys were placed under the Juvenile Offenders" Act. Between ages 10 and 15, these boys reported more delinquent acts than those who were not placed under that law, t (1, $N = 875$) = 2.67, $p = .01$. Interestingly, 6.7% of the disruptive kindergarten boys were placed under the Juvenile Offenders' Act between ages 12 and 15, compared with 1.7% for the nondisruptive kindergarten boys, χ^2 (1, $N = 901$) = 15.82, $p < .001$.

Perceptions of parenting behavior. Boys' perceptions of their parents' child-rearing practices were annually assessed from ages 10 to 15, with questions specifically probing parental supervision and punishment during the previous 12 months. Supervision describes to what extent the parents monitored their son's activities. The variable is composed of two questions: (a) Do your parents know about your whereabouts when you go out? And (b) Do your parents know with whom you are spending time when you go out? The boys answered by choosing "never," "sometimes," "often," or "always." The greater the score on supervision, the more the child is supervised. Cronbach's alpha for the supervision score has a mean of .74 between ages 10 and 15. The two questions that assessed the variable of parental supervision were accidentally omitted at age 13. The punishment variable represents the total of the following five questions: (a) Do your parents punish you by slapping of hitting you? (b) Do your parents punish you be not letting you do things you would like to do? (c) Do your parents punish you by arguing? (d) Do your parents punish you by saying that you cause them distress? And (e) Do your parents punish you by calling you names? The choices range from "never," "sometimes," "often," and "always." The greater the score on punishment, the more the boy is punished. Cronbach's alpha for the punishment score has a mean of .62.

Data Analysis

To understand the effects of the treatment from a developmental perspective, a repeated measures approach was used to analyze the data. Two different procedures were used depending on the nature of the data. The SAS PROC CATMOD procedure, which treats categorical data,

was used to examine school adjustment (i.e., class placement). The BMDP 5V procedure was used to analyze teacher-rated disruptiveness, self-reported delinquency, and perceived parenting. This program allows for missing values. Of the original 166 participants (43 treated, 41 control, 82 attention-control), 99% were included in the teacher-rated disruptiveness analysis, 96% in the self-reported delinquency analysis, 99% (supervision) and 96% (punishment) in the perceived parenting analysis. Only one participant could not be included in the analysis because of missing data; this participant (from the attention-control group) died at age 10.

RESULTS

Because no significant between-group differences were observed between the control and attention-control group on any of the measures of interest, these two conditions were combined to form a comparison group for the analyses that follow.

School Adjustment

The percentage of treated and untreated boys who were in an age-appropriate regular classroom from ages 10 to 15 is presented in Figure 1. The percentages for the total original sample of 901 participants are shown as well. At age 10, 1 year after the end of treatment, the boys should have been in a regular Grade 4. At age 12, the boys should have been in their last year of elementary school, and at age 15 they should have been in their third year of high school. It can be seen from Figure 1 that a larger proportion of the treated boys, compared with the untreated were in an age-appropriate regular classroom during the elementary school years (ages 10 to 12), but that this difference disappeared from age 13 onward (i.e., during the high school years). The proportion of boys in an age-appropriate regular classroom declined steadily from age 10 to age 15 when the total sample of boys (disruptive and nondisruptive) was considered. At age 15, only 40.7% of the boys were in a regular third year of high school.
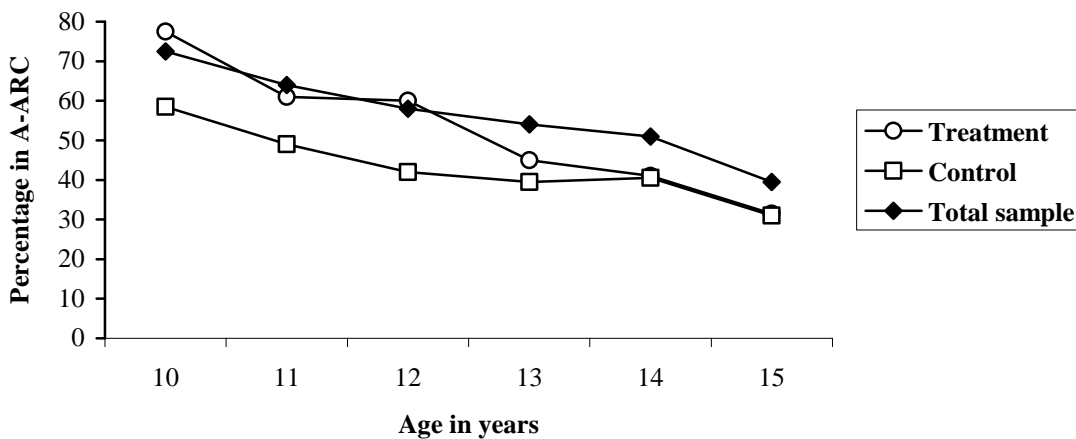
Figure 1. *The Percentage of Treatment Group and Control Group Boys Who Were in an Age-Appropriate Regular Classroom (A-ARC) from Age 10 to Age 15*

To test the effects of the treatment on school adjustment, we computed a repeated log-linear analysis with SAS using the PROC CATMOD procedure. Only 3 years were selected for this comparative analysis because this statistical procedure depends on asymptotic

approximations and requires an effective sample of approximately 25 for each response function that is analyzed (where the number of response functions corresponds to the number of repeated measures minus one; SAS Institute, 1989, p. 205). Ages 10, 12, and 15 years were selected for the analysis because they represented the beginning (age 10) and the end (age 15) of the follow-up, as well as the year before the expected transition to high school.

The results of the repeated log-linear analysis detected no overall group differences, χ^2 (1, $N = 164$) = 3.08, $p > .05$, in the pattern of class status; however, a significant difference in the pattern of class status was found over time, χ^2 (2, $N = 164$) = 71.11, $p < .05$, as well as a Time X Group effect, χ^2 (2, $N = 164$) = 5.99, $p = .05$, indicating that the patterns differed significantly between the groups and that class status varied over time. These results reflected the fact that more participants from the treatment group remained in an age-appropriate regular class up to age 12 and that this difference disappeared from age 13 onward.

Teacher-Rated Disruptiveness

To test the effect of the treatment on the developmental trend of disruptive behavior, we used an unbalanced repeated measures model with an unstructured covariance matrix. The 5V procedure in BMDP was used to analyze teacher-rated disruptiveness. An unstructured model was chosen because the repeated measures did not satisfy the univariate criterion of circularity and sphericity. The resulting unstructured analysis is actually the incomplete data analog of a multivariate analysis of repeated measures. For this procedure, the level of teacher-rated disruptiveness from age 10 to 15 was compared between the groups. The level of disruptiveness was adjusted using the boys' kindergarten disruptiveness score on the SBQ. For this analysis, the covariate was judged to be adequately reliable for covariance analysis.
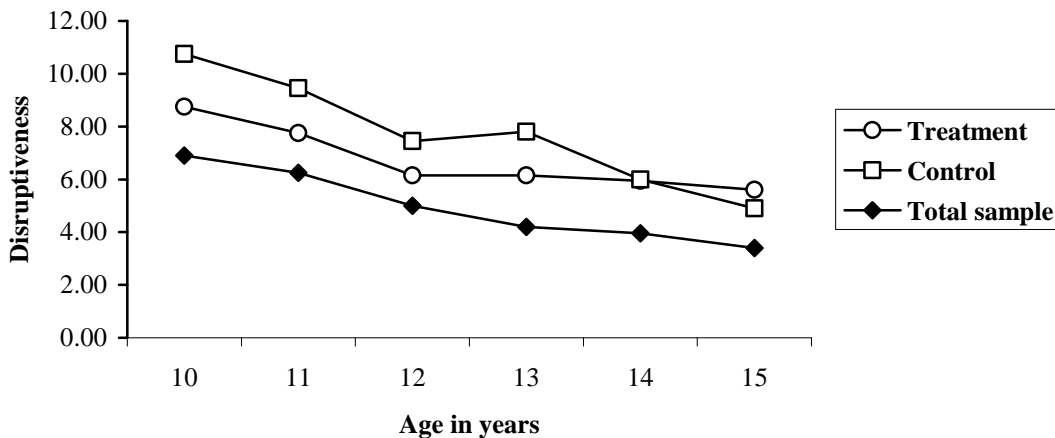
Figure 2. *The Level of Teacher-Rated Disruptiveness from Age 10 to Age 15*

As shown in Figure 2, the results revealed an overall significant difference in the level of teacher-rated disruptiveness over time, G^2 (5, $N = 164$) = 49.30, $p < .05$, confirming a decrease in the level of disruptiveness over time. However, the between-group difference in teacher-rated disruptiveness, G^2 (5, $N = 164$) = 2.60, $p > .05$, was not found to be significantly different, nor was the between-group teacher-rated Disruptiveness X Time interaction, G^2 (5, $N = 164$) = 3.44,

$p > .05$. Although no significant main effect was found, a trend toward between-group differences for teacher-rated disruptiveness was evident; that is, the participants in the treatment group tended to be evaluated by the teachers as less disruptive than the comparison group from age 10 to age 13. It can be observed in Figure 2 that the level of disruptiveness of the total sample also decreased with age.

Self-Reported Delinquency

The longitudinal effects of the treatment on boys' self-reported delinquency were analyzed using an unbalanced repeated measures model with an unstructured covariance matrix. Again, the 5V procedure in BMDP was used. The long-term effects of the treatment on the boys' overall delinquency scales were compared from age 10 to age 15. In this analysis, boys' delinquency scores were adjusted by their level of disruptiveness in 1984 (age 6). The covariate was not found to be significant and, consequently, it was removed from the analysis.

The self-reported delinquency patterns for the three groups of disruptive boys (as well as the pattern for the total sample) are shown in Figure 3. The curvilinear effect is partly due to the fact that the questions at age 10 requested a report of delinquent behavior up to age 10, whereas older boys were asked to report delinquent behavior in the past 12 months. The statistical analysis indicated that the boys' delinquency level significantly changed over time G^2 (5, $N = 159) = 45.84$, $p < .05$. This effect was somewhat expected, as the delinquency level as more likely to increase over time. There was no Group X Time interaction, G^2 (5, $N = 159) = 0.92$, $p < .05$, however there was a significant between-group difference, G^2 (1, $N = 159) = 4.18$, $p < .05$, indicating that the treated group was reporting significantly less delinquent behaviors 1 to 6 years after the end of the intervention. No significant differences were observed between the treated and untreated groups when the total self-reported delinquency score was broken down into the stealing, vandalism, and drug use subscales.
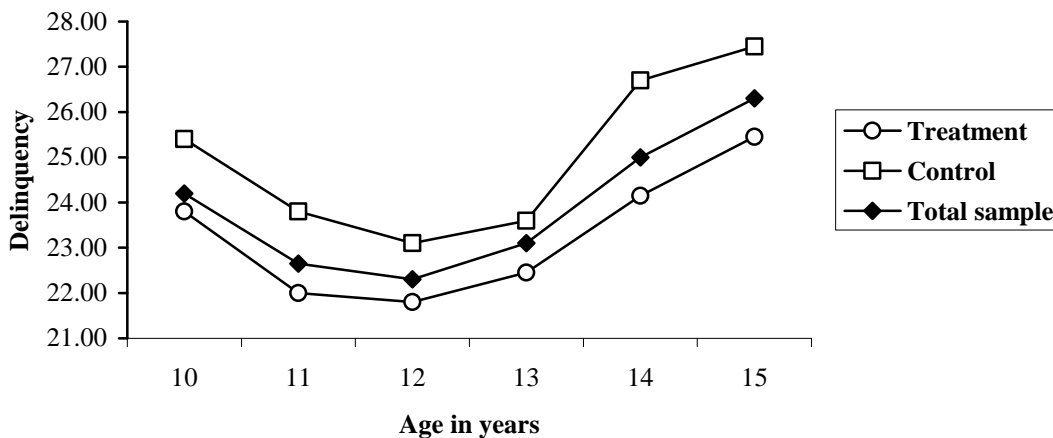

Figure 3. *The Self-Reported Delinquency Patterns for the Three Groups of Disruptive Boys (As Well As the Pattern for the Total Sample)*

Juvenile Court Records

The juvenile court records provided an opportunity to verify official sanctions of extreme delinquent behavior. A total of 30 boys (3.3% of the total sample of 901 boys) were found to have been placed under the young offenders' act between ages 12 and 15. Of the disruptive boys who received treatment, 9.3% ($n = 4$) were placed under the Juvenile Offenders' Act, in contrast to 7.4% ($n = 9$) for the disruptive comparison group. This difference was not found to be significant, χ^2 (1, $N = 165$) $= .162$, $p > .05$.

Parenting

Because the intervention included a parent-training component, it was expected that a successful treatment would have changed parental behavior to the extent that the boys would perceive this change. Figure 4 shows that boys perceived they were being punished less and less as they became older, G^2 (4, $N = 159$) $= 38.65$, $p < .05$. Surprisingly, there were no significant differences between the treated and untreated groups, G^2 (1, $N = 159$) $= 0.11$, $p > .05$. The evolution of boys' perceptions of parental supervision is shown in Figure 5. Between ages 13 and 15, the treated boys tended to perceive more supervision from their parents than the untreated boys. Here too, the statistical analysis did not reveal any significant between-group differences.
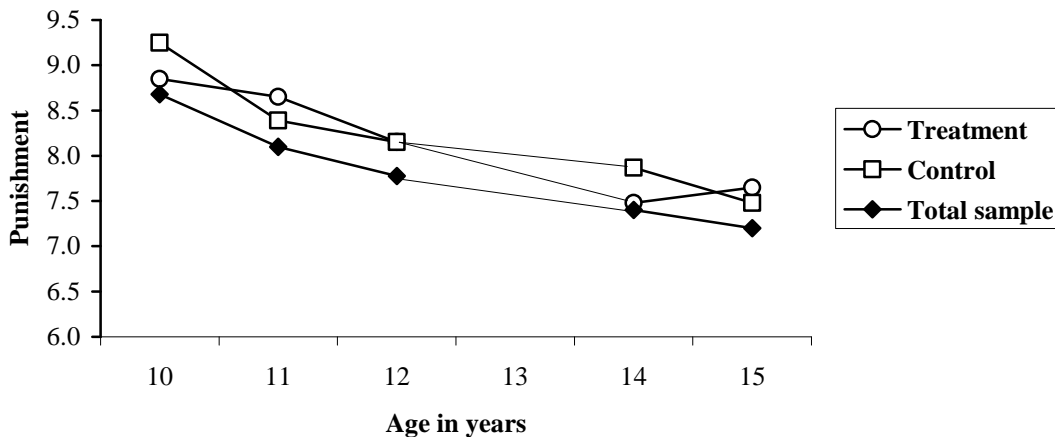
Figure 4. *Boys' perceptions of punishment by parents*
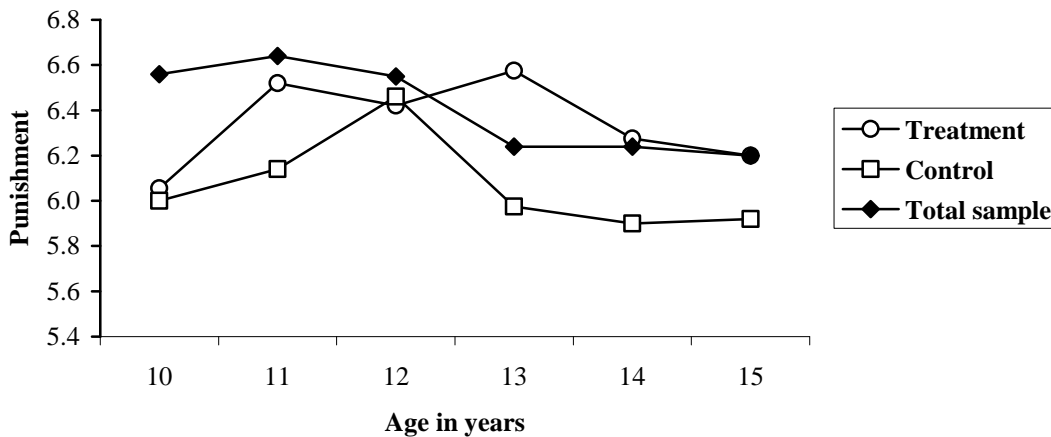
Figure 5. *Boys' Perceptions of Supervision by Parents*

DISCUSSION

The purpose of this article was to report the impact of a bimodal preventive intervention on the subsequent development of boys that exhibited a disruptive behavioral pattern in kindergarten. These boys were considered at high risk for later antisocial behavior. Development was examined by comparing treated boys with an appropriate control condition on a number of outcomes at prepubertal age, pubertal age, and again at midadolescence. The development of the treated and untreated disruptive kindergarten boys was presented against the backdrop consisting of the total original sample of disadvantaged urban boys. Such comparisons revealed that the disruptive kindergarten boys were indeed more at risk for antisocial behavior than their nondisruptive peers (see also Dobkin, Tremblay, Mâsse, & Vitaro, 1995; Pulkkinen & Tremblay, 1992). The parent-and-child-oriented intervention administered between 7 and 9 years old appeared to have a different beneficial influence on the boys' development, depending on age, domain, and data source.

With respect to global school adjustment, measured by being in an age-appropriate regular classroom, the intervention appeared to have a positive impact during the elementary school years; however, that impact disappeared by age 15, when the boys should have been in their third year of high school. This result is somewhat disappointing. It was intuitively expected that success in secondary school. However, when consideration is given to the level of success for the whole sample of boys who were in the low-SES kindergarten classes, it can be seen that a majority (59.3%) were not in an age-appropriate regular classroom by age 15. Given that poor school adjustment appears to be the norm for this sample of boys from low-SES environments, it becomes improbable that an intervention directed at disruptive behavior would have enabled disruptive kindergarten boys to have more success in high school than the majority of their peers. It is important to note that this phenomenon could not have been observed if the experiment had not been nested within a longitudinal study of a population-based age cohort.

The importance of the beneficial impact on elementary school adjustment should not be overlooked. The boys who remained in an age-appropriate regular classroom during elementary school were in a very different social and intellectual environment, compared with those who

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were held back or placed in special classes or schools. The quality of that environment may have had beneficial effects on other aspects of their development during high school (e.g., self-esteem, delinquency; Coie & Jacobs, 1993). Because being placed out of an age-appropriate regular classroom in high school appears to be normative for this cohort of boys, it is reasonable to speculate that being out of an age-appropriate classroom may not have the negative psychosocial impact that it could have if it happened during the elementary school years.

Similar results were obtained for teacher-rated disruptiveness, although in this case, the differences did not reach statistical significance. It is important to comment on this trend, because it suggests a different story from the previous results. The differences between the treated an untreated group were observed during elementary school and disappeared during high school, as did the difference in global school adjustment. However, in this case the disruptive boys appeared to become better adjusted (i.e., teachers progressively giving lower disruptive ratings). Either most of the boys were becoming decreasingly disruptive or high school teachers were less able to observe these behaviors. Whatever the reason, it becomes less likely with time that adolescent boys will be evaluated as highly disruptive by their teachers. Hence, teacher-rated disruptive behavior in high school may not be an adequate indicator for the outcome of some preventive interventions.

Delinquency was assessed both with self-reports and court records. The latter did not reveal any significant differences between the groups. It was hoped that an intensive early intervention with disruptive boys would have reduced the number of boys who were put under the Juvenile Offenders' Act. Clearly, such a procedure is costly both in terms of social resources and human suffering for the boys and their families. It can also be seen that it is not a negligible phenomenon; 1.7% of the kindergarten boys from the low-SES schools and 6.7% of the disruptive kindergarten boys from that cohort were placed under the Young Offenders' Act between ages 12 and 15. However, because of the small number of treated participants, the power to detect a significant impact of the treatment on this variable was very low.

Thus, from the perspective of official delinquency, it is not clear to what extent this type of intervention with these at-risk boys has achieved its aim. However, from the perspective of self-reported delinquency the intervention has reduced the number of delinquent behaviors from age 10 to 15. Taken together, these results could be an indication that the intervention did not have an impact on the worst cases (i.e., those with official juvenile delinquency records) but has an impact by significantly reducing the frequency of delinquent behaviors for a group of high-risk boys. This could be a meaningful effect, because each delinquent behavior is a socially meaningful event for a number of individuals (e.g., the victim, the delinquent, the families involved, and the social control agents). It may be a meaningful effect for the development of the disruptive kindergarten boys as well, if reducing the frequency of their delinquent behavior from age 10 to age 15 has an impact on key developmental issues such as how they perceive themselves and who they associate with when they enter the period of young adulthood. This should be the focus of future assessments. The fact that the difference between the treated and untreated groups was maintained up to age 15 is especially encouraging, because one could have expected that the difference would disappear when delinquent behavior becomes more widespread in midadolescence (Farrington, 1986).

The findings suggest that the comparative changes in delinquent behavior and the significantly higher levels of academic adjustment observed in youngsters from the experimental group may be attributable to the treatment. Improving parental practices and children's social competence does appear to influence their risk outcomes over the long term, supporting the hypotheses that parent effectiveness and social skills training are related to delinquent behavior. However, data from the boys' perceptions of parental supervision and punishment do not support the hypothesis that the parent training intervention had a significant impact on those particular child-rearing behaviors. Because boys' reports of parental supervision and punishment have been linked to self-reported delinquency (Hirschi, 1969), it was expected that boys' perceptions of their parents' child-rearing practices could be shown as mediators of the differences in self-reported delinquency. These counterintuitive results show how difficult it is to find clear causal paths in the development of deviant human behavior. The absence of a control group that received only parent training or only social skills training precludes more elaborate theoretical conclusions regarding which component of the bimodal intervention contributed the most variance in the boys' behavioral development. Nevertheless, there is sufficient literature suggesting the low level of efficacy when each component is used as the sole ingredient of treatment (Dumas, 1989; Kazdin, 1987, 1993). One can speculate that parent training could have indirect effects on boys' adjustment. The training could change some behaviors of the parents (e.g., more parent initiated contacts with teachers) without changing their discipline and monitoring behaviors to the point of significantly influencing the child's perception.

It would be surprising to find that a single intervention during elementary school, albeit multimodal and intensive, would change the developmental trajectories of disruptive boys and their families to the extent that they would never be in need of further support. The impact of such early interventions could possibly be increased by booster sessions with the boys and their parents before delinquency peaks in midadolescence. Ideally, a 2-year booster program could be implemented during the last year of elementary school (preparing for the transition to high school) and then during junior high school (immediately after the transition). In terms of content, booster treatments could involve enhancing problem-solving skills, life skills, and study skills to improve the participants' communication, conflict resolution, self-control, and academic abilities when faced with the less structured academic setting of high school and increased peer pressure. It would be equally important to offer a booster program for parents. This would be most needed during the junior high year, when parents must improve their monitoring and communication skills with their young adolescent, who is striving for more autonomy.

A number of limitations must be kept in mind. First the study was limited to French-speaking disruptive kindergarten boys living in low socioeconomic areas of a large metropolitan city in Canada. Disruptiveness was defined to include the 30% most disruptive boys in a population of disadvantaged urban boys. Although these boys were clearly more at risk for later delinquent behavior than those below the cutoff point, risk varied within this group. The relatively small number of treated participants precluded an analysis of treatment effects according to the risk level in kindergarten.

Understanding the impact of the intervention is also limited by the fact that no dose-response analyses could be performed. The professionals were instructed to give as many parent training sessions as needed by the families within the 2-year period. As such, families with the

worst prognoses received more treatment. This is sound practice from a clinical and ethical perspective, but it obviates the study of dose response. A larger number of participants would be needed to study dose response. A larger number of participants would be needed to study dose response and level of initial risk.

One can argue that these results may not be clinically meaningful. Nevertheless, the present study shows that an intensive intervention with disruptive kindergarten boys can have statistically significant positive results over the long term. The results also suggest that this impact varies with time. We believe that only larger studies with repeated booster sessions could show a clear impact on serious juvenile delinquency and adult crime. It may well be that this aim can be achieved only by intensive interventions with at-risk children before they enter kindergarten. This would mean more investment in prevention during pregnancy and infancy, as well as a firm commitment to follow these participants into adolescence and adulthood.

Acknowledgements

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9   Social Skills Training[1]

Lucie Bertrand and Danièle Reclus-Prince

Overall Objective

This activity program is intended to stimulate prosocial behaviours in school-age children. The program shows the children various behavioural responses to everyday social situations and helps those with aggressive behaviours to change their interactions by providing them with skills in key areas of their relationships with others.

To help the children expand their repertoire of prosocial behaviours, the program puts them in situations in which they use various contact, cooperation, and self-assertion skills. Focusing mainly on behavioural and verbal skills, the program fosters in the children the acquisition of behaviours appropriate to their situations and likely to be perceived positively by them. The children are therefore more likely to accept and reuse the skills that they acquire during the activities.

Developed from research on children's social and emotional development (Bessell & Palomares, 1972) and programs aimed at various clienteles (Cartledge & Milburn, 1980; Michelson, Sugai, Wood, & Kazdin, 1983; Schneider & Byrne, 1984), the activities focus on the systematic training of the behaviours associated with harmonious social interactions.

Implementing the Program

This social-skill training program is aimed at children in the early grades of primary school. It is designed to help those who exhibit deficiency in their contacts with others, in particular, children who are awkward or aggressive with the people around them.[2]

The sessions are usually made up of small groups of four to six children. Each group includes some children who exhibit aggressive characteristics and social adjustment problems and some who, because of their social skills, can act as role models.

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[1] Translated from: Bertrand, L., & Reclus-Prince, D. (1988). Guide d'activités d'habiletés sociales: deuxième partie – les programmes d'activités. Sous la direction de L. Bertrand (1988), *Projet pilote de prévention du développement de comportements antisociaux chez des garçons agressifs à la maternelle: Guides d'intervention*. Montréal, QC: Groupe de recherche inter-universitaire sur la prévention de l'inadaptation psycho-sociale, Université de Montréal.

[2] The family and school intervention guides describe the tools for assessing children's aggressive and prosocial behaviours. Those tools can be used to determine the children's basic skill level and whether there is a need for intervention in their development of social skills.

Creating activities in which prosocial behaviours can be experienced directly (e.g., through role-playing) is easier if the groups are small, but the activities can also be done in the classroom. In that case, the focus shifts from one of directly experiencing the expected behaviours to one of observing, identifying, and understanding them.

Each session covers one activity and lasts 45 minutes. Depending on the needs of the group, the activity can be repeated in another session, particularly if doing so ensures that all of the children get a chance to participate fully in the exercises and discussions.

In all, the program comprises a minimum of nine activities. They may be presented once or twice a week until all of them have been covered. The interval between sessions gives the children a chance to practise in daily life the skills that they worked on in the previous session.

Steps in the Activities

Each activity is broken down into the same steps: reviewing the assigned homework or exercises, introducing the activity, modeling and guiding a practice session, and presenting ways to generalize what was learned. Finally, reinforcement strategies based on the principles of social learning are presented.

Reviewing the homework

During this step the behaviours practised by the child since the previous session is reviewed. Depending on the time available, all (or some) of the children take turns describing the behaviours they have been practising and the context of the exercise (place, persons involved, behaviours used, other opportunities, etc.).

The facilitator praises the children for putting the behaviour into practice while stressing the benefits of that behaviour, including the positive reactions of others to it and the personal satisfaction and sense of accomplishment derived by the child.

Introducing the topic

The facilitator briefly explains the activity, discusses the behaviours it focuses on, and asks the children to identify real-life situations in which these behaviours are particularly useful or important. The children thus become aware of the advantages and consequences (personal and inter-personal) of the behaviours. The facilitator must be sure to clearly outline the elements of the desired behaviours.

Modeling

A demonstration of the topic-behaviour is provided on video or acted out in real life (if possible, the role play is prepared in advance). The behaviours being modelled and the elements of the typical situation are clearly identified by the facilitator, verbally or in writing, then demonstrated by some of the children. Or the facilitator may model the behaviour using another adult or child as a partner. The facilitator should, if possible, present more than one modeling situation, use a scenario that is as close as possible to the children's experience, and anticipate alternative responses to it based on the reactions of the children.

Guiding a practice session

The role plays are presented by two children who take turns being the main actor so that they both experience the target behaviour directly. The facilitator, and occasionally the other members of the group, thanks the participants for their work. If something is missing from or unclear about the role play, the facilitator advises the children what could be changed, for example, the tone of voice, the content of the verbal message, the body language, etc. and asks them to work on those aspects for the next session.

The next role-playing session will use the same scenario or gradually introduce new situations highlighting the same behaviours.

The reinforcement is linked to the desired behaviours demonstrated in the role play. It is usually provided after the role play or video, whichever method is used. The feedback on the desired behaviours is addressed to the main actor and covers how well he has performed: e.g., "When you touch your partner's shoulder and wink at him, we understand that you are encouraging him"; "We hear you very clearly; you spoke firmly and directly"; "You keep eye contact while you are talking. That's important." The co-actor is thanked for participating in the role play.

Generalization

After the role play, the facilitator reviews the skills involved to help the children understand how they can be used in their daily lives and the advantages of doing so – making other people feel good, feeling good about oneself, communicating better.

The facilitator then assigns the children homework based on their abilities: make a drawing that symbolizes the skill being worked on (see example below), write a description of the behaviour, or fill out a planning sheet with the facilitator at the end of the activity.

Assigning homework or exercises gives the children an opportunity to practise the target behaviours outside of the program. The facilitator helps them envision the situations and the occasions and people with whom they can practise their skills as well as the potential consequences of doing so.

The facilitator also tries to inform the parents and teachers of the exercises that the child will be doing. In particular, the latter are informed of the behaviours being targeted and how they can be reinforced. This may be done in writing (see example below) or in a meeting with school personnel, children in the class, or the parents. In that meeting the facilitator will suggest ways to foster the target behaviours as well as reinforcement strategies. For example, the topic of the activity could be covered that week in class, and the children (or only the target children) could be asked to note on a special chart how often they engaged in the behaviours. Then, if they did so a certain number of times, they might earn free time at the end of the day for an activity they enjoy or a pleasant activity for the entire group at the end of the week.

Similarly, within the family, the expected behaviours can be incorporated into a contract, that is, a support technique complementary to the program. Such a contract is based on the procedures for family and school intervention described in the previous sections of this guide.

When I ask
WHY?
It's because I want to
understand you better
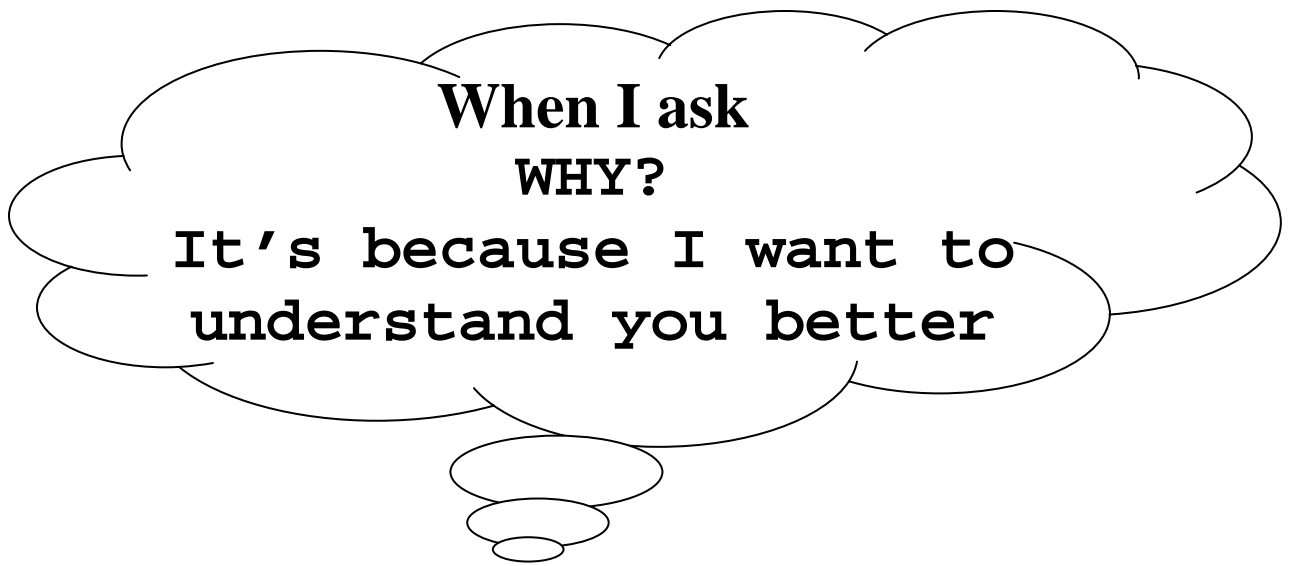
I go up to you and look at you
I let you talk
I ask my question

To the parents of _____

    Today and yesterday we worked on

> acceptable ways of saying "no"

    To help your child practise this method, we have given him a drawing. The drawing is to remind him to practise today's method at home.

YOU CAN HELP HIM PRACTISE

> ⇒ by talking to him about what he did with us
>
> ⇒ by helping him practise the method when the opportunity arises.

YOU CAN HELP HIM USE THE METHOD MORE OFTEN

> ⇒ by telling him that it's nice to see someone look at the person he is talking to
>
> ⇒ by telling him that it makes you happy when he says "no" calmly to his brother or sister
>
> ⇒ by telling him that you appreciate it when he politely explains to a friend why he is refusing something.

We greatly appreciate your child's participation in our program.

Reinforcing participation in the activity

The reinforcement is designed to get the children to put the acquired skills into practice and thus to manage any difficult behaviours they might exhibit. The reinforcement method is based on the same strategies for behaviour reinforcement and modification that are used in the sessions.

This requires that you:

- define the directions or performance criteria for the entire group (e.g., waiting one's turn to talk) or for certain individuals (e.g., staying seated).
- systematically reinforce all appropriate behaviours exhibited by the children (e.g., by giving points for each 10-minute period they are practised).
- plan and implement a consequence (e.g., withdrawal, loss of privileges, etc.) for clearly identified improper behaviours.

The directions target behaviours such as listening and participating. The reinforcement is above all social (the facilitator's approval) but may also be accompanied by symbolic reinforcers (points, stars, etc.) that can be traded in for a material reward (stickers, toys, etc.) or a privilege (free time, etc.). The performance criteria may be set individually or for the group: in the latter case, the facilitator helps the group encourage the participation of any child less skilled in that behaviour or less willing to engage in it.

Depending on the children's ability to wait for rewards and to see themselves positively, the reinforcers can be distributed after each activity, after a few activities, or at the end of the program.

Sample scoring system

Behaviour	Duration of the activity			
	First 10-min. period	Second 10-min. period	Third 10-min. period	Fourth 10-min. period
Looking at the person who is talking (1 point)				
Staying seated (1 point)				
Waiting your turn to talk (1 point)				
TOTAL				
Criteria: - Individual performance: 10 points - Choice of rewards: sticker, eraser, felt marker, etc. - Group performance (5 children): 50 points - Choice of rewards: group game, free time, etc.				

The same principles are used to control any undesirable behaviours. The behaviours punishable by withdrawal from the activity (or any other consequence) must be specified in advance: verbal or physical aggression, excessive demands for attention, tantrums due to frustration, etc.

Withdrawing the child from the activity is aimed at depriving him of all sources of attention. It should be used every time the undesirable behaviour is manifested. It consists of isolating the child for a short period (3 to 10 minutes), identified in advance, in a specific place far from the group, and, if possible, outside of the activity room. Consequences based on the environment where the activity is taking place (e.g., school) may also be used (e.g., detention after the activity, extra homework or loss of privileges), as long as they are tied to the behaviours shown by the child in the activity and do not result in secondary benefits (e.g., exclusive attention from an adult during the detention).

Description of the Activities

This activity program is divided into three sections of three activities each. The first section deals with the basic skills at the heart of all of the activities: eye contact, smiling, physical closeness.

The second section focuses on the skills associated with initiating helping behaviours or showing concern for others.

The third section covers assertive behaviours in situations involving the child and his peers.

For each activity, the behaviour being taught is clearly defined.

1. Making contact:
   - looking into the other person's eyes
   - smiling
   - going up to the person

2. Speaking nicely:
   - going up to and looking at the person
   - smiling or making a friendly gesture or sign
   - using a pleasant tone of voice
   - explaining what we like

3. Gentle physical contact:
   - going up to and looking at the person
   - touching
   - with friendly intent
   - briefly

4. Helping (Offering help):
   - going up to and/or looking at the person who needs help
   - verbally offering to help
   - waiting for the answer or assent

5. Including, inviting, making room:
   - looking, smiling at the person
   - saying the person's name
   - inviting with a gesture or with words

6. Doing things together (Cooperating on the same task)
   - looking, smiling at the person
   - proposing a way of doing things: where, when, how
   - checking to see if the other person agrees

7. Saying No (Refusing)
   - looking at the person
   - speaking firmly, but without getting angry
   - giving a reason for the refusal

8. Asking why
   - going up to the person
   - looking at the person
   - letting the other person finish speaking
   - asking the question

9. Saying "You're bothering me"
   - looking at the person
   - going up to and/or touching the person
   - saying the person's name
   - saying what's wrong
   - asking the person to stop

Activity 1 – Making Contact

Presenting the activities

To introduce the children to the program, give a short presentation covering:

- the purpose of the activities: learning to make friends and to feel good about being with others
- the duration and timing of the activities
- the steps in each activity
- the instructions and reinforcement method.

Introducing the topic

The facilitator explains to the children: When you feel like being with others, when you feel good, when you are happy, you show it in a special way. You wear a big smile, you look the person you are with in the eye and go up to or approach that person.

The *children* are invited to give examples of this in situations that they have experienced, such as on the first day of school.

The activity begins with a description of non-verbal behaviours (facial expressions – gestures – body language – physical proximity).

Modeling and practice

Scenario for modeling: You are in a park, another boy is playing a bit further away, and you would like to play with him.

Behaviours to use:

- Go up to him
- Look at him in the eyes
- Smile at him.

Other scenarios to develop:

At school: Your teacher arrives at the door of your school at the same time as you one morning. You show her that you have seen her.

At home: Your little sister draws a picture at home. You show an interest in it, say that you like it.

Generalization

Reviewing the skills involved. The facilitator goes over the meaning of these behaviours: drawing attention to ourselves, showing that we are paying attention to the other person, expressing affection and approval, and communicating the feeling of being happy around others. The facilitator also discusses the advantages of engaging in these behaviours: ensuring you are understood before you talk, receiving a similar response, and getting an interaction off on the right foot.

Homework and letter to parents and/or teachers. The facilitator helps the children anticipate opportunities to practise these behaviours during the week, at home, or at school and with adults, peers, or siblings.

Activity 2 – Speaking Nicely

Reviewing the homework (Making contact)

The facilitator reviews with the children the behaviours they practised; "What method did you try? Where, when, with whom? Did you like it? Were you pleased with yourself?"

Introducing the topic

The facilitator explains that speaking nicely means saying pleasant words.

The children give examples of words that make people happy and, based on their examples, the facilitator identifies ways of expressing affection and approval by thanking, congratulating, encouraging, and complimenting another person.

Modeling and practice

Scenario for modeling: Your friend arrives at school wearing a new sweater. You say: "Hey! I really like that picture on your sweater."

Behaviours to use:

- Go up to him and look him in the eye
- Smile or make a friendly facial expression or sign
- Use a pleasant tone of voice
- Explain what it is that you like.

Other scenarios to develop:

At school: You congratulate a friend who got a good mark in school or who made a goal in the hockey game. "Congratulations on your mark" – "Way to go! Great! You really did it!" You encourage your partner, who just made a mistake in a game. "It's all right, keep trying!"

At home: You thank your parent for giving you special permission to do something: "I really enjoyed staying longer at the park. Thanks!"

Generalization

Reviewing the skills involved: Discuss how important words and body language are to being understood. Discuss, as well, the advantage of showing that we appreciate the other person.

Homework and letter to parents and/or teachers.

Activity 3 – Gentle Physical Contact

Reviewing the homework (Speaking nicely)

Introducing the topic

The facilitator informs the children that gentle physical contact involves gestures of touching another person to make him or her feel good. A distinction must be made between:

- pleasant gestures: a pat on the shoulder or on the back, a friendly nudge, an arm placed around or across the shoulders, a handshake, a hug, taking someone by the hand or by the waist, caressing
- and unpleasant gestures: shoving, pinching, tripping, pounding the person on the back.

The children give examples of pleasant contact – the gestures that accompany or take the place of words to praise, thank, and to express affection, approval, happiness, or surprise or to make a request.

Modeling and practice

Scenario for modeling: Your friend has not yet taken his place for the group photo about to be taken. You ask him to come along.

Behaviours to use:

- Go up to and look at the person
- Touch the person briefly and with a friendly intention (light pressure on shoulder, light tug on the arm), adding a few words if necessary ("Come on, we're ready to take the photo")

Other scenarios to develop:

At home: You want to get a closer look at the necklace your mother is wearing.

In your environment: You meet a friend on the street who you haven't seen for a long time.

Generalization

Reviewing the skills involved: Go over the reason why we use gestures to intensify what we mean, gestures that indicate "I like you", "I care about you", "I'm glad you're here".

Homework and letter to parents and/or teachers.

Activity 4 – Helping

Reviewing the homework (Gentle physical contact)

Introducing the topic

The facilitator introduces the concept of offering help, emphasizing the importance of making an offer that will be accepted by the other person. In other words, the offer should be made without gloating or criticism and should clearly indicate that we really want to help.

The children talk about situations in which they offered help and it was accepted, and about how that made them feel. The facilitator stresses that it is nice to feel useful and skilled, to show others that we care about them and that we are attentive to their needs and their problems. It is nice to receive help because it makes us feel less alone.

Modeling and practice

Scenario for modeling: Louis has a big poster to pin up on the classroom wall and he is having trouble holding it in place.

Behaviours to use:

- Go up to and/or look at the person who needs help.
- Offer help verbally.
- Wait for the response, that is, assent.

Other scenarios to develop:

At home: Your mother wants to go grocery shopping. She is in a hurry and she still has all of the dishes to put away. Your sister drops her box of crayons and they all fall out.

In your environment: The teacher has asked a student to take five dictionaries to another class, and the student finds them very heavy.

Generalization

Reviewing the skills involved: The facilitator talks about the feelings of pride and skill that we have when we help others, as well as the positive consequences of doing so: being able to count on one another, feeling useful, etc.

Homework and letter to parents and/or teachers.

Activity 5 – Including, Inviting, Making Room

Reviewing the homework (Helping)

Introducing the topic

The facilitator begins: It is hard to feel forgotten and to be excluded or left out. It is more fun to participate in games, to be accepted in a team, or to be noticed by a friend when we feel alone or confused.

The children express how they feel in both cases.

Modeling and practice

Scenario for modeling: Several of you are sitting around a table doing crafts. Luke arrives late and cannot find a seat.

Behaviours to use:

- Look at the person
- Smile
- Say the person's name
- Invite the person with a gesture or words.

Other scenarios to develop:

In your environment: You are playing ball in the lane with your friends, and a new neighbour whom you do not know very well is watching you.

At home: You made yourself a special snack that you are eating when your sister comes home from school.

Generalization

Reviewing the skills involved: Making room for someone shows that you appreciate his or her presence. It is a good way to get to know each other better and, in turn, to earn appreciation.

Homework and letter to parents and/or teachers.

<u>**Activity 6 – Doing Things with Others**</u>

<u>Reviewing the homework (Including, inviting, making room)</u>

<u>Introducing the topic</u>

The facilitator introduces this activity as a direct follow-up to the two previous ones. Once we have offered help or made room for someone else, how do we cooperate and work in harmony with them? It is important to decide with the other person how to proceed, to each offer ideas, and to come to an agreement.

The children suggest times when it is easier or quicker for two or more people to share the same task or activity, and talk about how much fun it can be.

<u>Modeling and practice</u>

Scenario for modeling: Your friend Yvon agrees to let you help him put up a poster.

Behaviours to use:

- Look, smile
- Propose a way of doing it: where, when, how
- Check whether the other person agrees, e.g., "I will give you the tacks one at a time, O.K.!"

Other scenarios to develop:

At school: You have been invited to participate in making crafts; three of your friends have already started. E.g., "I like to cut things out. Could one of you lend me a pair of scissors?"

In your environment: You propose a game of checkers to a friend, e.g., "I would like to start first. Is that O.K. with you?"

<u>Generalization</u>

Reviewing the skills involved: When several people want to participate in the same activity, it is important that each one has something to do that he or she enjoys, and to agree on how to proceed. That helps everyone get along and feel good about what is happening.

Homework and letter to parents and/or teachers.

<u>**Activity 7 – Saying No - Refusing**</u>

<u>Reviewing the homework (Doing things together)</u>

<u>Introducing the topic</u>

The facilitator stresses that we are allowed to say no to an activity that we do not want to do, either because the timing is not right or because we don't feel like doing it, and that there are ways of saying so clearly, firmly, and without getting angry.

The children give examples of when they were comfortable saying no or when they were not able to say no.

<u>Modeling and practice</u>

Scenario for modeling: A friend wants to borrow your new bicycle.

Behaviours to use:

- Look at the person.
- Speak firmly, without getting angry.
- Give a reason for saying no.

Other scenarios to develop:

In your environment: A friend wants to come over and play after school. You say, "No, I prefer to be alone today."

At home: You have given your brother some candy and he asks for more. You say, "No, I want to keep some for tomorrow."

At home: You are watching a program you like on TV and your sister asks you to go for a bicycle ride. You say, "No, not right now. I want to finish watching this program."

<u>Generalization</u>

Reviewing the skills involved: We benefit from saying honestly what we think and explaining clearly and calmly our reasons for saying it. That helps the other person to understand our needs and to accept that those needs might be different from what he or she expected. That way we can stay friends, keep on good terms.

Homework and letter to parents and/or teachers.

Activity 8 – Asking Why?

<u>Reviewing the homework (Saying No - Refusing)</u>

<u>Introducing the topic</u>

The facilitator goes over when it is appropriate to respond to someone by asking a question

- "I'm not sure I heard or understood what you said."
- "I need more explanation because I am surprised or hurt by this."

The children give examples of situations in which they need to know more about what is being requested.

Modeling and practice

Scenario for modeling: It's time for recess and your classmates are putting on their coats. A friend calls you: "Hey, Marc! Can you come and help me?"

Behaviours to use:

- Go up to and/or look at the person.
- Let the person finish speaking.
- Ask the question (e.g., "Why do you need me?").

Other scenarios to develop:

At school: As you are leaving school, your brother asks you to carry his bag. You ask, "Why do you need help? Do you have something else to carry?"

In your environment: You made plans to go to the pool with a friend. He calls you on the telephone at the last minute to say he will not be going. You reply, "Oh! I would have enjoyed it so much. Why didn't you tell me earlier?"

Generalization

Reviewing the skills involved: When a situation is not clear, one of the ways of finding out more about it is to ask a question like "Why?".

Homework and letter to parents and/or teachers.

Activity 9 – Saying: "You Are Bothering Me"

Reviewing the homework (Asking why)

Introducing the topic

The facilitator explains that when a friend does something bothersome, we can tell him or her about it without shoving or screaming, without complaining, and in an assertive manner.

The children give examples of what they find bothersome.

<u>Modeling and practice</u>

Scenario for modeling: A friend sits in front of you at the movie theatre and talks so loud that you can't hear the movie.

Behaviours to use:

- Look at the person.
- Move closer and/or touch the person.
- Say the person's name.
- Say what is bothering you.
- Ask the person to stop.

Other scenarios to develop:

At home: Your mother calls you by a nickname you had when you were little, and you don't like it when she uses it in front of your friends. You say, "Mom, it embarrasses me when you call me that in front of my friends. I prefer my real name."

At school: You are drawing at a table and your friend is making it move by swinging his legs. You say, "I can't draw because of that. Stop moving the table."

<u>Generalization</u>

Reviewing the skills involved: The facilitator goes over situations in which we feel irritated, angry or frustrated, and presents ways of expressing ourselves that don't hurt the other person and yet give him the opportunity to stop or change his behaviour.

Homework and letter to parents and/or teachers.

SELF-CONTROL ACTIVITY PROGRAM

Overall Objectives

This self-control activity program is aimed at fostering children's development of a range of prosocial responses that they can use in situations of stress or conflict.

Inspired mainly by cognitive strategies, it does not seek to make children exhibit particular behaviours but rather to teach children how to think about what is happening, to react, and to choose appropriate behaviours.

In fact, in aggressive children, angry outbursts, loss of control, and failure to differentiate are phenomena that interfere with their performance of prosocial behaviours. One must therefore teach the children a general way of dealing with various interpersonal conflicts as well as how to respond to specific situations.

The program's specific objectives are to enable the children to:

- learn a thought strategy, inspired by problem-solving and thinking-aloud techniques, that enables them to fine-tune their perception of the situation they are facing, generate different solutions, and foresee the consequences of their actions:
- develop self-control in aversive or conflict situations: e.g., situations of frustration, rejection, provocation, etc.

These achievements become a part of the children's lives; they are incorporated using two types of generalizable tools:

- first, a self-control tool that inhibits their aggressiveness: thinking to themselves, self-hypnosis, relaxation, etc.
- then, a cognitive process that leads to their choosing more appropriate behaviours.

The activities combine cognitive techniques with standard behaviour learning techniques (modeling, feedback, generalization).

This program is largely drawn from a social-skill training program developed by Goldstein *et al.* (1980) and think-aloud and self-control techniques tested by Meichenbaum (1977), Camp *et al.* (1977), and Kettlewell *et al.* (1983).

Implementing the Program

This activity program is aimed in particular at children in the upper grades of primary school. It requires an ability to reason and a level of language that are more characteristic of children in that age group. This type of program, which is inspired by a cognitive approach, can also be used with younger children (e.g., Shure and Spivack's program, 1984), but the structure and content of the activities will have to be adapted to their ability to assimilate information.

The program is specially designed for impulsive children who, stereotypically and in numerous situations, use verbal or physical aggressiveness to respond to peers or adults. It also targets children who are seen as disruptive in the school environment because they perform poorly academically and show limited social contact skills, and are therefore at risk of future maladjustment.[3]

Generally speaking, the activities are done in small heterogeneous groups of four to six children: some of the children exhibit aggressive characteristics and social adjustment problems, while the others, because of their social skills, can act as role models.

Creating activities in which prosocial behaviours can be experienced directly (e.g., through role-playing) is easier if the groups are small, but the activities can also be done in the classroom.

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[3] The school intervention program comprises a procedure for assessing children's prosocial and aggressive behaviours. That assessment can be useful here to determine the children's basic level and need for intervention to develop self-control.

In that case, the focus shifts from one of directly experiencing the expected behaviours to one of observing, identifying, and understanding them.

The program comprises ten topics or activities that are each covered in one 45-minute session. Depending on the group's needs, each session may be divided into three parts:

- a first part introducing the children to the concepts involved and identifying the target behaviours and their consequences;
- a second part to help the children learn the thought process linked to the topic;
- a third part that enables the children to experience the behaviours through various role-playing exercises.

The sessions may be held once or twice a week until all of the topics have been covered. The interval between sessions gives the children a chance to practise in daily life the skills that they worked on in the previous session.

The modeling, feedback, and generalization strategies are the same in this program as in the previous one. However, two additional strategies are incorporated here: a cognitive process and thinking aloud.

The cognitive process enables the children to clarify the situation that they are facing as well as to examine their understanding of it and how it makes them feel. Then, by thinking through the different alternatives for action and their consequences, the children learn to make a choice and put it into practice, thereby increasing their confidence in the possibility for change. Finally, the children learn to feel good about themselves when engaging in the behaviour.

The children are taught the following sequence of steps:

- I identify what is happening and how I feel.
- I think about what I can do or say.
- I choose an appropriate solution.
- I act and feel good about what I have done.

This cognitive process is expressed aloud; the child repeats the steps one at a time, adding the specific instructions linked to the activity. This makes it easier for the children to learn the process while they are thinking about the particular situation.

This learning model, which focuses on a method of predicting various alternative actions rather than on a single response, helps the children generalize from one situation to another and strengthens the behaviour patterns both within and outside the context of the activities.

Steps in the Activities

Each activity is broken down into the same steps: reviewing the assigned homework or exercises, introducing the activity, modeling and guiding a practice session, and presenting ways to generalize what was learned. Finally, reinforcement strategies based on the principles of social learning are presented.

These steps were discussed in detail in the introduction to the program for learning relationship skills and so are covered only briefly here.

Reviewing the homework

The facilitator goes over how the children put into practice the behaviour covered in the previous activity, focusing both on how each child chose an alternative behaviour in the situation and what appropriate behaviour was selected.

Introducing the topic

The facilitator presents situations in which the children might have to exercise the target behaviour, discusses its advantages in real-life situations, and provides a detailed description of the behaviour.

The children provide examples of similar situations from their own experience.

The facilitator may write on the board a description of the behaviour so that all of the children can read it.

Demonstrating the steps

Using one of the situations that came up during the introduction, the facilitator illustrates the series of steps involved in clarifying and choosing an action.

A symbolic character is used to help the children understand those steps: the example below is taken from the "Think Aloud" program developed by Bash and Camp (1980). The character invites the children to put into practice each of the steps and provides input on the different alternatives for action in that situation. He invites the children to work as a group to assess the consequences of these alternatives and to choose an appropriate behaviour, which will then be modeled in a role play.

With the help of another adult or one of the children, the facilitator models the chosen alternative in an initial role play, thinking out loud in order to provide verbal references that clearly identify each of the steps being demonstrated.

Practising

The children take turns playing out the chosen behaviours, first by repeating the initial scenario, then by working through other situations.

The main actor can begin by identifying out loud the steps in the cognitive process, then go on to identify each corresponding step while acting out the scenario, or he can integrate the two processes at the same time.

During the final step, "I act", the children act out the appropriate behaviour based on the instructions provided by the facilitator.
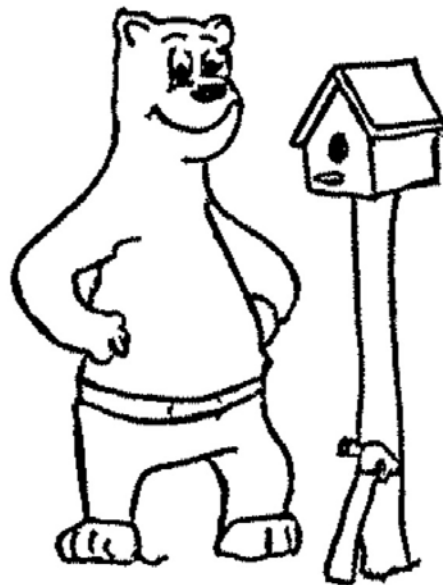
I identify

I think

I choose

**I act and feel good about
what I have done**

Bash, M., and Camp, B.W. (1980). Teacher training in the "Think Aloud" classroom program.

Feedback

The facilitator comments on each child's participation in the role-playing, praising the positive aspects and reinforcing the appropriate elements of the child's performance. The facilitator then invites the actor to do a self-assessment and say what he learned from the practice session. The facilitator takes this opportunity to stress what the child should continue doing in order to feel more comfortable in future interactions.

Generalization

As in the program for learning relationship skills, the facilitator helps the children plan how they will practise on their own what they learned in the activity. Depending on their level, the homework will vary in complexity and focus on different situations.

Once again, the facilitator tries to inform the people in the child's life (parents, teachers) of the "homework" they may be asked to become involved with. At all times, the facilitator insists on the importance of the children's personal motivation (being happy about themselves, feeling good, etc.) as a means of giving meaning to their new actions.

The reinforcement method is the same as that described in the previous program.

TO FOLLOW RULES AND INSTRUCTIONS
- ▪ I listen
- ▪ I check
- ▪ I reformulate
- ▪ I follow through

WHERE?

WITH WHOM?

Signature(s)

WHEN?

I write about what I practised:

_____

_____

_____

I had an excellent practice

I had a good practice

My signature: _____

Facilitator's reaction:

TO FOLLOW RULES AND INSTRUCTIONS

- **I listen**
- **I check whether I have understood**
- **I do what is asked**

I practise the activity by

- **Looking at the person who is speaking**
- **Speaking when it is my turn to speak**
- **Staying seated and remaining calm**
- **Eating without making a mess**

I will practise again tonight at suppertime
My signature _____

Parent's signature _____

Facilitator's comment:

Description of the Activities

The self-control program covers ten topics or activities divided into three main themes.

The first three activities focus on the behaviours that are valued in the school environment because they facilitate the achievement of academic tasks and positive interactions during academic pursuits. These behaviours are:

- *I pay attention, I listen.*
- *I obtain information before I act.*
- *I follow the rules and instructions for games, in the classroom, and at home.*

The next four activities deal with the topic of self-control, from the perspective of five different situations:

- *when the child needs to hold back (topic: I control myself)*
- *when the child is angry (topic: I'm angry, what do I do?)*
- *when the child is excluded, cut out (topic: When I am not wanted, when I am left out, what do I do?)*
- *when the child feels like attacking (topic: I feel like hitting someone… what do I do?)*
- *when the child is being mocked or teased (topic: I am being teased… I am being made fun of…what do I do?)*

Finally, the last two activities stress the positive consequences of self-control using certain prosocial skills. If the child has the tools to deal with his aggressiveness in an appropriate manner, he will be able to focus on other people in a more positive way, which brings us to the following topics: *asking forgiveness (apologizing) and expressing appreciation (paying a compliment).*

Activity 1 – I Pay Attention, I Listen

Making contact:

For the first activity, the time usually devoted to reviewing the homework is used to make contact with the group.

This initial contact with the group could include:
- words of welcome
- introduction of the participants and the facilitator
- overview of the goal and sequence of the activities
- discussion of the pacing, duration and location of the activities
- a brief period of exchange with the children to answer their questions and discuss their comments, etc.

Introducing the topic

The first activity deals with a behaviour that we have to practise regularly in our relationships with our teachers, our parents, and our friends. It is the behaviour of **listening** or **paying attention** to what people are saying when they talk to us.

It is important to listen and to show the other person that we understood him or her properly, and have therefore **listened well**. This is important because, when we listen well, we know exactly what we are being asked and also understand the information we may need. It is also pleasant for the person speaking to know that we am listening. Others will enjoy talking to us if they know that we listen to them.

There are many ways to show that we are paying attention to the person (adult or child) who is talking to us. When we recognize what is being said to us, we can show it with small gestures, by looking at the person who is speaking, through facial expressions, by smiling, by moving closer if we are far away, by turning towards the person who is talking to us. We can also make a comment or ask a question about what we have just heard.

Today, we are going to practise behaviours and ways of doing things that show that we know how to listen well. We probably all know lots of ways of showing that we know how to listen well, and we will be able to demonstrate them using the following small steps.

Note: Be very descriptive and concrete during this introduction and give the children opportunities to comment and provide examples showing the importance of the behaviour in their daily activities, with their teacher in the classroom, with their parents at home, and with their friends.

Demonstrating the steps

Situation modeled by the facilitator: On your way home from school, a friend tells you that a new slide has been set up in a park you don't usually play in, and your friend explains the best way for you to get there.

1. **I identify** that my friend is giving me information that interests me and I pay attention:
   - by moving closer or turning towards him
   - by looking at him
   - by following the gestures he is making
   - by stopping what I am doing.

2. **I think** about what I am being told:
   - by repeating what is being said in my head
   - by a sign of the head
   - by murmuring "unh hunh".

3. **I choose** what to do to LISTEN properly:
   - what are the best ways to listen and understand what the other person is telling me?

4. I do it and I feel good about myself:
- by taking action
- by telling myself that I made the right decisions to be able to understand what was said.

Note: By presenting and describing the steps, the children participate in an exchange (brainstorming) where their input is geared towards the behaviours that must be produced. Then, through role-playing, the facilitator models the situation and the process linked to the behaviour of **listening**, using the technique of thinking aloud. The facilitator may also present a flash card for each step during the role play to help identify and describe the steps.

Practising

The children take turns practising the behaviour through role-playing. The situation introduced above can be used along with other situations identified by the children themselves or taken from the examples below.

In the classroom: Your teacher gives explanations for a math exercise to the whole group.

With friends: A friend explains the rules of a new ball game in the schoolyard.

At home: My mother summarizes the first few minutes of a television program that I walk in on.

At home: During supper, my father tells me about activities that will take place at the arena on the weekend.

With friends: During lunch in the cafeteria, a friend tells the group about a movie he saw.

The role-playing session must illustrate the four steps of listening behaviour:

1. I identify that someone is talking or speaking to me.
2. I think about what is being said.
3. I choose what I am going to do to listen properly.
4. I do it and I feel good about myself.

Setting up the role-playing session

- A co-actor speaks to the main actor.
- The main actor exhibits the listening behaviours. Following the above steps, he identifies out loud the process by which he engages in the behaviour(s) in question.

Feedback

There is a short feedback session at the end of each role-playing session.

- The first reaction is given by the co-actor. Did he feel like he was being listened to? Why? What behaviour patterns did he perceive? Was it pleasant to talk to _____ under those conditions?
- The observers identify the behaviours linked to each step (the different steps of the process will have been written out on flash cards that were given out to the observers before the role-playing session).
- The facilitator provides reinforcement on the steps of the process and on specific aspects of the role-playing, commenting for example on the behaviours adopted, tone of voice, gestures, body language, facial expressions. The facilitator also gives reinforcement on all of the listening behaviours and attitudes manifested during the activity. The co-actor is also given reinforcement and praise for his cooperation and the assistance provided to the main actor.
- The main actor comments on the activity.

Homework

The facilitator helps the children identify exercises to practise the behaviour in the classroom, at home, or in their neighbourhood. He asks them to insert their homework sheet in their activity workbook.

Activity 2 – I Obtain Information before I Act

Reviewing the homework (I pay attention, I listen.)

The facilitator reviews with each child his experience of the behaviour dealt with in the last activity:

- What happened?
- What did the child do?
- What reaction did the child get from the other people involved?
- How did the child feel at the end of the situation?
- How can the child continue to practise this behaviour pattern?

The facilitator gives the child reinforcement (verbally and symbolically), in particular, on specific elements of the expected behaviour (listening = looking, etc.).

Introducing the topic

I obtain information before I act:

Today we will talk about the importance of **asking questions**, of obtaining information before we act, and about the types of questions to ask.

We usually ask a question when:

- we are confused because we don't know what to do

- someone has asked us to do something and we did not understood the request or fully hear it
- we need to know more before deciding what we are going to do…

In such cases, we must get more information, find out more, check our understanding by asking the other person. This can happen to us everywhere:

- at school: when the teacher gives us homework to do
- at home: when our mom asks us to do her a favour
- with friends: when they ask us to play with them or want to borrow something from us.

Suppose your friend asks you to go skating with him. Before you answer that you would like to go and can go, you will probably ask him:

- When do you want to go skating? (today, after class, after supper, Saturday morning)
- Where do you want to go skating? (at the park, at the arena, in the schoolyard, in the lane)
- Who will be going? (just the two of you, your gang of friends, his little sister)

The answers to all of these questions will help you decide whether you feel like going: they will also help you obtain permission from your mother (who will probably ask you the same questions!!)

Can anyone give an example of a situation in which he asked a question before acting?

- How did you go about it, what was the result, how did you feel, how did the other person react?

In summary, we see that **asking questions** can help us:

- understand better what has been said
- know exactly what you are being asked to do
- obtain an explanation
- learn something new
- make a decision about what you will say or do
- let the other person know that you are listening and interested.

By not obtaining information:

- you sometimes "miss" important things that you have not heard properly
- you might misunderstand what is expected of you and not do the right thing
- sometimes the person thinks you have understood, even if you haven't
- the person might wonder whether you were really listening… and what you have decided to do.

Description of the behaviour:

1. First, **I draw the attention** of the person I am talking to (I go up to the person, look at him in the eye; I raise my hand; etc.)
2. I use a **firm and polite tone of voice** (I speak loud enough to be heard, without yelling; I call the person by name, rather than saying, for example, "Hey, you!").
3. I formulate my question with **useful words**, such as why, when, with whom, do what, where? etc.).

Note: Use an example (preferably provided by one of the children) to remodel the way of asking a question.

Demonstrating the steps

Using the same example (or situation), ask the children to participate by contributing content elements for each step.

Situation modeled by the facilitator: In class, your teacher tells the entire class that the math homework has to be handed in by Friday morning. She says that you have to do the exercises on page 24 (e.g., 1, 2, 3). You open your book to page 24 and see that there are 5 numbers on that page (1, 2, 3, 4, 5).

1. I identify

First, you decide what more you want to know.

- It was noisy when the teacher gave out the homework assignment
- You did not hear properly and you are not sure exactly which numbers have to be done for Friday.
- You do not want to make a mistake and do your homework wrong.

You want to know whether you have to do numbers 4 and 5 too.

2. I think

> Then, you decide who to ask

- You know that the teacher does not like to repeat herself, and that she will probably say that you were not listening properly.
  You were listening, but…
  You're not sure.
  You could also ask your friend Charles, but he sometimes gets his homework wrong too.
  Ah! There's an idea: You could ask Annie: she's always on top of things.

> O.K., you are going to ask Annie because she can give you the right information in a way that is pleasant for you.

> You think of different ways of asking the question and you choose one.

- O.K., it seems to me that with Annie, I can simply tell her that I did not understand.
- I can ask her to repeat what the teacher said.
- I can ask her what numbers we have to do.
- I can ask her whether we also have to do numbers 4 and 5.
- Here, you think of the words you will use: "Is it a question? Is it clear? Am I asking nicely?"

> O.K., you say to yourself that you will tell her that you did not understand the homework that the teacher gave, and you will ask her if you also have to do numbers 4 and 5.

3. I choose

> You choose the right time and place to ask your question.

- It's true that, if you do it now, during class, the teacher may think you're having fun and talking out of place…
- But if you wait too late, you may forget!
- You can wait until you are alone with Annie, or when the teacher has finished teaching the course…

> You decide to ask Annie just before going out for recess.

4. I act and I am pleased with myself.

You ask your question.

You go up to Annie and, looking at her, you say: "Hi Annie, I didn't understand the math homework just now: do we have to do numbers 4 and 5?"
"Thanks!"

Practising

1. The facilitator goes over the situation in a demonstration that:
   - ties together the series of steps by saying out loud the corresponding thoughts
   - clearly models the three characteristics of behaviour for asking a question.

2. Two children role-play the situation; they can change the way of responding but must include all of the characteristics of the modeled behaviour.

3. Then, the other children take turns role-playing based on other types of situations.

At home: Your father asks you to take your bath right after supper, but you usually watch TV at that time… you want to know why! You ask your mother if you can go skating with your friend, and she refuses.

At school: The teacher asks you to help repair books during recess. It's the first time the teacher has asked a student to do this, and you're not sure how to do it.

With your friends: Your buddy asks you to lend him your new robot. Before deciding whether to accept or not, what do you ask him?

Feedback

Here the facilitator uses the feedback procedures described in Activity 1:

- feedback by the co-actor
- feedback from the children, who say out loud the steps followed to highlight the three characteristics of the behaviour:
    • getting the other person's attention
    • speaking in a firm and polite tone
    • formulating a useful question.
- feedback from the facilitator
- comments by the main actor.

Homework

The facilitator helps each child prepare the homework sheet on identifying opportunities for asking a question to obtain more information.

The activity ends with a review of the group reinforcement method and of the results achieved by the children during the activity.

Activity 3 – I Follow Rules and Instructions in Games, in the Classroom, and at Home

Reviewing the homework: "I obtain information before acting."

- Focus on the behaviour for asking questions: eye contact and being near the person, firm tone of voice, appropriate questions.

Introducing the topic

I follow rules and instructions: There are many situations in which rules must be followed:
- When we walk down the street, we stay on the sidewalk and stop at red lights.
- When we play with friends, we decide how we are going to play, what rules we are going to follow: e.g., in dodge ball, when I give away the ball, I am out and I get sent to the field.
- There are rules to follow at home, too: the time to go to bed, when we can watch television later, etc.
- In the classroom, I raise my hand to speak. I wait my turn to speak, like in this group here.

Rules are there to:
- keep us safe
- help us get along together and avoid fights
- let us know what to do
- learn new ways of doing things.

Can you give an example of a situation in which you followed a rule? How did you feel?

Do you remember a time when you were playing with your friends and someone was not playing by the rules? How did you feel?

Description of the behaviour

It is important to learn to follow the rules and instructions we receive. That means:

- listening properly to the rule or instruction
- asking questions and checking whether we have heard and understood properly
- reformulating the rules or instructions in our own words
- following through with what is being asked.

<u>Demonstrating the steps</u>

Situation modeled by the facilitator: It is 2:30 pm. After recess, the teacher says: "It is time for gym, take your places in line."

1. I identify

I listen carefully to what is being said

- What have I just been asked to do?
  Ah yes! To go take my place in line.
- We are going to gym class.
- It is the last period of the day.

2. I think

If there is something that I have not understood, I ask a question to find out more.

- What do I have to bring? Are we coming back to the classroom after gym class?
- I must not forget my shorts and my running shoes.
- Take my place in line: O.K., I stay calm so I won't shove anyone.

3. I choose

I decide whether to follow these rules, and I let the other person know.

- I already have my running shoes on, I am going to ask the teacher whether I can stay here another 2 minutes.
- I have everything: my bag is ready for the end of class… I am going to take my place in line right away.
- I pick up my things and busy myself straightening my desk. I do not talk to anyone and I concentrate on what I am doing to do to get ready for gym class.

I repeat to myself the instructions to be followed.

I tell myself that I am going to take my place in line. I hope the teacher notices what a good job I have done.

4. I act and I am pleased with myself

I take action by doing what I am asked to do.

- I take my place in line.
- I am pleased with what I have done.

<u>Practising</u>

1. The facilitator demonstrates the steps and the behaviour.
2. Two children act out this situation in the first role play.
3. Other children experiment with other possible scenarios
    -   in the classroom: During the drawing activity, the teacher tells us to take one sheet at a time and trace three shapes in different colours.
    -   in the classroom: The teacher asks us to have a group discussion to organize games for recess.
        • We decide to break up into two groups (who goes in which team).
        • We decide what to play.
        • We set rules for ourselves.
    -   with friends: We play hockey together in the lane. We all agree on the same rules (where the goals go, the boundaries of the playing area, no hitting, etc.)
        We do not change the rules after the game starts.
    -   at home: I make a model airplane. I follow the instructions. My dad shows me how to use the new video machine.

<u>Feedback</u>

-   From the co-actor: How could he see that the actor understood the instruction and would follow it?
-   From the observers (children – facilitator): What did they notice in terms of behaviour? I listen, I check, I reformulate, I follow through.
-   From the main actor.

<u>Homework</u>

I follow rules and instructions
-   by listening to what I am being told
-   by checking whether I have understood
-   by reformulating the rules or instructions in my own words
-   by following through on what I am being asked to do.

Activity 4 – I Control Myself

<u>Reviewing the homework</u> (I follow rules and instructions)

The facilitator reviews, with each child, how he practised the behaviour dealt with in the last activity:
-   What happened?
-   What did the child do?
-   What reaction(s) was the child able to observe?
-   How did the child feel?
-   How can the child continue to practise this behaviour pattern?

Self-control. Today, we are going to talk about the importance of controlling ourselves (holding back) when we feel that we are getting angry.

Situations where we quickly get angry with a friend, our brother or sister, dad or mom, can happen fairly frequently. Sometimes we even get angry when there is no one else around. At those times, we may do or say things that are not nice, simply because we are angry. For example…
- at home, you knock over the glass of milk you have just poured for yourself
- a friend shoves you in line on the way to recess
- other children laugh at you because you put your sweater on backwards
- your dad postpones to tomorrow a trip to the movies that was scheduled for this afternoon.

When these situations occur, we often feel like letting go and showing our anger by yelling and getting all worked up. But we can find ways of stopping the "angry outburst" that is coming.

If you manage to calm down, you should be able to behave better in the situation that is upsetting you because the better you control yourself, the calmer you will be.

Description of the behaviours that help me control myself:
- I count to 10 before speaking or acting.
- I change places, I move away.
- I tell myself "stay calm".
- I talk to myself.

Demonstrating the steps

Situation modeled by the facilitator: I am playing "tag", and I have just been eliminated from the game because I have been caught. I am both disappointed and angry because I am the first one in the group to be "out".

1. I identify

I notice the clues that my body is giving me to let me know whether I am losing control.

- I am walking quickly towards the person who just tagged me.
- My fists are clenched.
- I am hot and tense.
- I am getting angry.

2. I think

about what happened to make me feel this way.

- I was eliminated from the game first.
- I am afraid that the others will laugh at me.
- I don't really like the player who tagged me. I think he cheated.

3. I choose

> one or more ways to avoid losing control and having an "outburst".

- I count to 10 before speaking or acting.
- I go sit on a park bench for a few minutes.
- I tell myself, "Don't get excited, don't get excited."
- I take two very deep breaths.

4. I act and I am pleased with myself.

> I do the best thing I can do in the situation, and I congratulate myself.

- When I pass the bench, I sit down and
- I say to myself: "Don't get excited, stay calm."
- I am pleased with myself.

Note: Using this situation, ask the children to contribute content elements to each step of the process. Then, if possible, incorporate these elements into the role-play modeling.

Practising

After the demonstration of the example by the facilitator, the children use role-playing to practise this or another situation using the "thinking aloud" technique.

In class: While I am drawing at my desk, another child goes by and bumps my desk, making all of my felt pens fall.

At home: I'm watching TV and my sister turns it off suddenly because she says it's time to go have supper.

With my friends: A buddy takes the ball I dropped while I was running.

Feedback

- Comments from the co-actor
- Comments from the observers about the identification of the steps in the process – body signals, reasons that would lead to a loss of control, available methods of self-control, use of these methods, their effect, etc.
- Feedback from the facilitator
- Comments from the main actor

Homework

The facilitator shows the children how to use the activity workbook to prepare for practising self-control.

Ask the children to identify situations in which they tend to become angry or impatient. And discuss some of the examples contributed by the children during the activity.

Review the reinforcement method.

Activity 5 – I Am Angry, What Do I Do?

Reviewing the homework (I control myself)

Introducing the topic

I can get angry, unhappy or furious because my [father/mother/sister] won't let me watch my favourite program on TV. You get angry sometimes too. How come?

Anger is a **normal** feeling that all of us have at one time or another. What do I do with this feeling? If I keep it inside for a long time, how will I feel? More and more angry, or very unhappy. So, it is better to show it, so that I will feel relieved.

Could my way of showing my feelings make the other person angry, hurt him or her, or make him or her unhappy? I have to learn ways of avoiding that, and of finding a solution that will be good for me and for the person who has made me angry.

When I get angry: description of the behaviour:

I get my anger out,
quickly
without bothering or hurting others.

Demonstrating the steps

Situation modeled by the facilitator: The teacher gives me back my math test. I got 6 right answers and 4 wrong answers.

1. I identify

How do I feel? Why? I tell myself.

- I am in a bad mood because I wanted to get everything right.
- I get a dark look in my eyes.

2. I think

- What do I do? - Talk about how I feel - Move away from what is making me angry - Do or think about something else.	- I feel like yelling, crying, tearing up my sheet of paper… - I go see the teacher: "I didn't expect this." - I say to my friend: "It's hard to take a bad grade." - I think about this morning, when the teacher praised me for my reading. - I ask to leave the classroom for a drink of water. - I close my eyes and count to 5. I take a deep breath.

3. I choose

to act in line with expected behaviour: I let my anger out quickly, without hurting others.	- Yelling in class will disturb the others. - It is not the right time to speak to my teacher or to my friend; it will have to wait until recess. - I need a solution before recess: I go out and calm down in the hallway.

4. I act and I am pleased with myself.	- I take a deep breath and I ask the teacher permission to go have a drink of water. She says yes. *way of asking: eye contact, clear, calm voice. - In the hallway, I pace a bit, I have a drink of water, I am ready to go back to class calmly. I congratulate myself: "You did a good job."

Practising

1. The facilitator does the demonstration.
2. Two children act out the behaviour.
3. The other children do role plays based on other scenarios.

Other possible scenarios:

With peers or siblings: Your brother takes some of the loose-leaf paper from the desk in your room without asking. You lend your robot to a friend for the day; he brings it back to you broken.

In the classroom: Your friend cannot find his eraser. He says he lent it to you and you never gave it back. You are sure you gave it back to him.

In the classroom: Your work is to draw the layout of your classroom with the doorways, windows, etc… you start over several times, but you can't seem to manage it. At the lockers, your friend closes the door hard and you get your fingers caught.

At home: You had plans to go play with your friends but your parents want to take you shopping. Your father promised he would go to your baseball game but he can't go see you play.

Feedback

1. The co-actor: Did he feel the actor's anger? Was it expressed in an acceptable manner?
2. The observers: Were the steps followed in order?
3. The main actor: Will I be able to use this solution in "real life"?

Homework

When I am angry,
      I get my anger out
      quickly
      without hurting others.

Activity 6 – When I Am Left Out, When I Am Not Wanted, What Do I Do?

Reviewing the homework (I am angry, what do I do?)

Introducing the topic

It is nice to have friends to play with. We feel proud when Mom asks us for help. We feel useful when the teacher asks us a favour.

What is the opposite of that? My friends play without me. Nobody asks my help. My parents do not notice when I do something right.

How do I feel? Sad, angry, disappointed. I feel all alone in my little corner. I sulk, I cry. I am left out, ignored, excluded. I am not wanted.

It is hard to take; I would much rather have people notice me, pay attention to me, invite me to join in.

So, how can I react? = description of the behaviour:
- I show that I am there, using words or gestures
  = I make my presence known.
- I say what I would like = I express my need.
- I keep control over my gestures and words.

Situation modeled by the facilitator: I am walking home from school with Mark and Frank; Mark says to Frank: "Don't forget to meet me at the park tomorrow at 1:00!"

1. I identify

> I ask myself the following questions:
> Are they forgetting me by accident?
> Are they not paying attention to me?
> Am I not wanted?

- Once again, Mark and Frank have a project together that does not include me.
- Did they say they didn't want me around? No, they didn't think about me.

2. I think

> What do I do?
> Wait!
> Leave
>
> Tell them how that makes me feel
> Ask to participate

- I will wait for them to invite me.
- I walk more quickly, leaving them behind.
- I say: "What about me! I'm really disappointed that you didn't invite me."
- I say: "You're going to the park! Can I come too?"

3. I choose

> a way of showing that I am there, saying what I want, and keeping control over my gestures and words.

- Wait! I may wait too long, and they will not know what I want.
- Leave them behind… maybe they will call me to come back, ask me what's wrong.
- Say that I am unhappy… they will call me a cry-baby.
  I can show that I have heard them and that I'm interested.

4. I act and I am pleased with myself.

- Instead of sulking, I get enthusiastic, "The park is fun!" I add what I would like, "I'd like to go with you. How about it"
- Wait and see what happens (acceptance or refusal), but without insisting. The most important thing was to ask.
- I congratulate myself. Instead of letting it drop, I showed them what I wanted.

1. Demonstration by the facilitator
2. Demonstration by the two children
3. Role-playing with other scenarios

In the classroom: Responsibilities have been changed three times, and I still haven't been chosen.

With peers: Everyone can choose a game for free time; I propose a game of checkers and ask for a partner, but no-one wants to play. In dodge ball, neither team picks me because I drop the ball often.

At home: After supper, I clear everyone's plates and my parents don't even notice. The whole family is watching TV and my little sister sits on my father's lap; I think everyone pays more attention to her than to me.

Feedback

1. The co-actor(s): Did they understand what the main actor wanted?
2. The observers and the facilitator: Were the steps followed?
3. The actor says what he thinks.

Homework

When I am left out, when I am not wanted:
- I show that I am there.
- I say what I would like to do or have.
- I keep control over my gestures, my words.

Activity 7 – I Feel Like Hitting…What Do I Do?

Reviewing the homework (When I am not wanted, what do I do?)

The facilitator reviews, with each child, an example of the behaviour:
- What happened?
- What did the child do?
- What reaction did the child get from the other people involved?
- How did the child feel at the end of the situation?
- How can the child continue to practise this behaviour?

The facilitator gives the child reinforcement (verbal and symbolic), in particular, with respect to specific elements of the expected behaviour.

Introducing the topic

I feel like hitting. Today, we will talk about the times when we feel like pushing our neighbour or hitting our sister, for all kinds of reasons. It happens to everyone, and must have happened to you too.

Those moments come after a run-in, when I have been pushed, because I've been hurt or because someone has broken an object that I really liked.

When you're feeling that way is the time to think about the fact that I feel like hitting, because once I have gone ahead and hit, it brings all kinds of consequences that can be unpleasant, such as a fight, losing a friend, being punished, being unhappy…

It is therefore important to find something to do during those moments so that I can start feeling better despite my desire to hit, because I know ways of keeping myself from hitting and of finding a happier solution that is more respectful of others.

Description of the expected behaviour. When I feel like hitting, it is time to:
1. **STOP!** I stop (pause for a few seconds = take three deep breaths, count to 10…)
2. I say to myself: "No, I will not hit." I repeat to myself "Calm down."
3. I choose another way that will not hurt the other person.

Children's participation:
- Can anyone give me an example of a situation in which they felt like hitting?
- What did you do? – What was the result? – How did you feel? - How did the other person react?

Note: Here, go over the examples provided (preferably by the children) to remodel this way of doing things when a child feels like hitting.

Demonstrating the steps

Situation modeled by the facilitator: A classmate bumps into me as he rushes past, and I hurt myself by banging into the locker. What do I do in a situation like this?

1. I identify

First I have to know what is going on.

- By asking myself questions: It hurt me, but did he do it on purpose, or was it an accident?
- I can feel my fists and teeth clenching.
- He is going to get it! I feel like beating him up.

2. I think

What do I do?

- I feel like beating him up, hiding in my locker, falling on the ground and crying, yelling at him to be careful.

- Talk about how I am feeling
- I go see the teacher and say that he pushed me on purpose.

- Do or think about something else
- I think that he is usually careful towards me.
- I take a deep breath.

- Move away from the person I feel like hitting
- I close my eyes and count to 5.

3. I choose

> based on expected behaviour patterns:
> - I STOP.
> - I repeat to myself, "No, I will not hit him."
> - I choose a way of dealing with the situation that will not hurt the other person.

- I could insult him or yell at him… but that would cause a problem.
- I could say nothing, but it really hurts.
- I'll show him that I can push him too… but it will cause a fight.
- I say to myself: "He didn't do it on purpose…"
- I take a deep breath and I tell him, without yelling, that he hurt me.
- I call the teacher and show her how it happened.
- I keep from yelling by repeating: "No, I will not beat him up" but I will tell him how I feel.

4. I act and I am pleased with myself.

> I go tell him

- I take a deep breath and tell him, without yelling but in a clear voice, that he pushed me, that it hurt, and that I would like him to be more careful next time.

> I feel good about what I have done

- I walk around a bit to get rid of the pain and to stay calm. I congratulate myself for being able to stop and not beating him up, but instead telling him what happened without getting into a fight. "Bravo! You did a good job of holding yourself back. You should be proud of yourself."

Practising

1. The facilitator goes over the situation in a demonstration that:
   - ties together the various steps by saying out loud the corresponding thoughts
   - clearly models the expected behaviour:
     a. I stop,
     b. I say to myself, "I will not hit."
     c. I choose another way of dealing with the situation, one that will not hurt the other person.

2. Demonstration by two children using the same role-playing scenario, with the option of changing the chosen way of doing things, as long as the characteristics of the modeled behaviour are expressed:
   a. I **stop.**
   b. I repeat to myself: "No, I will not hit him."
   c. I choose another way of dealing with the situation that will not hurt others.

3. Then the other children perform other role-playing scenarios, based on other types of situations.

At school:
- I am jostled by a classmate who butts in front of me in line.
- A classmate steps on my foot and it hurts.
- My neighbour takes my new robot without asking my permission, and breaks it.
- My classmates take my toque off in the bus and start throwing it to each other, and I can't catch it.
- A student from an upper grade trips over me and says to me: "Be careful, why don't you!" waves his fist at me and pushes me again.

With my friends:
- My friend pulls on my coat sleeve constantly, even though I have told him several times to stop.
- A friend is playing ball and refuses to accept that he has been caught out; he stays in the game.

At home:
- My brother stands in front of the TV while I am watching my favourite show.

Feedback

The facilitator goes over the feedback procedures described in activity No. 1, i.e.:
- the co-actor's reaction
- the children's reaction to each step, reinforcing the series of steps by thinking aloud and highlighting the characteristics of the behaviour.
    a. I **stop.**
    b. I repeat to myself: "No, I will not hit him."
    c. I choose a way of dealing with the situation that does not hurt the other person.
- feedback from the facilitator
- comments by the child-actor

Homework

The facilitator helps each child prepare the homework sheet on identifying opportunities for practising the behaviour learned in the activity.

Activity 8 – I Am Being Teased… I Am Being Made Fun of… What Do I Do?

Reviewing the homework: (I feel like hitting… what do I do?)

Introducing the topic

I am being made fun of… what do I do? We sometimes get teased, maliciously. Then we say that we are being made fun of because it hurts, makes us angry, is stressful. Have you ever seen the movie *La Guerre des tuques* (in English, it is titled *The Dog Who Stopped the War*)? Do you

remember the little boy called "Four Eyes"? When people yell names at us, or when our father repeats like a parrot everything we say, we feel like we are being taken for a fool…

We often feel like we want it to stop fast. Some types of teasing are easier to take, and can easily be turned into a joke or something to laugh at.

But when we are made to feel foolish, made fun of, when it isn't easy to take, what can we do?

At those moments, our fists are clenched, our teeth are clenched, and we feel like screaming at the person to stop. Sometimes we are sad and feel like crying; it can also make us angry. We may feel like hitting, and could lose a friend… It is unpleasant to be made to feel foolish; we can do something to feel better, but what?

Description of the expected behaviour:

When I am being made fun of, it is time to:
1. show that I have caught on, i.e., that I am asserting myself, doing something
2. answer that I do not like it
3. keep control over my gestures and my words, i.e., without counterattacking.

1. I show that I have understood:
   - physically with a look, with body language
   - by shrugging my shoulders (with facial expressions) and by going away (ignoring it).

2. I answer that I do not like it:
   - by saying so
   - with a remark like, "You think you're so funny."
   - with a cold look
   - by my tone of voice.

3. I keep control over my gestures and my words:
   - without being unpleasant
   - without making fun of the other person in return
   - without counter-attacking
   - without making the same type of comeback or replying in the same way
   - by using a calm, clear tone of voice.

The facilitator asks the children to illustrate the following situations: Can anyone give an example of a situation in which he felt like he was being made fun of?
   - What did you do?
   - What was the result?
   - How did you feel?
   - How did the other person react?

Using the example (or situation), ask the children to participate by contributing content elements for each step.

Situation modeled by the facilitator: I just got a hair cut that I like. When one of my buddies sees me, he says: "Where did you come from?" as if to laugh at me.

1. I identify

| First I have to know what is going on. |

- By asking myself questions: Is it a joke or is he making fun of me?
- How do I feel? Do I find it funny? Does it hurt me or does it make me angry?

2. I think about

| What I can do |

- I ignore him and pretend I didn't hear him.
- I jump on him and hit him.
- I look at him, shrug my shoulders and walk away.

| What I can say |

- I say to myself: "Another joke…" and I laugh about it.
- I calmly tell him that it hurts to say that and that I don't find it funny.
- I yell at him to shut up.
- I make fun of him in return: "You haven't looked at yourself with your teeth all crooked."

3. I choose

| I choose to show that I do not like it, but I keep control over my gestures and words. |

- I will show him, by shrugging my shoulders and looking him in the eye… he'll see that I don't like what he has said.
- I could yell at him, but he will want to fight, and then I'll have to hit him… and that is not a good and pleasant solution.
- I could make fun of him in return, to let him know that I can do it too, but that will only add to the trouble.
- I could leave and let him fool around by himself.
- I will tell him calmly but clearly, shrugging my shoulders, "You may find it funny, but I don't like it." And I will walk away.

4. I act and I am pleased with myself.

$\boxed{\text{I will tell him}}$

- I stop, I look at him seriously and I tell him clearly and gently: "You may find that funny, but I don't."
  Then, I go join Paul, who is standing a little further ahead.
- That way, I have not kept the hurt inside, and there has been no fight because of it. I feel good about myself because I let him know that I didn't like it and I stayed calm. Way to go!

Practising

1. The facilitator goes over the situation in a demonstration that:
   - ties together the series of steps by saying aloud the corresponding thoughts;
   - clearly models the expected behaviour:
     a. I show that I have understood.
     b. I answer that I do not like it.
     c. I keep control over my gestures and words.

2. Demonstration by two children using the same role-playing scenario, with the option of changing the chosen way of doing things, as long as the characteristics of the modeled behaviour are expressed:
     a. I show that I have understood
     b. I answer that I do not like it
     c. I keep control over my gestures and words.

3. Then the other children perform other role plays based on other situations, for example:

   At school: A classmate hides my homework notebooks or my clothes and refuses to say where… I offer to help my teacher because I like to, and a classmate says "teacher's pet!" The teacher corrects me and some of my friends say "Ah ha!" to make fun of me.

   With friends: I am being called names. A buddy keeps repeating non-stop: "You're a useless goof, you're a useless goof."

   At home: My brother (or father) repeats everything I say like a parrot.

Feedback

   The facilitator goes over the feedback procedures described in activity No. 1, i.e.:
   - the co-actor's reaction
   - the children's reaction to each step, reinforcing the step sequence by thinking aloud and highlighting the characteristics of the behaviour.
     1. I show that I have understood

2. I answer that I do not like it
3. I keep control over my gestures and words.
   - feedback from the facilitator
   - comments by the main actor

<u>Homework</u>

The facilitator helps the children prepare the homework sheet that they will use to identify opportunities for practising the behaviour learned in the activity.

<u>Activity 9 – I Apologize</u>

<u>Reviewing the homework</u> (I am being teased, what do I do?)

The facilitator goes over the homework sheet with the children and gives them reinforcement on the behaviours they were able to practise.

<u>Introducing the topic</u>

*Ask questions to arrive at a **definition** of apologizing:* What does apologizing mean? When do we apologize? Have you ever apologized (or received an apology)? What were the circumstances (parents, friends, teachers)? Was the other person happy that you apologized?

So, yes it is important to apologize when we have done something that is not nice, or have said something unpleasant or hurtful, or something that has made someone sad or upset (parents, friends, teachers).

How do we apologize? When we apologize, we say things like:
   - (Name), I apologize for saying something that made you angry.
   - (Name), I apologize for calling you names.
   - (Name), I'm sorry I got angry at you and I apologize.
   - (Name), I apologize for breaking your toy and I will try to repair it.
   - We can also carry out actions to apologize, such as writing a note or a letter, or making a drawing as an apology.

So, it is important:
   - to look at the person to whom we are apologizing
   - to speak clearly and gently
   - to **say** (or write) **the name** of the person to whom we are apologizing
   - to **say "I"** because I am the one apologizing, not someone else (sign your name if it is a drawing or letter)
   - to say what we are apologizing for: the other person has to know what we are apologizing for.

Demonstrating the steps

  Situation modeled by the facilitator: Suppose I am in class, and I get up, pushing my chair against Benoit's desk. It makes his desk move while he is drawing (or another scenario proposed by the children).

1. I identify

> I ask myself: what has happened. Did I bother or hurt someone? Should I apologize?

- Oh! Benoit does not look happy, he looks like he's angry at me.
- I made his desk move, and he is drawing.
- I think I was careless and I should apologize.

2. I think

> What can I do or say to apologize? How and when?

- I can say: "I apologize" and then "Bye".
- I can put his desk back in the right place and explain what happened.
- I can write him a note: "I apologize" and sign my name so he will know it's from me.
- I can tell him, looking at him in the eye and using a gentle tone: "Listen, Benoit, I want to apologize for making your desk move. I'll be more careful next time."
- I can do it right away or after class.

3. I choose

> what to do, when, and the best way to apologize.

- I choose to say: "Listen, Benoit, I want to apologize for making your desk move. I'll be more careful next time. Do you accept my apology?"

4. I act and I am pleased with myself.

- Listen, Benoit (looking him in the eye and using a gentle tone of voice you apologize), I am pretty pleased with myself. It was a good idea to apologize.

Practising

1. Two children act out the scenario again with other solutions, stressing:
   - each of the steps
   - eye contact
   - tone of voice
   - words or gestures used
   - reasons for the apology.

2. Role-playing with different scenarios
   - I yelled a name or names at my friend "stupid idiot, little cry baby…" He is sad, (in the school yard, on the way home from school, playing with him in my backyard).
   - I shoved, pushed another child in class when the bell rang – running to get dressed – and he dropped all of his crayons.
   - I said something hurtful or anger-provoking to my father or my mother: "You're not nice", because he(she) did not want to buy me a toy.
   - I arrived at school late one morning: the teacher did not like it.
   - I fought with my sister – and she is crying.

Feedback

1. The co-actor: How did he receive the apologies? Were they expressed properly?
2. The observers: Were the steps followed?
3. The main actor: Will I be able to use this solution in real life?

Homework

I apologize.
I say the person's name and look at him while I apologize.
I say why I am apologizing.
I say my apology in a clear, gentle voice.

Activity 10 – I Pay a Compliment

Reviewing the homework (I apologize)

   - Look over the homework sheets.
   - Ask questions: You apologized to _____.
                        What had you done?
                        How did the person react? (happy or unhappy)
                        And how did you feel after apologizing?
                        How did you do it? (eye contact, words, used, tone of voice, etc.)
   - Provide reinforcement.

Introducing the topic

Use questions like the following to come to a definition.
   - What is a compliment? (help by giving examples)
   - What can we compliment people on? (appearance, talents, achievements, performance, etc.)
   - Have you ever received a compliment? Give an example.
   - Did you like it?

Since they make people happy, **it is important to pay compliments**. This means we say or do something gentle and nice for someone to show them that we appreciate them, that we love them, or that we are happy about what they do for us or who they are.

How do we pay a compliment? We pay a compliment with phrases like:
- ____, I like you because you always speak nicely to me.
- ____, I like you because you play with me without fighting.
- ____, I would like to tell you that you have a nice smile.
- ____, I would like you tell you that I find you very nice because you help me erase the blackboard.
- ____, I like your sweater, it's nice.

So, it is important:
- to say the person's name when you pay a compliment
- to say "I", because I am the one paying the compliment (identify yourself)
- to say something nice
- to say why
- to look at the person I am complimenting
- to speak clearly and in a gentle tone
- to be sincere and friendly
- to say something that is true.

Today, we are going to practise how to pay a compliment, what to say, and what to do.

Demonstrating the steps

Situation modeled by the facilitator: Today is the last activity, and I would like compliment each of you. And since it is the last activity, you can also all compliment each other on your participation.

1. I identify

- What is happening?
- What is the situation?
- Should I pay a compliment?

- It's the last activity and I would like to compliment each of you…

2. I think

- What can I say?
- When will I do it?
- How?
- What will I compliment them on?

- I can say: Chris, I like your smile.
- Yvon, I really appreciated your participation.
- Benoit, I like the way you dress.
- Mathew, I like being with you because you listen well and you look at me right in the eyes.
- How I can say it: sincerely, in a friendly way, seriously (it's better with a smile); touching his shoulder (not necessary if I am looking at him).
- When? Right away.

3. I choose

> the best way of paying my compliment.

- I choose to say the compliment right away because tomorrow will be too late, this is the last activity, and I will not see them again or I will forget.
- I will tell them the truest thing about them.
- Christian, I like your smile.
- Yvon, I want to tell you that I enjoy your company because you are well-behaved and you listen well.
- Martin, I would like to tell you that you always speak clearly.
- Mathew, I would like to tell you that you always do your best to look at people in the eye.

I will pay each of them in turn a compliment, with my best smile and a gentle voice loud enough for them to hear me.

I am ready to act.

4. I act and I am pleased with myself.

- I am pleased with myself. I did a good job. I spoke clearly and I looked at everyone in the eye with a big smile. I had the courage to pay a real compliment in the right way.

Practising

- The facilitator compliments the children one after the other.

- He invites the children to compliment each other on their participation in the activity.

Other possible scenarios:
- ـــــ has made a nice drawing or craft.
- ـــــ is well dressed, he has a new coat and you see him in the schoolyard at recess.
- Your mother helps you often with your homework and you want to pay her a compliment: she is very patient.
- Your friend ـــــ got a good grade in French.
- Your mother made your favourite dessert.
- On your way home from school, you see ـــــ helping a younger child who fell down.
- Your teacher has a new dress.
- Your mother made a delicious supper.
- Your friend ـــــ has a new bicycle.
- Your brother or sister gives you part of his/her snack when you get home from school.

<u>Feedback</u>

The facilitator provides reinforcement to the children in their role-playing.

At each step:
- eye contact
- tone of voice
- the compliment chosen: the real one
- smile
- a sincere and friendly look.

The facilitator asks the person who received the compliment how he feels.

<u>Homework</u>

- I pay a compliment.
- I say the name of the person I want to compliment and I look at him or her.
- I say a compliment or something nice.
- I say it in a friendly way, with a clear, gentle voice.

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Appendix 1

Social Behavior Questionnaire
Teacher's Report Form (Kindergarten)

Richard E. Tremblay, and Lyse Desmarais-Gervais

and

The Preschool Behaviour Questionnaire:
Stability of its factor structure between cultures, sexes, ages and socioeconomic classes

Richard E. Tremblay, Lyse Desmarais-Gervais, Claude Gagnon, and Pierre Charlebois[1]

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[1] Tremblay, R. E., Desmarais-Gervais, L., Gagnon, C., & Charlebois, P. (1987). The Preschool Behaviour Questionnaire: Stability of its factor structure between cultures, sexes, ages and socioeconomic classes. *International Journal of Behavioral Development, 10*(4), 467-484.

SOCIAL BEHAVIOR QUESTIONNAIRE
TEACHER'S REPORT FORM (KINDERGARTEN)

Child's permanent code: ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜ ID: ⬜⬜⬜⬜ (1-17)

Child's date of birth: ⬜⬜ ⬜⬜ ⬜⬜⬜⬜ (18-25) Sex: M F (26)
　　　　　　　　　　　　day　month　year

School code: ⬜⬜⬜⬜⬜⬜ (27-32) Classroom: ⬜⬜ (33-34)

Following is a series of descriptions of behavior often shown by preschoolers. After each statement are three columns, "Doesn't Apply", "Applied Sometimes", and "Certainly Applies". If the child shows the behavior described by the statement frequently or to a great degree, place an "X" in the appropriate circle "Certainly Applies". If the child shows behavior described by the statement to a lesser degree or less often, place an "X" in the appropriate circle "Applies Sometimes". If, as far as you are aware, the child does not show the behavior, place an "X" in the appropriate circle "Doesn't Apply".

Please put ONE "X" for EACH statement.

	Doesn't apply 1	Applies sometimes 2	Certainly applies 3	
1. Restless. Runs about or jumps up and down. Doesn't keep still	◯	◯	◯	(35)
2. If there is a quarrel or dispute will try to stop it	◯	◯	◯	(36)
3. Squirmy, fidgety child	◯	◯	◯	(37)
4. Destroys own or others' belongings	◯	◯	◯	(38)
5. Offers to share materials being using in a task	◯	◯	◯	(39)
6. Fights with other children	◯	◯	◯	(40)
7. Will invite bystanders to join in a game	◯	◯	◯	(41)

		Doesn't apply 1	Applies sometimes 2	Certainly applies 3	
8.	Not much liked by other children	○	○	○	(42)
9.	Will try to help someone who has been hurt	○	○	○	(43)
10.	Is worried. Worries about many things	○	○	○	(44)
11.	Tends to do things on his own, rather solitary	○	○	○	(45)
12.	Apologises spontaneously after a misdemeanour	○	○	○	(46)
13.	Irritable, quick to "fly off the handle"	○	○	○	(47)
14.	Shares out sweets or extra food	○	○	○	(48)
15.	Appears miserable, unhappy, tearful, or distressed	○	○	○	(49)
16.	Is considerate of the teacher's feeling	○	○	○	(50)
17.	Has twitches, mannerisms, or tics of the face and body	○	○	○	(51)
18.	Stops talking quickly when asked to	○	○	○	(52)
19.	Bites nails or fingers	○	○	○	(53)
20.	Spontaneously helps to pick up objects which another child has dropped (e.g. pencils, books, etc.)	○	○	○	(54)
21.	Is disobedient	○	○	○	(55)
22.	Has poor concentration or short attention span	○	○	○	(56)
23.	Takes the opportunity to praise the work of less able children	○	○	○	(57)
24.	Tends to be fearful or afraid of new things or new situations	○	○	○	(58)
25.	Shows sympathy to someone who has made a mistake .	○	○	○	(59)
26.	Fussy or over-particular child	○	○	○	(60)
27.	Tells lies	○	○	○	(61)
28.	Offers to help other children who are having difficulty with a task in the classroom	○	○	○	(62)
29.	Has wet or soiled self this year	○	○	○	(63)

		Doesn't apply 1	Applies sometimes 2	Certainly applies 3	
30.	Helps other children who are feeling sick	◯	◯	◯	(64)
31.	Has stutter or stammer	◯	◯	◯	(65)
32.	Has other speech difficulty	◯	◯	◯	(66)
33.	Can work easily in a small peer group	◯	◯	◯	(67)
34.	Bullies other children	◯	◯	◯	(68)
35.	Comforts a child who is crying or upset	◯	◯	◯	(69)
36.	Inattentive	◯	◯	◯	(70)
37.	Is efficient in carrying out regular tasks such as helping with school milk	◯	◯	◯	(71)
38.	Doesn't share toys	◯	◯	◯	(72)
39.	Settles down to work quickly	◯	◯	◯	(73)
40.	Cries easily	◯	◯	◯	(74)
41.	Blames others	◯	◯	◯	(75)
42.	Will clap or smile if someone else does something well in class	◯	◯	◯	(76)
43.	Gives up easily	◯	◯	◯	(77)
44.	Volunteers to help clear up a mess someone else has made	◯	◯	◯	(78)
45.	Inconsiderate of others	◯	◯	◯	(79)
46.	Tries to be fear in games	◯	◯	◯	(80)
47.	Kicks, bites, or hits other children	◯	◯	◯	(81)
48.	Stares into space	◯	◯	◯	(82)

The Preschool Behaviour Questionnaire: Stability of its factor structure between cultures, sexes, ages and socioeconomic classes

R. E. Tremblay, L. Desmarais-Gervais, C. Gagnon and P. Charlebois

ABSTRACT

The Preschool Behaviour Questionnaire has been widely used in North-America to study social competencies and behavioural problems of preschool children. The 30 item rating scale was created by Behar and Stringfield (1974) as an adaptation of Rutter's (1967) Children's Behaviour Questionnaire intended for elementary school children. In their original study Behar and Stringfield proposed a three-component solution for their data: hostile-aggressive, anxious-fearful, hyperactive-distractible. Most studies using the Behar Preschool Behaviour Questionnaire, (B-PBQ) have been using this three-component solution. Fowler and Park (1979), after a study of a "normal" population sample, concluded that a two-component solution (aggressive-hyperactive-distractible, anxious-fearful) was a better approximation to simple structure and more easily interpretable. They also concluded that the two-component solution was stable across sexes, but questioned the stability for "populations differing significantly in socioeconomic or ethnic composition". This study addresses the "simple structure" problem and the "stability of structure" problem for the B-PBQ. Four different samples ranging from $N = 383$ to $N = 1161$ were assessed in francophone schools in Montréal. Results of principal component analyses compared to Behar and Stringfield's data as well as Fowler and Park's data lead to the following conclusions: a two-principal-component solution has a simpler structure and is easier to interpret with reference to Rutter's Children's Behaviour Questionnaire; the two-component solution is stable across sexes, ages, socioeconomic populations and cultures. The Preschool Behaviour Questionnaire paired with the Children's Behaviour Questionnaire should be suitable for longitudinal and cross-cultural studies of social competencies from preschool to junior high school.

INTRODUCTION

More than 10 years ago Behar and Stringfield (1974) published data from a questionnaire they had created to assess preschool children's behaviour problems. The questionnaire was an adaptation of Rutter's (1967) Children's Behaviour Questionnaire built for rating primary school children's behavioural problems by teachers. Behar and Stringfield's version (B-PBQ) seems to have gained wide acceptance among North American investigators interested in assessing preschool children's behavioural problems or social competence (Campbell & Cluss, 1982; Erickson, Sroufe, & Egeland, 1985; Kinard & Reinherz, 1984, Rubin & Clark, 1983; Tremblay & Baillargeon, 1984). Rutter's version has also been used in Italy (Zimmerman-Tansella, Minghetti, Tacconi, & Tansella, 1978), in France (Dumaret, 1979; Duyme, 1981), in New Zealand (McGee, Williams, & Silva, 1985) and in England (Berg, Consterdine, Hullin, McGuire, & Tyrer, 1978; Berg, Goodwin, Hullin, & McGuire, 1983; Kolvin, et al., 1977; Weir, Stevenson, & Graham, 1980).

Behar and Stringfield presented data from a principal component analysis showing that the questionnaire had three main components: hostile-aggressive, anxious-fearful and hyperactive-

distractible. A few years later Fowler and Park (1979) presented data showing that the questionnaire for girls as well as for boys had two components: aggressive-hyperactive-distractible, anxious-fearful. More recently Hoge, Meginbir, Khan and Weatherall (1985) showed with a multitrait-multimethod analysis of data, from normal children aged three and a half to four and a half, that there was no support for the validity of the hyperactive-distractible component. Some North American scientists use Fowler and Park's two components (Kinard & Reinherz, 1984) but most presently using the B-PBQ tend to use Behar and Stringfield's original three components (Bates, Maslin, & Frankel, 1985; Campbell & Cluss, 1982; Rubin & Daniels-Beirness, 1983; Tremblay & Baillargeon, 1984). In Europe two sub-scores (anti-social; neurotic) are usually generated from Rutter's (1967) version.

This state of affairs does not facilitate comparison of results between studies and should be remedied since the questionnaire's acceptance by investigators of different cultures working from preschool to high school could contribute to cross-cultural studies of children's behavioural problems and social competence.

Fowler and Park proposed that the difference in the factor structure obtained in their study compared to Behar and Stringfield's is due to a difference in the populations. Fowler and Park's subjects (349 girls and 352 boys) were kindergarten children attending regular classrooms in a middle-size community in the northeastern United States. Behar and Stringfield's sample *(N =* 598) had a majority of "normal" children attending preschool classrooms in North Carolina and Oregon but 21.4% of the males and 12% of the females were chosen to constitute a sample of emotionally disturbed children. Another major difference between the samples is the age variable. The mean age of Fowler and Park's sample was 59 months with a very small standard deviation (4 months for boys and 3.5 months for girls). In Behar and Stringfield's sample 20% of the children were aged three, 31% were aged four, 36% were aged five and 13% were aged six. Although there were no age differences in mean score on each subscale and the total, differences in ages between samples may affect the principal component structure (see Rubin, Moller, *& Emptage, 1985).

Fowler and Park showed that results obtained for one sample of normal girls and boys when using both the principal component method and the maximum likelihood method were similar. They questioned whether the structure they obtained was stable enough to be replicated "across populations differing significantly in socioeconomic or ethnic composition" (Fowler & Park, 1979). We have been using the B-PBQ to assess preschool children in francophone schools in Montréal. Four different studies of more than 3000 children document the stability of the B-PBQ principal component structure across sex, age, socioeconomic groups and cultures.

METHOD

Study 1

Each study was done in kindergarten classes of Montréal's Catholic School Board in late spring (May and early June). In Study 1 we chose a random sample of schools in low socioeconomic areas offering both kindergarten classes for four year olds and classes for five year olds; we also chose a random sample of schools in middle and higher socioeconomic areas offering kindergarten classes only for five year olds. Kindergarten classes for four year olds are

offered only in low socioeconomic areas. A total of 747 children were assessed by their teachers from 40 different classes and 13 different schools. Response rate by teachers was 82%. Boys and girls were evenly distributed (girls = 51.7%; boys = 48.3%), 82.2% were from five year old classes (50.8% were six years old, 43.2% were five years old, 6% were four years old) and 92% were white (7.4% were black). Like Fowler and Park (1979) we dropped two questions from Behar and Stringfield's questionnaire, one dealing with sexual behaviour and one asking for a global evaluation of the child's maladjusted behaviour.

Study 2

In Study 2, 825 immigrant children in kindergarten classes of Montréal's catholic school board were assessed by their teachers. These classes are French immersion classes for immigrant children. None of the children in these classes was francophone. We randomly chose half of these classes for the study ($N = 50$). The response rate from teachers was 84.8%. Boys represented 52.1% of the sample while girls represented 47.9%. Twenty-six per cent (26.4%) of the sample were four year olds, 52.5% were five year olds and 21.1% were six year olds. Most of the sample was white (76.1%); 13.7% were black and 10.1% were oriental.

Study 3

In Studies 3 and 4 only boys were assessed for a longitudinal study of boys' aggressive behaviour during primary school. For Study 3 each kindergarten teacher in schools of two administrative regions of the Montréal catholic school board were asked to assess all the boys in their class whose parents were both francophone and born in Canada; 383 boys were assessed (mean age = 72.7 months; S.D. = 4.34).

Study 4

In Study 4 the teachers of kindergarten classes in all the Montréal catholic school board schools located in low socioeconomic areas of Montréal *(N = 61)* were asked to rate all boys in their classes whose parents were both francophone and born in Canada. The response rate was 85% and 1161 boys were assessed (mean age = 73.5 months; S.D. = 3.54). The questionnaire was modified for this fourth study. We were interested in assessing prosocial behaviour as well as conduct problems. The B-PBQ as well as Rutter's original formulation are exclusively centred on problem behaviours. The B-PBQ questions were mixed with the 20 questions of Weir and Duveen's (1981) Prosocial Behaviour Questionnaire (W-PBQ). We chose to use these questions because they were potentially useful for our study of boys at risk for delinquency; the formulation of each item had the same structure found in the B-PBQ. Weir and Duveen had shown that the total prosocial score was negatively correlated (*r* = -0.46, *P* < 0.001) with the "total maladjustment" score of Rutter's original version.

Factor analysis procedure

The same procedure was used for the data of each study. Using SPSS (see Nie et al., 1975) a principal component analysis (with iteration) was performed. In each case, after construction of the initial orthogonal factor matrices, two and three component were rotated to simple structure using the varimax criteria.

Fowler and Park (1979) have shown that, although "the screen tests indicated that either two- or three-component solutions were appropriate for these data matrices", in the three-component solution the salient variables reported by Behar and Stringfield for the hyperactive-distractible component also loaded on the aggressive-hostile component. Both two-and three-component solutions were hence considered to verify, if in our data approximation to simple structure and interpretability was obtained with the two- or three-component solution. No maximum likelihood factor analyses were performed since Fowler and Park showed that the obtained structure was stable across analytic methods.

RESULTS AND DISCUSSION

Two- or Three-Principal Component Solution?

Fowler and Park's comparison of the two- and three-principal component solutions led them to conclude that the two-component solution was a better approximation to simple structure. Our results from Study 1 data lead to the same conclusion. When comparing our three-component solution with Behar and Stringfield's (see Table 1) it can be seen that three of the four salient variables reported for the third component (hyperactivity-distractibility) also load on the first component (aggressivity-hostility). In fact, the two hyperactivity variables (restless, squirming) have a greater load on the first component (aggressivity-hostility) than on the third component (hyperactivity-distractibility). Also in Study 1, the variable "gives up", which Behar and Stringfield considered part of component 2, had a greater load on component 3 and 1.

The two-component solution (see Table 2) across five different samples (Fowler and Park's study and our Studies 1, 2, 3, and 4) has a much simpler structure and is more easily interpretable. The first component combines aggressive and hyperactive behaviour, a combination of component 1 and 3 from the three-component solution. These results are identical to Fowler and Park's except for the distractibility items (poor concentration, inattentive) which load on both components, with a tendency to load more heavily on the second component than on the first. The second component combines anxiety (worried, distressed, fearful, cries) and withdrawal (solitary, stares into space). The distractibility variables (poor concentration, inattentive) which load on this second component, as was mentioned, also load on the first component. The variable "gives up" also loads on both components.

When considering the variables which load on only one component, these two components from our four studies and Fowler and Park's, match almost perfectly the two sub-scores used in the Rutter scale (Rutter, 1967) from which Behar and Stringfield developed the B-PBQ. Rutter's anti-social sub-scores includes variables "destroys things, fights, disobedient, lies, bullies" (kicks-bites-hits in Behar and Stringfield). The only other variable included in that sub-score is "steals", an item dropped by Behar and Stringfield. The first component does in fact look like an anti-social dimension if one excludes the "restless", "squirmy" and "irritable" items in the B-PBQ. The second Rutter sub-score was named "neurotic". All four items of this "neurotic" sub-score are included in the second component, "worries, miserable, fearful, cries". The two other variables in the second B-PBQ component are withdrawal items, "solitary, stares into space".

Table 1. *Comparison of Study 1's Three-principal Component Solution with Behar and Stringfield's Principal Component Solution*

	Behar & Stringfield (N = 598). Component:			Study 1 (N = 747). Component:		
	1	2	3	1	2	3
Component 1						
26. Inconsiderate	0.78	0.16	0.16	0.79	0.09	0.12
4. Fights	0.77	-0.03	0.13	0.81	0.00	0.08
3. Destroys	0.70	0.12	0.21	0.75	0.18	0.09
20. Bullies	0.71	0.00	0.05	0.83	0.06	0.06
27. Kicks, bites, hits	0.68	0.08	0.20	0.78	0.09	0.09
22. Doesn't share	0.65	0.24	0.21	0.68	0.20	0.03
24. Blames	0.64	-0.03	0.07	0.59	-0.08	0.20
Component 2						
14. Fearful	0.06	0.66	0.14	0.05	0.71	0.36
6. Worried	0.19	0.66	0.06	0.14	0.69	0.25
28. Stares into space	0.04	0.57	0.37	0.13	0.70	0.16
23. Cries	0.24	0.48	0.14	0.20	0.53	0.12
25. Gives up	0.16	0.47	0.40	0.38	0.24	0.53
Component 3						
21. Inattentive	0.19	0.24	0.80	0.26	0.11	0.79
13. Poor concentration	0.12	0.26	0.80	0.36	0.06	0.79
1. Restless	0.36	0.02	0.69	0.66	-0.03	0.32
2. Squirmy	0.37	0.09	0.68	0.66	0.05	0.41
Variance (%)	?	?	?	32.1%	6.2%	10.9%
Total variance (%)		37.7%			49.2%	

Stability of the Principal Component Structure between Sexes

Fowler and Park's study showed remarkable stability between the two component structures of boys' and girls' samples. In our Study 1 we compared the two component structure of boys *(N = 361)* and girls *(N = 386)*. In Table 3 it can be observed that both structures are almost identical. The coefficient of congruence (Harman, 1976) for component 1 is 0.97 and 0.95 for component 2. The two rotated components account for similar total percentages of variance for the boys sample (43%) and the girls sample (41.8%). Items loading greater than 0.30 are identical for boys and girls on component 1, and identical also, except for a marginal 0.31 for item 2 (squirmy), on component 2.

Table 2. *Principal Component Structure of B-PBQ for Four Different Montréal Samples and Fowler and Park's (F.P.) Male Sample[1]*

	Component 1					Component 2				
	Study 1 (N = 747)	*Study 2* (N = 825)	*Study 3* (N = 383)	*Study 4* (N = 1161)	*F.P.* (N = 352)	*Study 1* (N = 747)	*Study 2* (N = 825)	*Study 3* (N = 383)	*Study 4* (N = 1161)	*F.P.* (N = 352)
1. Restless	70	68	69	70	78					
2. Squirmy	70	63	67	67	74					
3. Destroys	74	65	78	68	83					
4. Fights	81	76	81	82	83					
5. Not liked	56	33	64	56	69		43			
6. Worried						63	66	69	68	75
7. Solitary						52	43	53	51	61
8. Irritable	70	55	69	66	63					
9. Distressed						50	59	64	53	56
10. Twitches							31	40	40	42
11. Bites nails					31			30		44
12. Disobedient	76	72	72	80	79					
13. Poor concentration	45	40	36	43	64	57	49	37	42	
14. Fearful						73	61	78	72	76
15. Fussy								34		34
16. Tells lies	61	45	55	64	65					
17. Soiled self										36
18. Stutter										40
19. Speech difficulty										
20. Bullies	83	71	84	80	83					
21. Inattentive	35			37	64	61	50	54	51	30
22. Doesn't share	66	57	65	60	63					
23. Cries						44	43	58	43	60
24. Blames	75	53	67	70	82					
25. Gives up	43		40	41	41	54	52	53	52	55
26. Inconsiderate	79	2	82	65	83					
27. Kicks, bites, hits	78	72	85	80	83					
28. Stares into space						60	49	59	53	52
Variance (%)	32.1	24.1	32.0	30.1	31.1	10.9	10.9	12.4	11.3	13.7
Coefficient of congruence		0.97					0.92			

[1]Loadings < 0.30 omitted.
[2]Item not included in Study 2.

Table 3. *Principal Component Structure of the B-PBQ in Study 1[1] and Fowler and Park[2] (F.P.)*

	Component 1				Component 2			
	Boys: Study 1	*Boys: F.P.*	*Girls: Study 1*	*Girls: F.P.*	*Boys: Study 1*	*Boys: F.P.*	*Girls: Study 1*	*Girls: F.P.*
1. Restless	0.70	0.78	0.65	0.66				
2. Squirmy	0.69	0.74	0.69	0.63	0.31			0.33
3. Destroys	0.72	0.83	0.74	0.73				
4. Fights	0.83	0.83	0.76	0.79				
5. Not liked	0.63	0.69	0.48	0.71				
6. Worried					0.64	0.75	0.62	0.79
7. Solitary					0.49	0.61	0.54	0.67
8. Irritable	0.73	0.63	0.65	0.72				
9. Distressed					0.51	0.56	0.50	0.62
10. Twitches						0.42		0.33
11. Bites nails		0.31				0.44		0.39
12. Disobedient	0.76	0.79	0.72	0.84				
13. Poor concentration	0.43	0.64	0.45	0.65	0.53		0.60	
14. Fearful					0.74	0.76	0.73	0.81
15. Fussy						0.34		0.47
16. Tells lies	0.60	0.65	0.64	0.70				
17. Soiled self						0.36		
18. Stutter						0.40		0.30
19. Speech difficulty								
20. Bullies	0.84	0.83	0.80	0.73				
21. Inattentive	0.35	0.64	0.35	0.68	0.58	0.30	0.64	
22. Doesn't share	0.66	0.63	0.65	0.72				
23. Cries					0.49	0.60	0.37	0.50
24. Blames	0.73	0.82	0.75	0.78				
25. Gives up	0.39	0.41	0.45	0.56	0.50	0.55	0.58	0.40
26. Inconsiderate	0.79	0.83	0.77	0.82				
27. Kicks, bites, hits	0.79	0.83	0.77	0.62				
28. Stares into space					0.55	0.52	0.64	0.33
Variance (%)	32.2	31.1	30.3	29.7	10.8	13.7	11.5	13.4
Coefficient of congruence		0.97	0.98			0.95	0.96	

[1]Boys: $N = 361$. Girls: $N = 386$.
[2]Boys: $N = 352$. Girls: $N = 349$.
[3]Loadings < 0.30 omitted.

Stability of the Principal Component Structure between Cultures

The comparison of same sex samples from different populations (Study 1 vs. Fowler and Park) shows that the stability of structure holds for French Canadian and American cultures (see Table 3).[1] The two rotated components account for similar total percentages of variance for the boys samples (43% and 44.8%) and for the girls samples (41.8% and 43.1%). For component 1, comparison of the item loadings for each sex shows that items loading greater than 0.30 are identical in both cultures except for a marginal 0.31 of item 11 (bites nails) in the boys' Fowler and Park sample. For component 2 there are more differences both between boys' samples and girls' samples. The overall picture gives the impression that there are fewer differences between boys and girls of the same culture than between same sex of different cultures. In the Fowler and Park samples items 10 (has twitches), 11 (bites nails), 15 (fussy), 18 (has stutter, stammer) all have loadings greater than 0.30 on component 2 while the loadings are smaller than 0.30 in the French Canadian samples. The reverse is observed for item 13 (poor concentration). Marginal differences are observed on items 2, 17 and 21. The differences between the cultures on component 2 relate to items of "nervousness" (twitches, bites nails, stutter, fussy) and "concentration". "Nervousness" items have more weight on component 2 for the American sample than the French Canadian sample (although none of the items has loading greater than 0.47) and "poor concentration and inattentiveness" (item 13 and 21) have more weight on component 2 for the French Canadian sample.

The stability across cultures can also be judged by comparing our Study 2 sample with our other Montréal samples. The Study 2 sample consists of immigrant children grouped in immersion classes to learn French. The data in Table 2 show that on component 1 there are two items (21: inattentive; 25: gives up) which do not have a loading greater than 0.30 as we observe in our three other studies of a francophone population. But loadings for these items in those studies are all below 0.44. The coefficient of congruence between Study 1 (our normative sample for the Montréal francophone population) and the immigrant group is 0.97. For component 2 the differences are also marginal. Item 5 (not liked) has a loading of 0.43 whereas its loading is smaller than 0.30 in every other study. The coefficient of congruence between study one and two for this second component is 0.93.

Component 1 does seem to be quite stable across cultures. Component 2 appears a little less stable. It could be assumed from the data presented above that cultural differences do not come mainly (or only) from the children observed, but from the raters. In study 2 the children were immigrants but the raters were (except in a few cases) French Canadian kindergarten teachers similar to those in the other Montreal studies; the principal component solutions are almost identical. On the other hand when we compare Study 1 to Fowler and Park's we are comparing raters as well as children of different cultures; we observe more differences, especially for component 2.

Stability of the Principal Component Structure between Socioeconomic Areas

In Study 1 we had samples of children going to school in low socioeconomic areas of Montréal and middle to high socioeconomic areas. We could perform separate principal component analyses for children in five-year-old kindergarten classes of low socioeconomic

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[1] No coefficient of congruence was calculated for these comparisons because Fowler and Park's published data are limited to items having weights above 0.30 on each component.

areas and same age children from middle to high socioeconomic areas. Results of these analysis are presented in Table 4. On component 1 two items have a loading of 0.30, and above in only one of the two samples: item 10 (has twitches, 0.39) and item 28 (stares into space, 0.30). The coefficient of congruence is 0.91. Percentages of variance explained for low and middle to high

Table 4. *Principal Component Structure of the B-PBQ for Kindergarten Children in Low (N = 386) and Middle to High (N = 226) Socioeconomic Areas[1]*

	Component 1 Socioeconomic Areas:		Component 2 Socioeconomic Areas:	
	Low	*Middle to High*	*Low*	*Middle to High*
1. Restless	0.72	0.49		0.31
2. Squirmy	0.74	0.60		0.36
3. Destroys	0.73	0.61		
4. Fights	0.83	0.68		
5. Not liked	0.61	0.57		
6. Worried			0.68	0.68
7. Solitary			0.53	0.38
8. Irritable	0.76	0.56		
9. Distressed			0.44	0.45
10. Twitches		0.39		
11. Bites nails				
12. Disobedient	0.82	0.66		
13. Poor concentration	0.49	0.40	0.52	0.67
14. Fearful			0.75	0.70
15. Fussy				
16. Tells lies	0.63	0.64		
17. Soiled self				0.36
18. Stutter				
19. Speech difficulty				
20. Bullies	0.83	0.76		
21. Inattentive	0.42	0.31	0.56	0.62
22. Doesn't share	0.66	0.50		
23. Cries			0.34	0.44
24. Blames	0.77	0.70		
25. Gives up	0.46	0.34	0.50	0.53
26. Inconsiderate	0.76	0.79		
27. Kicks, bites, hits	0.80	0.69		
28. Stares into space	0.30		0.58	0.55
Variance (%)	33.8	27.5	10.6	10.9
Coefficient of congruence	0.91		0.90	

[1]Loadings < 0.30 omitted.

socioeconomic areas are respectively 33.8% and 27.5%. On component 2 three items have a loading greater than 0.30 for middle to high socioeconomic areas and not for low socioeconomic areas. They are item 1 (restless, 0.31), item 2 (squirmy, 0.36) and item 17 (wet or soiled self, 0.36). It would seem that hyperactivity items for middle to high socioeconomic areas tend to load on the "anxiety" component as well as on the "aggression" component. This is not the case for low socioeconomic areas. Percentages of variance explained for low and middle to high socioeconomic areas are respectively 10.6% and 10.9%. The coefficient of congruence for component 2 between socioeconomic areas is 0.90.

Stability of the Principal Component Structure between Ages

In Study 1, children from low socioeconomic areas were in four- and five-year-old kindergarten classes.[2] A comparison of the principal component structure for each age group permits us to assess the stability of the structure across ages. Results are presented in Table 5.

On component 1 two items have a loading of 0.30 and above in only one of the two samples: item 21 (inattentive, 0.42) and item 28 (stares into space, 0.30); both load on component 1 for six-year-olds but not for five-year-olds. The coefficient of congruence is 0.92. Percentages of variance explained by component 1 are 34.5% for five-year-olds and 33.8% for six-year-olds. On component 2 only one item (squirmy) has a loading greater than 0.30 (0.33) for one sample (five-year-olds) and not the other. The coefficient of congruence is 0.91. Percentage of variance explained by component 2 are 12.8% for five-year-olds and 10.6% for six-year-olds.

CONCLUSION

The purpose of this paper was to document the principal component structure of the Preschool Behaviour Questionnaire by addressing the question of "best approximation to simple structure" and the question of "stability of structure" which Fowler and Park (1979) had raised. Our data come from four large samples in a North American francophone community. The data permitted to study the stability of the principal component structure of the B-PBQ between cultures, between sexes, between ages and between socioeconomic areas.

With reference to the simplicity of structure, our comparison between the two- and three-principal-component solutions lead to the same conclusion reached by Fowler and Park: for a random sample of five- and six-year-old kindergarten children in "normal" classes, the two-component solution is a better approximation to simple structure. It may very well be that the three-component structure obtained by Behar and Stringfield was due, as Fowler and Park suggested, to the overrepresentation of classes of maladjusted children. A replication study of such a sample with the B-PBQ is needed, but results obtained by Venables et al. (1981) with the Rutter Children's Behaviour Questionnaire supports this hypothesis.

The two-component solution has an "aggressive-hyperactive" component (restless; squirmy; destroys; fights; not liked; irritable; disobedient; tells lies; bullies; doesn't share; blames others; inconsiderate; kicks, bites, hits) and an "anxious-withdrawn" component (worried; solitary; distressed; fearful; cries; stares into space). This two-component solution is more easily comparable to the scoring and the factor structure of the Rutter questionnaire (Rutter, 1967; Venables et al., 1981) which led to the

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[2] The data having been collected at the end of the school year (May) children in four-year-old classes were age five and children in five-year-old classes were age six.

Table 5. *Principal Component Structure of the B-PBQ for Samples of Five-(N = 133) and Six-(N = 386) Year Olds in Low Socioeconomic Areas*

	Component 1		Component 2	
	5-year-olds	6-year-olds	5-year-olds	6-year-olds
1. Restless	0.78	0.72		
2. Squirmy	0.72	0.74	0.33	
3. Destroys	0.83	0.73		
4. Fights	0.89	0.83		
5. Not liked	0.52	0.61		
6. Worried			0.53	0.68
7. Solitary			0.56	0.53
8. Irritable	0.70	0.76		
9. Distressed			0.61	0.44
10. Twitches				
11. Bites nails				
12. Disobedient	0.76	0.82		
13. Poor concentration	0.44	0.49	0.55	0.52
14. Fearful			0.75	0.75
15. Fussy				
16. Tells lies	0.66	0.63		
17. Soiled self				
18. Stutter				
19. Speech difficulty				
20. Bullies	0.89	0.83		
21. Inattentive		0.42	0.66	0.56
22. Doesn't share	0.77	0.66		
23. Cries			0.57	0.34
24. Blames	0.77	0.77		
25. Gives up	0.51	0.46	0.57	0.50
26. Inconsiderate	0.87	0.76		
27. Kicks, bites, hits	0.82	0.80		
28. Stares into space		0.30	0.65	0.58
Variance (%)	34.5	33.8	12.8	10.6
Coefficient of congruence	0.92		0.91	

[1]Loadings < 0.30 omitted.

development of the Preschool Behaviour Questionnaire. For those who are conducting longitudinal studies from preschool to high school it would seem useful to use the Preschool Behaviour Questionnaire with a two-component solution (aggressive-hyperactive, anxious-withdrawn) up to the first or second primary school year (Rubin & Daniels-Beirness, 1983) and then switch to the Rutter Children's Behaviour Questionnaire up to adolescence. Component 1 of the B-PBQ should be consistent with Rutter's antisocial score and component 2 should be consistent with Rutter's neurotic score. In this sense the two-component solution should be more easily interpretable. Also the two-component solution is comparable to most broad-band groupings of behaviour problems which categorise behaviours as aggressive versus inhibited (Achenbach & Edelbrock, 1978; Quay, 1979).

These results do not mean that hyperactivity cannot be differentiated from aggressive or antisocial behaviour. A number of studies have shown that factor analyses of ratings of children's behaviour can produce separate factors of aggressive and hyperactive behaviours (Conners, 1969; Lahey, Stempniak, Robinson, & Tyroler, 1978; Trites & Laprade, 1983). McGee, Williams and Silva (1985) have shown recently that inattention behaviours could also be differentiated from hyperactive and antisocial behaviours. Our results, with those of Fowler and Park (1979) and Hoge et al. (1985), show that the B-PBQ ratings by teachers of children aged 3.5 to 6 should not be used to attempt to make these differences. It is possible that in older children, hyperactivity as a separate phenomenon from aggressivity becomes more salient and thus can be more easily discriminated (Rescorla, 1986). It should however be recalled that Schachar, Rutter and Smith (1981) have shown that only "pervasive hyperactivity", i.e. hyperactivity rated by teachers and parents, "appears to constitute a meaningfully distinct clinical phenomenon".

With reference to the problem of stability of the principal component structure our results show remarkable stability between sexes, between socioeconomic areas and between ages. Fowler and Park (1979) had already shown the stability of the principal component solution between sexes in an American sample. Our results replicate these findings within a North American francophone population. One of our samples was dichotomised into children living in low and middle to high socioeconomic areas. The comparison of the principal component structure for these two groups leads to the conclusion that the two-component solution is stable between socioeconomic areas within a given culture. The comparison of samples of five- and six-year-old children also leads to the conclusion that at these two different ages the two-component structure is stable within a given culture. These results do not of course mean that the two-component structure is stable for every age.

Finally, our study permitted an attempt to test the stability of the two component solution between cultures. The comparison of the solutions derived from male francophone and anglophone samples, as well as female samples from both these cultures, leads to the conclusion that the two-component structure is stable between these two cultures, although more stability is apparent between sexes within a given culture than within a given sex between cultures. It should be recalled that Venables et al. (1981) have also shown stability of the two factor structure, for the Rutter scale, between cultures on the island of Mauritius.

The study of a population of immigrant children in the francophone culture also leads to the conclusion of structure stability between cultures but raises the question of the origin of the stability, i.e., is the stability of the principal component solution due to similarity of the behaviour structure of children from different cultures or to similarity of raters' perception of children's behaviour? From our results one could conclude that both raters' structural organisation of their perceptions and children's behaviour contribute to similarities and differences between cultures. We observe a relatively stable structure when we compare children of different cultures rated by raters of their own culture, as well as when children of different cultures are rated by adults of a given culture. But the greater "apparent" stability of the latter comparison seems an indication that raters' culture contributes to principal component structural stability and should be taken into account when studies from different cultures are compared.

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Appendix 2

Child Behavior Checklist for Ages 4-16

T. M. Achenbach and C. Edelbrock[1]

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[1] Achenbach, T. M., & Edelbrock, C. (1983). *Manual for the child behavior checklist and revised child behavior profile*. Burlington, VT: Queen City Printers.

<table>
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CHILD'S NAME	**PARENT'S TYPE OF WORK** *(Please be specific – for example: auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant, even if parent does not live with child)*

SEX ☐ Boy ☐ Girl	AGE	RACE

FATHER'S TYPE OF WORK:_____

TODAY'S DATE	CHILD'S BIRTHDATE
Mo. _____ Day _____ Yr. _____	Mo. _____ Day _____ Yr. _____

MOTHER'S TYPE OF WORK:_____

THIS FORM FILLED OUT BY:
☐ Mother
☐ Father
☐ Other (*Specify*):

GRADE IN SCHOOL

I. **Please list the sport your child most likes to take part in**. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

☐ None

Compared to other children of the same age, about how much time does he/she spend in each?

Compared to other children of the same age, how well does he/she do each one?

	Don't Know	Less Than Average	Average	More Than Average		Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐		☐	☐	☐	☐
b. _____	☐	☐	☐	☐		☐	☐	☐	☐
c. _____	☐	☐	☐	☐		☐	☐	☐	☐

II. **Please list your child favorite hobbies, activities, and games, other than sports**. For example: stamps, dolls, books, piano, crafts, singing, etc. (Do not include T.V.)

☐ None

Compared to other children of the same age, about how much time does he/she spend in each?

Compared to other children of the same age, how well does he/she do each one?

	Don't Know	Less Than Average	Average	More Than Average		Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐		☐	☐	☐	☐
b. _____	☐	☐	☐	☐		☐	☐	☐	☐
c. _____	☐	☐	☐	☐		☐	☐	☐	☐

III. **Please list any organizations, clubs, teams, or groups your child belongs to.**

☐ None

Compared to other children of the same age, how active is he/she in each?

	Don't Know	Less Active	Average	More Active
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

IV. **Please list any jobs or chores your child has**. For example: paper route, babysitting, making bed, etc.

☐ None

Compared to other children of the same age, how well does he/she carry them out?

	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

V. **1.** **About how many close friends does your child have?** ☐ None ☐ 1 ☐ 2 or 3 ☐ 4 or more

2. **About how many times a week does your child do things with them?** ☐ less than 1 ☐ 1 or 2 ☐ 3 or more

VI. **Compared to other children of his/her age, how well does your child:**

	Worse	About the same	Better
a. Get along with his/her brothers & sisters?	☐	☐	☐
b. Get along with other children?	☐	☐	☐
c. Behave with his/her parents?	☐	☐	☐
d. Play and work by himself/herself?	☐	☐	☐

VII. 1. **Current school performance – for children aged 6 and older:**

☐ Does not go to school

	Falling	Below average	Average	Above average
a. Reading or English	☐	☐	☐	☐
b. Writing	☐	☐	☐	☐
c. Arithmetic or Math	☐	☐	☐	☐
d. Spelling	☐	☐	☐	☐
e. _____	☐	☐	☐	☐
f. _____	☐	☐	☐	☐
g. _____	☐	☐	☐	☐

Other academic subjects – for example: history, science, foreign language, geography.

2. **Is your child in a special class?**

☐ No ☐ Yes – what kind?

3. **Has your child ever repeated a grade?**

☐ No ☐ Yes – grade and reason?

4. **Has your child had any academic or other problems in school?**

☐ No ☐ Yes – grade and reason?

When did these problems start?

Have these problems ended?

☐ No ☐ Yes – when?

VIII. Below is a list of items that describe children. For each item that describes your child **now or within the past 6 months**, please circle the **2** if the item is **very true** or **often true** of your child. Circle the **1** if the item is **somewhat** or **sometimes true** of your child. If the item is **not true** of your child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2	1.	Acts too young for his/her age	0 1 2	31. Fears he/she might think or do something bad
0 1 2	2.	Allergy (describe): _____		
			0 1 2	32. Feels he/she has to be perfect
			0 1 2	33. Feels or complains that no one loves him/her
0 1 2	3.	Argues a lot		
0 1 2	4.	Asthma	0 1 2	34. Feels others are out to get him/her
			0 1 2	35. Feels worthless or inferior
0 1 2	5.	Behaves like opposite sex		
0 1 2	6.	Bowel movements outside toilet	0 1 2	36. Gets hurt a lot, accident-prone
			0 1 2	37. Gets in many fights
0 1 2	7.	Bragging, boasting		
0 1 2	8.	Can't concentrate, can't pay attention for long	0 1 2	38. Gets teased a lot
			0 1 2	39. Hangs around with children who get in trouble
0 1 2	9.	Can't get his/her mind off certain thoughts; obsessions (describe): _____		
			0 1 2	40. Hears things that aren't there (describe):
0 1 2	10.	Can't sit still, restless, or hyperactive		
			0 1 2	41. Impulsive or acts without thinking
0 1 2	11.	Clings to adults or too dependent		
0 1 2	12.	Complains of loneliness	0 1 2	42. Likes to be alone
			0 1 2	43. Lying or cheating
0 1 2	13.	Confused or seems to be in a fog		
0 1 2	14.	Cries a lot	0 1 2	44. Bites fingernails
			0 1 2	45. Nervous, highstrung, or tense
0 1 2	15.	Cruel to animals		
0 1 2	16.	Cruelty, bullying, or meanness to others	0 1 2	46. Nervous movements or twitching (describe):
0 1 2	17.	Day-dreams or gets lost in his/her thoughts		
0 1 2	18.	Deliberately harms self or attempts suicide		
			0 1 2	47. Nightmares
0 1 2	19.	Demands a lot of attention		
0 1 2	20.	Destroys his/her own things	0 1 2	48. Not liked by other children
			0 1 2	49. Constipated, doesn't move bowels
0 1 2	21.	Destroys things belong to his/her family or other children		
			0 1 2	50. Too fearful or anxious
0 1 2	22.	Disobedient at homes	0 1 2	51. Feels dizzy
0 1 2	23.	Disobedient at school		
0 1 2	24.	Doesn't eat well	0 1 2	52. Feels too guilty
			0 1 2	53. Overeating
0 1 2	25.	Doesn't get along with other children		
0 1 2	26.	Doesn't seem to feel guilty after misbehaving	0 1 2	54. Overtired
			0 1 2	55. Overweight
0 1 2	27.	Easily jealous		
0 1 2	28.	Eats or drinks things that are not food (describe): _____		56. Physical problems without known medical cause:
			0 1 2	a. Aches or pains
			0 1 2	b. Headaches
			0 1 2	c. Nausea, feels sick
			0 1 2	d. Problems with eyes (describe):
0 1 2	29.	Fears certain animals, situations, or places, other than school (describe): _____		
			0 1 2	e. Rashes or other skin problems
			0 1 2	f. Stomachaches or cramps
0 1 2	30.	Fears goings to school	0 1 2	g. Vomiting, throwing up
			0 1 2	h. Other (describe): _____

0	1	2	57.	Physically attacks people	0	1	2	84.	Strange behavior (describe): _____
0	1	2	58.	Picks nose, skin, or other parts of body (describe): _____					
					0	1	2	85.	Strange ideas (describe):
				_____					
0	1	2	59.	Plays with own sex parts in public					_____
0	1	2	60.	Plays with own sex parts too much					
					0	1	2	86.	Stubborn, sullen, or irritable
0	1	2	61.	Poor school work					
0	1	2	62.	Poorly coordinated or clumsy	0	1	2	87.	Sudden changes in mood or feelings
					0	1	2	88.	Sulks a lot
0	1	2	63.	Prefers playing with older children					
0	1	2	64.	Prefers playing with younger children	0	1	2	89.	Suspicious
					0	1	2	90.	Swearing or obscene language
0	1	2	65.	Refuses to talk					
0	1	2	66.	Repeats certain acts over and over; compulsions (describe): _____	0	1	2	91.	Talks about killing self
					0	1	2	92.	Talks or walks in sleep (describe):
				_____					
0	1	2	67.	Runs away from home	0	1	2	93.	Talks too much
0	1	2	68.	Screams a lot	0	1	2	94.	Teases a lot
0	1	2	69.	Cries a lot	0	1	2	95.	Temper tantrums or hot temper
0	1	2	70.	Sees things that aren't there (describe):	0	1	2	96.	Thinks about sex too much
				_____	0	1	2	97.	Threaten people
					0	1	2	98.	Thumb-sucking
				_____					
0	1	2	71.	Self-conscious or easily embarrassed	0	1	2	99.	Too concerned with neatness or cleanliness
0	1	2	72.	Sets fires	0	1	2	100.	Trouble sleeping (describe):
0	1	2	73.	Sexual problems (describe):					_____
					0	1	2	101.	Truancy, skips school
				_____	0	1	2	102.	Underactive, slow moving, or lacks energy
				_____	0	1	2	103.	Unhappy, sad, or depressed
0	1	2	74.	Showing off or clowning	0	1	2	104.	Unusually loud
0	1	2	75.	Shy or timid	0	1	2	105.	Uses alcohol or drugs (describe):
0	1	2	76.	Sleeps less than most children					
									_____
0	1	2	77.	Sleeps more than most children during day and/or night (describe): _____	0	1	2	106.	Vandalism
					0	1	2	107.	Wets self during the day
				_____	0	1	2	108.	Wets the bed
0	1	2	78.	Smears or plays with bowel movements	0	1	2	109.	Whining
					0	1	2	110.	Wishes to be of opposite sex
0	1	2	79.	Speech problem (describe): _____					
					0	1	2	111.	Withdrawn, doesn't get involved with others
				_____	0	1	2	112.	Worrying
0	1	2	80.	Stares blankly				113.	Please write in any problems your child has that were not listed above:
0	1	2	81.	Steals at home					
0	1	2	82.	Steals outside the home	0	1	2		_____
0	1	2	83.	Stores up things he/she doesn't need (describe): _____ /	0	1	2		_____
					0	1	2		_____
				_____					

Appendix 3

The Emotional Climate for Children as Inferred from Parental Attitudes

C. A. Falender, and A. Mehrabian[1]

ID # _____ Your Name _____ Your Sex _____

Child's Name _____ Child's Sex _____ Child's Age _____

Child's Birthdate _____ Today's Date _____

Please fill out the attached questionnaire for <u>one</u> of your children over the age of six months and under the age of eight years. If you have more than one child, be sure to focus all your answers on the one child whose name you have written above. Be sure to answer the question independently – without consulting your spouse or a friend.

You may agree or disagree in different degrees with each statement. Highest agreement is +4; highest disagreement is –4; and when you cannot agree or disagree with a statement, simply answer with 0. Use the other numbers on the scale to show more moderate feelings in each direction.

+4 = very strong agreement
+3 = strong agreement
+2 = moderate agreement
+1 = slight agreement
 0 = neither agreement nor disagreement
-1 = slight disagreement
-2 = moderate disagreement
-3 = strong disagreement
-4 = very strong disagreement

1. _____	9. _____	17. _____	25. _____	33. _____	41. _____
2. _____	10. _____	18. _____	26. _____	34. _____	42. _____
3. _____	11. _____	19. _____	27. _____	35. _____	43. _____
4. _____	12. _____	20. _____	28. _____	36. _____	44. _____
5. _____	13. _____	21. _____	29. _____	37. _____	45. _____
6. _____	14. _____	22. _____	30. _____	38. _____	46. _____
7. _____	15. _____	23. _____	31. _____	39. _____	
8. _____	16. _____	24. _____	32. _____	40. _____	

+P   1.   Taking a few minutes to just be with my child helps me relax.

-A   2.   Children become too excited if they watch horror shows.

-D   3.   My child must try every food I serve.

-P   4.   I thought that children were supposed to be much happier than my child has turned out to be.

+A   5.   I leave my child with a lot of different people, so he gets used to change.

+D   6.   I try not to insist that my child always obey me.

+P   7.   I never regret having a child.

+A   8.   It doesn't bother me to have unexpected visitors drop in.

+P   9.   I enjoy showing the latest pictures of my child to my friends.

-A   10.   I don't think a fast-paced and busy home life is good for a child.

+D   11.   I don't think my child should have special manners for adults.

-P   12.   It's hard to be stuck at home with a child.

-D   13.   My child should be aware that what I say goes.

+A   14.   It is important to talk to babies even though they can't talk back.

-D   15.   I don't tolerate temper tantrums.

+P   16.   I like to be with my child.

-D   17.   I don't believe in catering to my child's demands.

-P   18.   I find it really irritating when all other women ca talk about is their children.

-A   19.   I prefer to stay home rather than have my child exposed to more than one or two babysitters.

+D   20.   I feel my child knows what is best for him.

-P   21.   My child often upsets me.

+A   22.   It is important that a child experience highly emotional encounters between his parents.

-D   23.   I think my child should comply with all my requests.

+P   24.   Having a child to care for is a lot of fun.

-D   25.   My child should learn to put his toys away after using them.

+P   26.   It is very interesting to spend time watching my child.

-A   27.   I don't like my child to be exposed to too many surprises.

-D   28.   Parents should not back down once they have told the child not to do something.

-P   29.   I look forward to the time when my child requires less care and attention from me.

+D   30.   My child can make the decision not to eat a food he really dislikes.

+P   31.   When I have free time, I'd rather be with my child than read a book.

-A   32.   A noisy home is bad for a child.

-D   33.   It is important for a child to have a fixed bedtime.

-P   34.   I find myself wondering if my child will ever grow up.

+A   35.   I want my child to have lots of children to play with.

+D   36.   I don't like to place a lot of rules on my child.

+P   37.   I really enjoy talking about my child.

-A   38.   I try to keep my child away from situations that may be overly exciting.

-P   39.   Having a child has been a very large burden for me.

+D   40.   One of the worst things a parent can do is insist that the child obey their every command.

-P   41.   When I've finished my day's work, I need time away from my child.

+A   42.   I make sure that my child sees as many different people as possible.

-D   43.   I have tried to teach my child early who makes the decisions in our family.

-P   44.   Staying at home with a child is more boring than I thought it would be.

+D   45.   My child should have the right to choose to stay up late occasionally.

+P   46.   It makes me happy just to think of the time my child and I spend together.

Appendix 4

Measurement of Parental Control Behaviours

R. Tessier, N. Pilon, and D. Fecteau[1]

Name of child:

Name of respondent:

Date:

The Parent–Child Relationship

This questionnaire presents eight (8) situations involving a parent and child.

Following each short description is a list describing the various reactions that the parent might have to the situation.

As the respondent to the questionnaire, please:

1. Carefully read the situation presented in the box at the top of the page.
2. Read each of the potential reactions (from 1 to 9).
3. Decide how, in such a situation, you would normally react.
4. Indicate how often you would adopt this behaviour.

Responding to this questionnaire does not, of course, involve right or wrong answers. But as the parent you, more than anyone else, know your child and how you would behave with him or her in such situations.

You might have never, or only rarely, encountered some of the situations presented here. If so, try to imagine how you would react in such a situation.

Situation 1

A father is working on something at home, rushing to finish before dinner. His child comes up and says to him, "I'm bored. I don't have anything to do. Come and play cards with me." When the father refuses because he is really too busy to play right then, the child demands over and over, in an increasingly loud voice, that the father play with him. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

	Very rarely	Rarely	Some-times	Often	Very Often
1. You stop what you are doing to go play with the child	☐	☐	☐	☐	☐
2. You quietly ask the child what's wrong	☐	☐	☐	☐	☐
3. You ask the child to find something to do while you are working	☐	☐	☐	☐	☐
4. You ask the child to go away and let you work	☐	☐	☐	☐	☐
5. You suggest to the child that she bring her toys and come play with them beside you	☐	☐	☐	☐	☐
6. You agree to play with the child saying that you can eat dinner a little later this time	☐	☐	☐	☐	☐
7. You tell the child to stop bothering you or you will get mad	☐	☐	☐	☐	☐
8. You tell the child to stop bothering you and to go play by herself	☐	☐	☐	☐	☐
9. You understand that the child might be bored and you stop what you are doing to talk to her	☐	☐	☐	☐	☐

Situation 2

It's Friday night and two parents decide to go out with their two children to a restaurant. Their oldest child is so happy and excited that, at the restaurant, he sings in a loud voice and can't sit still at the table. In all of the excitement, the child accidentally knocks over a glass, spilling the contents. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

		Very rarely	Rarely	Some-times	Often	Very Often
1.	You demand that the child explain how the accident happened	☐	☐	☐	☐	☐
2.	You help the child clean up the mess	☐	☐	☐	☐	☐
3.	You tell the child, in a severe tone of voice, that what he has just done isn't acceptable	☐	☐	☐	☐	☐
4.	You tell the child to sit down and keep quiet	☐	☐	☐	☐	☐
5.	You tell the child that when at the table he must sit quietly and not get overexcited	☐	☐	☐	☐	☐
6.	You ask the child how he plans to clean up the mess	☐	☐	☐	☐	☐
7.	You accept that accidents can happen and ask the waiter to bring another drink	☐	☐	☐	☐	☐
8.	You say to the child that he must be in a very good mood	☐	☐	☐	☐	☐
9.	You tell the child that you will never again take him to a restaurant	☐	☐	☐	☐	☐

Situation 3

It's Sunday afternoon and two parents decide to take their child and go visit some friends, Mr and Mrs. Blouin. The adults are talking in the kitchen while the child plays alone in the living room. At one point, the child arrives and starts to interrupt the adults' conversation, cutting them off and asking all sorts of questions in a loud and bothersome voice.

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

		Very rarely	Rarely	Some-times	Often	Very Often
1.	You calmly ask the child to go and find something to do	☐	☐	☐	☐	☐
2.	You tell the child to stop interrupting or else you'll give her a spank	☐	☐	☐	☐	☐
3.	You tell the child that you understand it isn't nice to play all alone	☐	☐	☐	☐	☐
4.	You ask the child to tell you what's wrong	☐	☐	☐	☐	☐
5.	You calmly tell the child to come along, you'll play with her	☐	☐	☐	☐	☐
6.	You tell the other adults not to pay any attention to the child	☐	☐	☐	☐	☐
7.	You go into the dining room and start playing with the child	☐	☐	☐	☐	☐
8.	You suggest to the child that she ask Mr and Mrs Blouin if they have a toy she can play with	☐	☐	☐	☐	☐
9.	You tell the child to leave you alone	☐	☐	☐	☐	☐

Situation 4

The mother is inside looking out the window at her child, who is throwing rocks at a friend. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

	Very rarely	Rarely	Some-times	Often	Very Often
1. You ask the child why she is throwing rocks at her friend	☐	☐	☐	☐	☐
2. You tell yourself that it's no doubt only a game and ask the kids what they're doing	☐	☐	☐	☐	☐
3. You tell the child that it's dangerous to throw rocks	☐	☐	☐	☐	☐
4. You tell yourself that there must be a good reason why they're doing that	☐	☐	☐	☐	☐
5. You ask your child if there isn't some better way to settle such spats than to throw rocks	☐	☐	☐	☐	☐
6. You tell the child that she'll get a spanking the next time you catch her throwing rocks at someone	☐	☐	☐	☐	☐
7. You tell the child never to do that again	☐	☐	☐	☐	☐
8. You tell the child that what she's doing isn't acceptable	☐	☐	☐	☐	☐
9. You tell the child that you generally let her do what she wants but that throwing rocks might be a bit dangerous	☐	☐	☐	☐	☐

Situation 5

This situation arises on a Thursday evening in a very busy grocery store. At the candy counter, a child tells his parent that he wants some caramels. The parent refuses, saying the child has just eaten and that anyway, they already have a lot of candy at home. The child insists, asking over and over. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

		Very rarely	Rarely	Some-times	Often	Very Often
1.	You finally agree to buy the child the candy	☐	☐	☐	☐	☐
2.	You gently tell the child that you're not buying more candy when you have some at home	☐	☐	☐	☐	☐
3.	You tell the child that he's too young to know what's good for him	☐	☐	☐	☐	☐
4.	You ask the child to come help you choose the fruit and vegetables	☐	☐	☐	☐	☐
5.	You ask the child what you and he can do so that this situation never arises again	☐	☐	☐	☐	☐
6.	You tell the child that you do understand how the candy might be tempting to him	☐	☐	☐	☐	☐
7.	You tell the child that if he continues to complain, you'll punish him when you get home	☐	☐	☐	☐	☐
8.	You tell the child to stop making a fuss	☐	☐	☐	☐	☐
9.	You ask the child if he thinks there isn't enough candy at home	☐	☐	☐	☐	☐

Situation 6

It's seven-thirty at night. After a tiring day, a parent sits down to watch his favourite television show. The parent is just starting to relax when he hears his two children calling each other names in the other room. The kids' shouting gets louder and louder, then they start hitting each other. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

		Very rarely	Rarely	Some-times	Often	Very Often
1.	You tell the kids that what they are doing isn't very smart	☐	☐	☐	☐	☐
2.	You tell the kids you're tired and all you want to do is watch your show	☐	☐	☐	☐	☐
3.	You tell the kids that if the fighting doesn't stop, you'll punish them	☐	☐	☐	☐	☐
4.	You ask the kids why they are always fighting and can't just play together	☐	☐	☐	☐	☐
5.	You tell the kids to shut up because you want some peace	☐	☐	☐	☐	☐
6.	You realize that, just like you, the kids are tired out	☐	☐	☐	☐	☐
7.	You ask the kids if they can't find some other way to work things out than hitting each other	☐	☐	☐	☐	☐
8.	Without encouraging them to fight, you let them work out their problems their own way	☐	☐	☐	☐	☐
9.	You invite them to come watch TV with you	☐	☐	☐	☐	☐

Situation 7

There's no school and it's raining. Your child asks if he can invite a couple of friends over to play. Since he's a single child and rarely asks to have friends over, the mother agrees. The kids decide to play "cowboy." They take off shouting and running all over the house. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

		Very rarely	Rarely	Some-times	Often	Very Often
1.	You tell the kids that you find them very noisy	☐	☐	☐	☐	☐
2.	You tell your child that this is the last time that you'll let him invite someone over	☐	☐	☐	☐	☐
3.	You make sure that anything breakable is out of the way	☐	☐	☐	☐	☐
4.	You let them play, since you think it's a good way for them to get rid of their excess energy	☐	☐	☐	☐	☐
5.	You tell the kids to stop shouting and running	☐	☐	☐	☐	☐
6.	You tell your son, in a severe tone of voice, that he can invite his friends to stay for dinner only if they stop shouting and running all over	☐	☐	☐	☐	☐
7.	You ask the kids to try to find a less noisy game to play	☐	☐	☐	☐	☐
8.	You take advantage of the fact that they are playing happily to carry on with your own activities	☐	☐	☐	☐	☐
9.	You ask the kids why they have to run all over the house	☐	☐	☐	☐	☐

Situation 8

A parent asks his children to go play with their toys. The kids start bickering about who will get a favourite toy, first. The kids go on and on, making a scene about the toy and who should get it first. In such a situation:

HOW WOULD YOU REACT? PLACE A CHECKMARK IN THE APPROPRIATE BOX

		Very rarely	Rarely	Some-times	Often	Very Often
1.	You accept that the situation might be hard for the kids to work out	☐	☐	☐	☐	☐
2.	You tell the kids that because of their fighting no one will get the toy	☐	☐	☐	☐	☐
3.	You demand that the kids explain what has happened	☐	☐	☐	☐	☐
4.	You tell the kids that you'll buy another toy just like that one	☐	☐	☐	☐	☐
5.	You tell the kids, in a severe tone of voice, that they are always fighting	☐	☐	☐	☐	☐
6.	You suggest that the kids take turns playing with the toy	☐	☐	☐	☐	☐
7.	You let them work it out themselves, making sure only that they don't hurt each other	☐	☐	☐	☐	☐
8.	You tell the kids to work it out themselves	☐	☐	☐	☐	☐
9.	You tell them that the youngest one should get the toy first	☐	☐	☐	☐	☐

Appendix 5

The Parents' Perception of the Development and Behaviour of their Child[1]

and

The Child's Perception of His Behaviours at Home and at School[1]

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[1] Translated from:
Sous la direction de L. Bertrand (1988), *Projet pilote de prévention du développement de comportements antisociaux chez des garçons agressifs à la maternelle: Guides d'intervention.* Montréal, QC: Groupe de recherche inter-universitaire sur la prévention de l'inadaptation psycho-sociale, Université de Montréal.

PARENTS' PERCEPTION OF THE DEVELOPMENT AND BEHAVIOUR OF THEIR CHILD

NAME OF THE CHILD: _____   FILE NO.: _____

PERSONS IN ATTENDANCE: _____

NAME OF THE PRACTITIONER: _____

Brief History of the Child's Development

- Has the child always lived with you (re: separation)?

    Yes   No

    Please explain. _____

    _____

- At what age did the child start walking?   _____
                              ... talking?   _____
                              ... using the potty?   _____

- How does the father compare the development of his child to that of other children (slower, about the same, more advanced)?

    Please explain. _____

    _____

- How does the mother compare her child's development?

    Please explain. _____

    _____

- Other important times in the child's development (started dressing her/himself, started kindergarten, significant illnesses, current health status): Please describe.

    _____

    _____

    _____

    _____

- What are the mother's preferences regarding the child's education (e.g., style of education, focus)?

    _____

    _____

- What are the father's preferences regarding the child's education?

    _____

    _____

- If their preferences are different, do the parents consider this a problem?

    _____

    _____

Perceptions of the Child

- What particular strengths and abilities does your child have?

    Mother: _____

    Father: _____

- Do you think that your child behaves like other _____-year-old children?

    Mother: _____

    Father: _____

- Does your child play with other children of the same age?

    Yes _____ No _____   If no, with older children? _____   With younger children? _____

- What is the reason for this?

    _____

- How, in your opinion, does the child get along with other children (non-family members)?

    Mother: _____

    Father: _____

- How is your child doing at school?

Mother: _____

Father: _____

Child's Family Relationships

- How does the child get along with brothers and sisters (if applicable)?

Mother: _____

Father: _____

- How does the child get along with her/his mother?

_____

- How does the child get along with her/his father?

_____

- In your opinion, does the child behave differently than her/his brothers and sisters?

Mother: _____

Father: _____

- Are there other adults (than the parents) who play an important role in the child's life? If yes, what type of relationship is it and how much time does that person spend with the child?

_____

_____

My Child's Behaviour

- To the parents: Below is a list of behaviours that parents often see in their child. Most children exhibit these behaviours at some time as they grow up. In having you fill out the questionnaire, we hope to discover whether any of these behaviours occur often enough to pose a problem. We'll go over the list together.

Please indicate whether or not your child, _____, has engaged in any of these behaviours in the last two months, and if yes, whether in your opinion the behaviours present a problem.

Note: The masculine ("he," "his," etc.) is here used to indicate children of both genders.

		Yes	No	Problem
Argumentative (AB)	Challenges, argues, wants to be right (e.g., fights over going to bed).			
Wets the bed (ODB)	Started wetting the bed again during the night (despite having learned to use the potty).			
Cries a lot (AB)	For example, when someone shouts at or teases him.			
Helps or offers to help (PSB)	Volunteers to do jobs, helps out.			
Lies or cheats (AB)	Intentionally does not tell the truth (e.g., when asked directly by a parent).			
Destroys his own things (AB)	For example, tears up notebooks or drawings, breaks toys, tears clothing.			
Complains (AB)	Expresses pain, discontent or resentment (e.g., when asked to pick up his clothing, says that you are always picking on him).			
Shares (PSB)	Offers, gives, presents or loans to others toys, tools, food items, etc.			
Shouts, noisy (AB)	Shouts a lot to frighten others or to express discontent or disagreement; repeatedly throws his toys on the floor.			
Sulks (AB)	Makes faces or starts to sulk when he doesn't get his way.			
Swears (AB)	Or uses obscene language.			
Cooperates (PSB)	Works, plays or joins with others in games, tasks, activities.			
Doesn't eat (ODB)	Eats no or very little food at mealtimes.			
Oppositional (AB)	Resists authority, provokes power responses (e.g., shouts No if asked to do something; takes all the time in the world if asked to hurry up).			
Fearful (ODB)	Expresses anxiety or fear in situations that aren't scary (e.g., going to bed, going to school).			
Destroys items belonging to the family or other children (AB)	Isn't careful with things belonging to others (e.g., jumps on the couch, throws around his brother's toys, mixes up game pieces that others are playing with).			

AB = Aggressive behaviour   PSB = Prosocial behaviour   ODB = Other deviant behaviour

		Yes	No	Problem
Smiles and laughs (PSB)	Smiles often when talking or playing with others.			
Quarrels with brothers and sisters (AB)	Frequently engages in physical or verbal fights with siblings.			
Quarrels with other children (AB)	Frequently engages in physical or verbal fights with other children.			
Always on the move (AB)	Engages in physical activity that cannot be ignored (e.g., constantly runs from one side of the room to the other, cannot sit still).			
Wets or dirties his pants (ODB)	During the day, wets or dirties his pants, although has already learned how to use the potty.			
Complimentary, says thank you (PSB)	Expresses satisfaction or appreciation for things done by others (e.g., says thanks when given something to eat, tells a sister that the drawing she made is really nice).			
Physically aggressive with adults (AB)	For example, hits or punches when someone refuses permission for something.			
Physically aggressive with siblings or other children (AB)	For example, tries to harm others when he is mad, wants a toy from another child, is fighting with others.			
Plays with fire, lights matches (ODB)	Intentionally tries to burn things.			
Looks you in the eye (PSB)	For example, when someone speaks to, plays with or explains something to the child.			
Disobeys (AB)	Doesn't do what parents ask, doesn't pay attention (e.g., if asked to pick up his toys, hears the request but doesn't act on it; if asked to come to the table, says No and walks away).			
Pesters or teases others (AB)	Interrupts, bothers or makes fun of others (e.g., turns the pages of the book his brother is reading, hides the toy his sister is looking for).			
Talks with others (PSB)	Tells others what he has been doing, answers questions asked by parents, tells parents what he did at school, what games he played, etc.			

		Yes	No	Problem
Verbally aggressive with adults (AB)	Uses negative language that expresses hostility (e.g., calls others names, swears, shouts "I hate you").			
Verbally aggressive with siblings and other children (AB)	As above; tries to humiliate other children (e.g., tells them they are stupid).			
Steals things at home (AB)	Takes things belonging to others without their permission (e.g., takes money from his mother's purse, brings home things that don't belong to him and won't explain how they were acquired).			
Expresses friendly gestures (PSB)	Tickles, holds hands, likes to be picked up and put on a parent's knee, gives hugs and kisses.			
Runs away (AB)	Goes off without permission and without saying where he is going, even if the parents have said that he must tell them where he will be.			
Has temper tantrums, crises (AB)	Shows his anger by shouting, uncontrolled screaming and gestures directed to no one in particular (e.g., when told to go to bed, falls on the floor, crying; in stores, when told he cannot have a candy, shouts and makes a scene).			
Sad or unhappy (ODB)	Often seems sad or says that he is unhappy.			
Jealous, competitive (AB)	Tries to win out over others for rewards, materials, affection (e.g., objects when Mom pays attention to a younger child; challenges friends or tells others he is better than them).			
Stands up for his rights (PSB)	Makes requests or refuses demands without crying or threatening others; has reasons for his demands and refusals; can come up with solutions when needed.			
Takes care of himself (PSB)	Is able to take care of himself (e.g., brush teeth, get dressed on his own, eat without help).			
Expresses his feelings (PSB)	Talks about feelings (positive and negative) to do with other people and situations involving him.			

THE CHILD'S PERCEPTION OF HIS BEHAVIOURS
AT HOME AND AT SCHOOL

CHILD'S NAME: _____   FILE NO.: _____

DATE: _____

FACILITATOR'S NAME: _____

Your parents and I have been talking about what is happening with you here at home.

Today, I am interested in getting your point of view. I want to know how you see what you do and what your parents do with you, and what is going on at school. I would like you to talk to me about things that interest you and make you feel good.

I would also like you to talk to me about things that are unpleasant or make you feel bad. Later on, as part of the activities we will do together, those may be things we can help you change.

<u>At home</u>

- Do your parents ask you to follow any rules at home? What are they?

_____

_____

_____

_____

- Do you follow those rules? Always, most of the time, sometimes, never?

_____

_____

_____

_____

- What do your parents do when they want to please you, reward you, or make you happy (i.e., what makes you happy?)?

_____
_____
_____
_____

- What do you do or how do you behave to make your parents happy?

_____
_____
_____
_____

- What do your parents do when you do something good?

_____
_____
_____
_____

- What are the things that you do or the kinds of behaviour that make your parents unhappy or angry?

_____
_____
_____
_____

- What do your parents do when you do something bad?

_____
_____
_____
_____

- What would you like to change (make more pleasant) at home, with your family?

_____

_____

_____

_____

<u>At school</u>

- What are your favourite subjects?

_____

_____

_____

- How do you get along with your teacher?

_____

_____

_____

- How do you get along with the other children in your class?

_____

_____

_____

- Do you sometimes have trouble at school? What kind of trouble?

_____

_____

_____

- Do you have a lot of friends?

_____

_____

_____

- Are there things you would like to change (make more pleasant for you) at school?

- If you had "three wishes", what would you want to happen at home or at school?

Appendix 6

Description of the Parents' Behaviours
(Model interview with the parents)[1]

[1] Translated from:
La description des comportements des parents. Sous la direction de L. Bertrand (1988), *Projet pilote de prévention du développement de comportements antisociaux chez des garçons agressifs à la maternelle: Guides d'intervention*. Montréal, QC: Groupe de recherche inter-universitaire sur la prévention de l'inadaptation psycho-sociale, Université de Montréal.

(Model interview with the parents)

**Parents' Description of Their Interventions
to Deal with Their Child's Behaviours**

CHILD'S NAME: _____ FILE NO.: _____

NAMES OF THE PERSONS AT THE MEETING: _____

DATE: _____

FACILITATOR'S NAME: _____

To the parents,

    You have indicated to us a number of behaviours exhibited by your child, _____,
at home. Some of these behaviours are pleasant and you appreciate them; others are repeated
fairly frequently and can sometimes create difficulties at home.

    Together we will try to explore what happens when your child manifests these behaviours.

    The session should lead to a description of:

1. *The behaviour and the situation* in which it takes place. The objective here is to obtain an
   accurate picture of what the child does.

   Some useful questions.

   - Tell me exactly **what the child does**.

   - Does this behaviour occur in any **situations in particular**?
     E.g., at home; when visiting friends; when the family is running errands; with friends
     when he plays outside, etc.;

   - Does this behaviour occur at **particular moments of the day**?
     E.g., in the morning, at night, etc.

- Does this behaviour occur with certain persons in particular?
  E.g., mother, father, brothers, etc.

- How many times does it occur **on average** per hour, per day, per week or per month?

Here parents can be asked to describe **the last time the behaviour took place** (to obtain an example illustrating the behaviour). The objective at this point is to determine whether this behaviour tends to arise in a typical, repetitive pattern, and to what extent this behaviour elicits responses from certain family members or the entire family.

Some questions that might be useful are:

- Describe a typical situation. How did it start? What happened next? And then? And then? (have them describe the sequence of events). How did it end?

If one of the parents does not seem to have been involved in the situation, it might be worth asking:

- Where were you when this situation occurred? Did you hear about it? What did you do?"

2. *Cognitive and emotional responses*

The questions asked here will help determine what the parents **think** and **feel** when the child exhibits this behaviour. Useful questions include:

- When _____ (your child) does _____ (the behaviour), how do you feel? (E.g., angry, unsure, anxious, proud, happy, …).

If the parents have difficulty remembering their emotions or feelings, the question can be reformulated:

Remember the last time it happened. Try to see the scene again in your mind… Can you see it properly? O.K. how does the situation make you feel?

When the parent starts sharing his or her feelings, it is important to **discover, identify and connect the thoughts** associated with those feelings.

- When _____ (your child) does _____ (the behaviour) and you feel _____ (the feeling), what are you thinking?

It is important here to show empathy and to reassure the person that many people feel like him or her in that kind of situation. One of the goals of the meetings will be precisely **to help the parents feel better as they gradually learn new ways of dealing with their child's behaviours.**

3. *The desired behaviour (in prosocial terms)*

When the behaviour is one that creates a problem, we try to lead the parents to describe the more desirable behaviour they would like to see replace the problem behaviour.

Here, it is necessary to help the parents translate what they expect in terms of behaviour; e.g.,
stop fighting = share his toys
wait his turn
play a few minutes on his own

When the prosocial behaviour is properly identified, we can ask the parents to estimate how often and in which types of situations this prosocial behaviour currently takes place.

4. *Parents' usual ways of dealing with problematic behaviours and encouraging appropriate behaviours*

Useful types of questions:

What do you do when your son does _____ (the behaviour)?

What effect does it have?

Is that **your usual way** of responding to this behaviour?

In addition to those responses when the behaviour takes place, **have you ever tried to prevent it**, to do something so that it will not happen? What have you done? How did it work?

Have you ever **tried to encourage** your son with regard to his appropriate behaviour patterns? How did it work?

Aspects of the Organization of Family Life

Objectives: - Review different moments of the day and the rules, chores, and responsibilities that apply to each person.

- Differentiate between weekday routine and weekend routine (where relevant).

- Distinguish one parent's perception from the other's (where appropriate).

Question 1:   Can you describe these moments **in a few words**?

    1.1   The morning wake-up routine

Father	Mother

    1.2   The washing-up and bedtime routine

Father	Mother

Question 2:   What do you usually ask of your child at meal times?

Father	Mother

    2.1   Generally speaking, how does your child respond to your demands?

Father	Mother

Question 3:   What are the rules (regulations, demands, requirements) that you ask your child to follow inside the house?

Father	Mother

3.1   What are the rules (regulations, demands, requirements) that you ask your child to follow outside the house (neighbourhood, school, public places)?

Father	Mother

3.2   Generally speaking, are these rules respected?

Father	Mother

Question 4:   How would you complete the following sentences?

4.1   When it is time for _____ to go to bed, for me that moment is…

Father	Mother

4.2   When it is time to tidy up in my child's room…

Father	Mother

Question 5:   On days off and weekends, is the organization of your family life different or fairly similar to the weekday routine?

No ☐   Yes ☐ (specify)

Question 6: What are the chores that _____ has to do regularly (at home and outside)?

6.1 Generally speaking, how does your child approach his chore(s)?

Father	Mother

6.2 Are you satisfied with the way in which _____ performs his chores?

Father	Mother

6.3 (If the child has no regular chores) would you like him to have any?

Yes ☐ Which ones? _____

_____

No ☐ Why? _____

_____

Question 7: Does _____ have specific rights, permissions, responsibilities at home?

No ☐   Yes ☐ (specify)

_____

_____

_____

7.1   If the answer is yes, does he fulfill these responsibilities well?

Father	Mother

7.2   (If the child does not have responsibilities) what are the reasons for not giving _____ responsibilities?

Father	Mother

Question 8:   Do you have any comments to add, following any questions, at the end of this session?

_____

_____

_____

_____

_____

_____

Appendix 7

Description of the Family Situation
(Model interview with the parents)[1]

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[1] Translated from:

La description de la situation familiale. Sous la direction de L. Bertrand (1988), *Projet pilote de prévention du développement de comportements antisociaux chez des garçons agressifs à la maternelle: Guides d'intervention*. Montréal, QC: Groupe de recherche inter-universitaire sur la prévention de l'inadaptation psycho-sociale, Université de Montréal.

DESCRIPTION OF THE FAMILY SITUATION
(Model interview with the parents)

**The Family Environment and
Outside Resources**

CHILD'S NAME: _____ FILE NO.: _____

NAMES OF THE PERSONS AT THE MEETING: _____

FACILITATOR'S NAME: _____

DATE: _____

1. Have you ever participated in programs addressed <u>to parents</u>, for example, programs on family-life awareness, parent-child relationships, family encounters, those offered by CLSCs (community health clinics), etc.

<p style="text-align:center">Yes ☐   No ☐</p>

<u>If the answer is yes</u>:

List the programs in which you have participated and their (approximate) dates.

_____
_____
_____
_____

How did this/these program(s) help you? What were the advantages of the program(s)?

_____
_____
_____
_____

Are there things about the program(s) that you did not like?

_____
_____
_____
_____

2. Are there people you can always count on and confide in, for example:

People who give you advice on how to deal with your child(ren)

Or people who support you when you are having a difficult time (emotionally, for example), who give you special help, like babysitting your child(ren) or giving you a hand?

Yes ☐   No ☐

If the answer is yes:

What connection are these people to you (father, sister, relations, friends, etc.)?

People   Type of help provided by these people

_____   _____
_____   _____
_____   _____
_____   _____
_____   _____
_____   _____

3. Are there people who ask you for help?

Yes ☐   No ☐

If the answer is yes:

What connection are these people to you (father, sister, relations, friends, etc….)?

People   Type of help provided by these people

_____   _____
_____   _____
_____   _____
_____   _____
_____   _____

Does this happen often?

_____
_____
_____

4. Have you ever consulted or been referred to a professional resource (e.g., psychologist, psychiatrist, facilitator, CLSC, etc.) for your child(ren) or your family?

Yes ☐   No ☐

If the answer is yes:

Can you describe the problem and the assistance you received?

_____
_____
_____
_____
_____
_____

5. Are there other resources in your neighbourhood from which you receive or have received services? (e.g., CLSC, community clinics, health department, etc.)?

_____
_____
_____
_____
_____

6. Do you participate in activities or do you belong to associations or groups (e.g., recreational groups) in your neighbourhood or at work?

Mother: ☐ Yes   Father: ☐ Yes
        ☐ No   ☐ No

If the answer is yes:

What kind of participation and responsibility do you have in these groups?

_____   _____
_____   _____
_____   _____
_____   _____

7. How many hours a week (approximately) do you devote (or put aside) for recreation of all kinds?

For yourself: _____

With your spouse: _____

With friends: _____

Can you tell me what these types of recreation are?

_____

_____

Appendix 8

Case Study
Session Report
Intervention Progress Report[1]

CASE STUDY

CHILD'S NAME: _____ FILE NO.: _____

PARENTS' NAMES: _____

_____

FACILITATOR'S NAME (family): _____

(school): _____

The Child's Behaviour

Results

Q.E.C.P.

	Aggressiveness	**Inhibition**	**Prosocial**
Grade _____	_____	_____	_____
Grade _____	_____	_____	_____

Child Behaviour Checklist (Achenbach)

A. Social skills

	Activities	**Social**	**School**	**T-score**
Mother	_____	_____	_____	_____
Father	_____	_____	_____	_____

B. Behaviour

	Anxiety	**Depression**	**Difficulty Commun.**	**Obsession-Compulsion**	**Somatization**
Mother	_____	_____	_____	_____	_____
Father	_____	_____	_____	_____	_____

	Social with-drawal	**Hyper-activity**	**Aggressiveness**	**Delinquency**	**T-score**
Mother	_____	_____	_____	_____	_____
Father	_____	_____	_____	_____	_____

Description of the child's behaviour

	Main Aggressive Behaviours
At home	
At school	

	Main Prosocial Behaviours
At home	
At school	

Behaviours to work on with the child

According to parents:

_____
_____
_____
_____

According to teacher:

_____
_____
_____
_____

According to facilitator:

_____
_____
_____
_____

Other observations or particular problems with regard to the child

_____
_____
_____
_____

Portrait of siblings (siblings' characteristics, type of contact between siblings and target child, parents' contacts with siblings, etc.)

_____
_____
_____
_____

Other services received by the child

At school: _____

Elsewhere: _____

If so, the type of coordination required with the other service providers:

_____
_____
_____

Facilitator's impressions

Toward this child, I feel:
- very positive _____
- positive _____
- neutral _____
- a bit irritated _____
- very irritated _____
- don't know _____

With regard to his participation, this child will be:
- extremely positive _____
- cooperative _____
- neutral _____
- reticent _____
- very reticent _____

Overall, I have the impression:

___ that it will be very difficult to work with this child
___ that it will be somewhat difficult to work with this child
___ that it will be like with most children
___ that it will be easy to work with him
___ that it will be very easy (in fact, there is very little to do in terms of intervention)

Parental Skills

Results

Parental attitudes (Falender)	*Pleasure*	*Stimulation*	*Authority*
(mother)	____	____	____
(father)	____	____	____

Parent-child relationship (MCCP)	*Coercion*	*Inducement*	*Support*
(mother)	____	____	____
(father)	____	____	____

Facilitator's perception of parental skills

1. *Setting rules at home* (presence or absence of rules?; are they clear?; have acceptable limits with regard to expected and tolerated behaviours been set?; have the rules been applied?; is family life organized or disorganized?…)

_____

_____

_____

_____

_____

_____

2. *Supervision of the child* (are the parents interested in what the child does: do they ask and listen instead of criticize?; do they talk to him to teach him values and skills?; do the parents spend time with their child: games and activities, help with homework, etc.)

_____

_____

_____

_____

_____

_____

3. *Use of reinforcement* (do the parents check whether the child has performed his chores, follow up on their request, compliment him if he has done them?; the type of reinforcement they use; whether their reinforcement is contingent or not; etc.)

4. *Use of punishment* (do the parents only threaten to punish, or do they follow through on punishments; the type of punishment used (reasonable, exaggerated, etc.); (whether punishments are contingent or not, etc.)

5. *Relationship between the parents* (type of contact; agreement or disagreement about the way of doing things; their perceptions of the child; role played in the couple; dominant, dominated, etc.)

6. *Satisfaction with being parents* (take pleasure in being with their child; satisfaction with their way of intervening, with the results of their interventions; desire to learn new things, etc.)

7. *Family's social network* (isolation vs. friends, types of recreation, support received from and provided to those around them, professional services received by the parents, etc.)

_____
_____
_____
_____
_____
_____

Facilitator's impressions

With regard to the type of family:

_____   The parents are reticent to set limits for their child out of fear of losing his love.

_____   One of the parents is very permissive and the other is authoritarian. They sabotage each other's attempts to establish discipline.

_____   The parents treat the child as an equal. They may have delinquent tendencies.

_____   The parents have confused or inadequate ideas about raising children. They do not know what to do.

_____   Severe or frequent crises in the family interfere with childrearing.

_____   The parents are so caught up in what is happening to them at the personal level that they pay little attention to the child. They are distant and not very warm.

_____   Other.

_____
_____
_____
_____

With regard to the parents' attitudes:

At the meetings, the parents seemed:

Father   Mother

_____   animated and talking a lot   _____

_____   to speak almost constantly, hard to stop   _____

_____   very withdrawn, almost never speaking   _____

_____   to speak occasionally, withdrawn and difficult to involve   _____

_____   to speak normally: involved   _____

Toward the parents, I feel:

Father   Mother

_____   very positive   _____

_____   positive   _____

_____   neutral   _____

_____   somewhat irritated   _____

_____   very irritated   _____

Overall, I have the impression:

_____   that it will be very difficult to work with these parents

_____   that it will be fairly difficult to work with these parents

_____   that it will be like with most parents

_____   that it will be easy to work with them

_____   that it will be very easy to work with them (in fact, there is very little intervention to be done)

Recommendations:

With regard to following this family:

- pace: _____

- intervention period: _____

- type of contact: _____

With regard to the activities to be carried out with the child:

- type of activities: _____

- pace: _____

- intervention period: _____

SESSION REPORT NO. ____

File No.: _____   Persons present: _____

Date: _____   Resource person: _____

Duration: _____

1. *OBJECTIVES*   FORESEEN   REACHED   STILL SOUGHT

Of the meeting   _____

_____

_____

Short term   _____

_____

_____

2. *SKILLS ADDRESSED DURING THE SESSION*

Rules   ☐   Supervision   ☐   Positive reinforcement   ☐

Punishment   ☐   Communication   ☐   Negotiation or   ☐
                                                          problem-solving

Particular problems (theft, enuresis, etc.) _____

3. *ASSESSMENT OF WHAT HAS BEEN LEARNED*

With regard to skills (transfer, generalization, etc.)

_____

_____

_____

With regard to use of program tools

_____

_____

_____

With regard to each member's involvement (number and frequency of exchanges – type of relationship, etc.)

_____
_____
_____

Satisfaction (expressed by the family or the facilitator)

_____
_____
_____

Difficulties

_____
_____
_____

4. *OTHER* (information about school, activities, etc.)

_____
_____
_____

INTERVENTION PROGRESS REPORT

Case Summary

IDENTIFICATION

Birth date (C.C.) _____

Address _____   Tel. No. _____

Siblings: how many: _____
            birth date(s): _____
            rank of the C.C.: _____

Birth Dates: birth mother _____
                birth father _____
                substitute mother _____
                substitute father _____
                other(s) (specify) _____

                _____

Family status of the child

From	To	From	To	From	To

School status of the child

	From	To	From	To	From	To
Grade						
School						

Social (employment) situation of the adults in charge of the child

	From	To	From	To	From	To
Mother						
Father						

Current socio-economic context

Environment: underprivileged area _____
          average area _____
          well-to-do area _____

Number of rooms in the house _____

Condition of the environment __/__/__/__/__/
                        1 2 3 4 5
                        dirty   clean

Particular problems and events

Experienced by the child _____

_____

_____

Experienced by the mother and/or father _____

_____

_____

Experienced by the couple _____

_____

_____

Services received

	From	To	From	To	From	To
At home						
At school						

Classification following the assessment

_____

_____

_____

_____

Intervention at Home

Child's behaviours

	According to parents	According to us
To be worked on		
Worked on		

Sessions with the parents

Facilitator: _____

Number of sessions: _____
Start of the intervention:_____
End of the intervention: _____
Pace of the sessions: _____
Interruptions during the intervention: _____

Type of program carried out: _____

_____

1. Reactions to the service proposal: _____

_____
_____
_____

2. Type of welcome during the meetings: _____

_____
_____
_____

3. Content of the intervention:
   Main topics addressed _____

_____
_____
_____
_____
_____
_____
_____

   Elements of the program touched upon:

   booklet   _____   punishment and time out _____
   observation   _____   negotiation   _____
   encouragement and contact   _____   generalization   _____

   Skills worked on with the parents: _____

_____
_____
_____
_____
_____
_____
_____

4. Parents' participation throughout the intervention: _____

_____

_____

_____

5. Child's participation: _____

_____

_____

_____

6. Reason for the end of the intervention: _____

_____

_____

_____

Future Prognosis

Assessment of the intervention

	Changes noted	To be continued
In the child's behaviour at home		
In the parents' skills in dealing with the child		
In relation to the child's behaviour at school		
In relation to the support provided to the child by the school environment		

Facilitator's impressions

At the beginning of the intervention: _____

_____

At the end of the intervention: _____

_____

Facilitator's degree of satisfaction with the results of the intervention:
in relation to the child: _____
in relation to the parents: _____
in relation to the school: _____

Prognosis (of the child's future adaptation):

    At home: _____

    At school: _____

Prognosis (of the parents' maintenance of acquired skills):

_____

Filled out by: _____

Date: _____

Appendix 9

Learning Together
Parent's Booklet[1]

___

Translated from:

Apprendre ensemble: Carnet de lecture des parents. Sous la direction de L. Bertrand (1988), *Projet pilote de prévention du développement de comportements antisociaux chez des garçons agressifs à la maternelle: Guides d'intervention*. Montréal, QC: Groupe de recherche inter-universitaire sur la prévention de l'inadaptation psycho-sociale, Université de Montréal.

This booklet will be a precious tool in your hands. In putting it together, we have drawn on several specialized studies on learning and behaviour, and on our meetings with you, the parent-collaborators.

The reflections we will be reading here are based on the following principle:

We all learn most of our behaviour patterns from others.

We are convinced that by putting into practice what you get from the readings, you will become more effective in your efforts to maintain, teach, and change some of your child's behaviours.

What you are about to read may surprise you at times. In fact, parents often choose excellent methods to maintain, teach, or change our children's behaviour. Sometimes, though, these methods do not really produce the results they seek. The parents may have the impression that they are getting what they want. But since the methods have to be started all over again for each new episode of the behaviour, they are not actually effective in maintaining, teaching, or changing certain patterns of behaviour. The readings ahead will also help you discover the pitfalls of some of the childrearing methods you use.

How to Use This Booklet

The principal ideas in this booklet are written in several short paragraphs and are illustrated by examples. To make your reading more rewarding, and to help you remember the texts, the last page of each section features a fill-in-the-blank section. We recommend that you read the text in the section then answer the questions:

1. **Read each sentence carefully.**

2. **Write the words that you think should appear in the blank spaces.**

3. **Compare your answer to the one written in the "answer" section of the booklet.**

4. **If your answer is different from the answer in the booklet, take a few minutes to think about it.**

5. **Do not erase your answer to replace it with the answer from the booklet. The two answers may mean the same thing.**

6. **Reading the texts in the booklet will not make your child's behaviour change. However, it is necessary to observe your child effectively, talk with him about his behaviour, and find the best way to change the behaviour.**

7. Writing answers in the blank spaces may help you remember the text you have just read.

The sections in the booklet examine these topics:

Section 1

Observing Behaviour

When we decide to change an unsatisfactory aspect of our life, as with a child's behaviour, we often make the mistake of taking on the problem as a whole.

Together we will take the time to see what is really going on. We will use the three steps required to observe the behaviour we want to change. These three steps are **definition**, **identification**, and **duration** or frequency.

**To know what we are observing, we must obtain a clear
and precise definition of it.**

Let's take the example of a parent who wants his child to move around less. Is the behaviour that the parent wants to change that of "always getting up off his chair during meals", is it "never sitting still in his chair", is it "making faces all of the time", is it "cracking his knuckles constantly"? The parent has to specify, otherwise, he or she will get the impression of trying to change everything at once, and finally changing nothing at all.

**Identifying what happens before and after the child's behaviour
allows us to change our habits**

Let's take the example of a child who gets up off his chair often while doing his homework. What happened BEFORE the child got up?
- His father turned on the TV.
- His father got home with the groceries.
- His sister was laughing with you in another room.

What happened AFTER he got up?
- He sat down in front of the TV.
- He looked through the grocery bag.
- You told him to go back and do his homework.

Answers to the questions on the last page:

1. Observe it
2. Define
3. Identifying
4. Writes it down, notes it
5. Observation

Looking at what happens before and after the behaviour enables us to identify what we can change to make the child's behaviour change and what we can change in the way things are organized, for example:
- change where he does his homework
- change what we do, such as not turning on the TV in the room where he does his homework.

Measure the duration or count the number of times
that the behaviour takes place.

By taking the time to count, for example, the number of times the child gets up during meals or while he is doing his homework, I may notice that "always" and "continually" are not actually the case when it comes right down to it. After keeping track for 5 to 10 days, I may notice that, on average, the child can stay seated for 8 minutes during meals, or that he gets up 28 times in 10 minutes.

As we have just seen, observing in detail the child's behaviour pattern is *the key* to successfully teaching, maintaining, or changing behaviour, and I will show you how to deal with the behaviour in question.

Observing your child's behaviour

1. To change, maintain, and have your child adopt a new pattern of behaviour, you must
   _____.

2. Most parents worry about their child learning to put away his clothes. The first step is to
   _____ the behaviour that needs work: PUTTING AWAY HIS CLOTHES.

3. The second step consists of _____ the circumstances. WHEN (at what time, at what moment, after or before)? PLACE (where, in what part of the house)? For the example of putting away the clothes, we would specify AFTER HIS BATH, IN THE CLOTHES HAMPER.

4. For a period of 5 to 10 days, the parent observes whether the child's clothes have been put away in the hamper after his bath; the parent _____ on the observation sheet, along with the number of clothes put away.

5. Parents can do something to change their child's behaviour. _____
   is the beginning of change.

Section 2

Parents and Children Learn Certain Patterns of Behaviour
from Each Other

1. *Imitation*

Children copy our way of cutting food at mealtime. They copy certain words or expressions we use to talk to our friends.

A child speaks to his friends in the same way we speak to him. If we yell at him when he doesn't do what we ask, he will yell at his friends when they do not do what he wants.

Children do what we do and learn behaviour patterns that way. They can pick up desirable behaviours (eating well, speaking nicely to friends), and behaviours with which we do not agree (yelling at his friends, hitting them, swearing).

A child can learn certain behaviours by imitating us. We hear people say, "He's just like his father" or "He's just like his mother".

When we see that our child has learned certain behaviours, the questions to ask are:

- Where did he see the behaviour?
- Is it something that we do, that his teacher does, or that his friends do?
- If so, it is very likely that he learned it through imitation.

Answers to the questions on the last page:

1. Learned
2. Learn
3. Learn, change
4. Learn
5. Appropriate behaviours
6. Teach
7. Arise

2. *Consequences*

It could be that the child has learned the behaviours because of the consequences that follow them.

Mario puts his school bag away and changes into play clothes when he gets home from school. Hi mother says: "I'm happy, Mario, you did a good job of putting away your bag and changing into play clothes. Come, I made you your favourite snack."

After supper, Jack gets his school bag and starts his homework. His father notices and says: "That's very good, Jack, you started doing your homework without being asked; if you need any help, I'm here."

Sebastian plays with his brother Michael without fighting. His mother stops and says: "I'm glad to see you two playing together and getting along while I prepare supper."

Consequences can also apply to the parents. Mario's mother noticed that when she tells Mario that he has done a good job, he tends to do the same thing again later. She has therefore learned that encouraging her son produces results.

Now let us take another example, that of bedtime. It is 8 o'clock and the parent tells her child: "It's time to go to bed". The usual excuses start coming: "Um, I want to watch this TV program", "I want to keep playing". "I'm not tired".

- The parent keeps asking the child to go to bed, in a louder and louder voice.
- The child argues more loudly, yells, and is about to have a tantrum.
- At that moment, the parent gives in and says: "OK, you can stay up for another half hour, but that's all, and I do not want to hear another word." Like magic, there is peace and quiet in the house again.

Let us look at what happened at bedtime for the child and the parent.

For the child	*For the parent*
Before: The parent says that it is time to go to bed.	**Before:** The child is about to have a tantrum.
Behaviour: the child argues, gives excuses, and is about to have a tantrum.	**Behaviour:** The parent gives in and allows the child to stay up.
After: The parent gives him permission to stay up. (a consequence for the child: he got what he wanted).	**After:** The child calms down. The parent avoids the tantrum and can continue to read the paper or watch TV. (a positive consequence for the parent: peace and quiet)
What the child learns	*What the parent learns*
The child learns that when his parent tells him to go to bed, if he finds excuses, argues, and threatens to throw a tantrum, his parent will let him stay up.	What just happened affects the parent's behaviour. If she wants to avoid the tantrum, all she has to do is give in – her child will calm down.
He now knows an effective way to get what he wants. In fact, for the child, the consequence is positive: he has permission to stay up; he does not go to bed.	The immediate consequence for the parent is positive: the tantrum has been avoided and there is peace and quiet.
What will this child do the next time he is told to go to bed? He will repeat this behaviour of excuses, arguments, and tantrums, counting on the fact that his parent will give in.	What will the parent do the next time her son threatens to throw a tantrum at bedtime? The parent will probably give in again and let the child stay up.
	The parent has, for the time being, found an effective way to stop an unpleasant behaviour. But she has just been caught in a pitfall: bedtime will regularly take place in the same way.

The parent in the story above noticed that bedtime was difficult, that there were often arguments and yelling, and that the whole process was very tedious. After a lot of effort on her part to change the situation, the parent now experiences bedtime as a pleasant moment, in the way she wanted.

Let us look at another bedtime situation. The child is watching television. The parent tells him: "It is 5 minutes to 8. You have five minutes left to watch television. At 8 o'clock the program ends and you go to bed." The child says: "Yes, I understand." At 8 o'clock, the parent says: "It is time to go to bed, quickly go and brush your teeth and go pee, and then we'll have ten minutes to look at your story book." The child gets up, goes to brush his teeth, goes to the toilet, and says: "I want to see the beginning of another program." The parent is firm: "No, you can choose between going straight to bed, and going to bed and looking at your picture book with me." The child chooses to go to bed and look at the book. At 8:14, the parent says: "We have one more minute, then it's lights out and time to sleep." At 8:15, the parent kisses the child, turns out the light, and the child goes to sleep.

Let us look at what happened at bedtime for the child and the parent.

For the child	*For the parent*
Before: The parent warns the child that he has five minutes left. At 8 o'clock, she tells the child to brush his teeth, go to the toilet, go to bed and read a story.	**Before:** The child is calm. He accepts to brush his teeth and go to the toilet, but he asks to watch another program.
Behaviour: the child obeys, but asks to watch another program.	**Behaviour:** The parent is firm, and calmly reminds the child of his choice.
After: The parent is firm, and reminds the child of his choices. The child goes to bed.	**After:** The child goes to bed, looks at the storybook with the parent, and goes to sleep at 8:15.
What the child learns	*What the parent learns*
The child learns that his parent warns him when he has to change activities (turn off the TV, go to bed).	The parent learns that it is easier for the child when he is told '5 minutes left', '1 minute left'.
He learns that his parent is firm, and means what she says.	The parent learns that when she proposes looking at a storybook, the child will more easily brush his teeth and accept to go to bed.
The next time he is told to go to bed, he is more likely to go.	The parent learns that, by being firm, the child accepts the situation and goes to bed calmly, and that tomorrow it will probably be just as easy.

These examples have just shown us how a parent learns behaviour from her child, and how a child learns behaviour from his parent. That is why we say that parents and children their learn good and not-so-good behaviour from each other.

REMEMBER: When a behaviour is followed by something positive, that behaviour is very likely to repeat itself.

Learning social behaviour

1. Most behaviour patterns that we notice in other people have been learned. Talking, getting dressed, playing, and working are learned activities. We can therefore state that whining, fighting, or throwing tantrums are _____ activities.

2. From childhood to adulthood, we have learned a great deal of things. We learn to talk to our friends about the weather, politics, the price of furniture, our feelings. Throughout our life, we constantly _____ how to respond to other people.

3. Whether they notice it or not, people are constantly learning from one another. They **change** each other. Experts use the term "social learning" to describe the ways in which people _____ from or _____ each other.

4. Reprimanding and hitting are behaviours that most parents learn at one time or another. We can also state that kissing, congratulating, and hugging are behaviours that parents _____.

5. According to this view on behaviours, we can say that, if the child has learned inappropriate behaviours, he can also learn _____.

6. This does not mean that parents teach their children inappropriate behaviours on purpose. But a lot of the things we do or say as parents have unexpected results. Even when they think they are doing the right thing, parents can _____ their child incorrect behaviours.

7. A child can learn to whine, to cry, to fight, and to steal. It is necessary, as a parent, to understand how these social behaviours _____.

Section 3

Positive Reinforcement for Certain Types of Behaviour

In Section 2, we saw that behaviours are learned.

In Section 3, we will look at which methods are effective in maintaining, teaching, and extending the behaviours we appreciate. These methods are called, variously, "encouragement", "rewards", "reinforcers", or "positive consequences".

Let's take an example: A parent does the grocery shopping and brings home all of the ingredients to make a spaghetti dish that everyone likes. When everyone is at the table, the parent hears things like: "This is good." "The best spaghetti I've ever eaten." "It's excellent." Everyone eats everything on his or her plate – and there are volunteers to clear the table and do the dishes.

What happened in this situation?

Before: the parent goes shopping to make delicious spaghetti.
Behaviour: the parent puts in his time to make the spaghetti.
After: the family praises him, is thankful, eats everything, and washes the dishes (positive consequence for the parent)

Will this parent make another special meal for his family? It is safe to assume that this parent will make another meal that pleases the family. Why? Because the parent's efforts have been rewarded by his family's compliments.

Answers to the questions on the last page:

1. Cake
2. Reinforcers
3. Toys
4. Each and every
5. Reinforcer
6. Reinforcers
7. To reward or reinforce or encourage
8. We take him in our arms

1. *Encouragement (positive verbal reinforcers)*

In this column, the parent says things that are nice for the child to hear. But the parent is not specific enough about what he likes about the child's behaviour.	In this column, the compliments or appraisal have to do with the child's work or what he is doing right. They are more effective.
- You are a good boy ----------------------⇒	I'm glad you made your bed
- You are a genius -------------------------⇒	You have made progress in math, congratulations.
- You are a wonderful son------------------⇒	Thank you for doing the dishes.
- You are a brilliant boy -------------------⇒	I like your drawing.
- You are a nice boy------------------------⇒	Your cookies are delicious.
- You're a real carpenter--------------------⇒	You made a great boat.
- You're a terrific goalie--------------------⇒	You played well, it was a real treat to watch you play.
- Bravo! I couldn't have done it better myself -------------------------------------⇒	Is it ever clean in here, I see you've tidied up.

When we show approval or express happiness about good behaviour, we should not forget to say why and give details.

At first, it is important to praise and encourage the child every time he performs the behaviour we want him to learn.

When we praise and encourage a child, we must do it right after he has behaved well, and look at him and smile when we say it.

It is through our appreciation that the child learns to feel happy about himself and what he does.

For some very difficult patterns of behaviour, which the child does not perform very often, the behaviour can be split into steps, with encouragement after each step.

Example: the child does not like to his homework. We ask him to write:
  - one line of spelling exercises and read it out loud to us; when it is done, we encourage him.
  - the second line of spelling exercises, which will be followed by encouragement.
Gradually, as days go by, the steps will get longer and longer. This is called **shaping a behaviour**.

2. *Encouragement in the form of things and special permissions, activities with the parent (positive material reinforcers)*

Material reinforcers such as cookies, candy, toys, books, special permissions, and money can, in some circumstances, come in very handy in helping a child learn to change or maintain a behaviour.

Sometimes, when the child gets too much pleasure from not doing things properly, or when the behaviour he is asked to adopt requires too much effort from him, his parents' encouragement in the form of compliments is not enough to make him behave the way he is being asked to behave. Parents can then resort to material encouragement and special permissions.

> **Every time we give the child something or grant a special permission, or play with him to encourage him, we tell him why we are happy and what he did right.**

3. *Material encouragement and special permissions must be chosen according to each child*

We can often let the child choose the permission or object he would like to earn: candies, fruit, ice cream, a trip in the car, helping his mother with a task he enjoys, money to spend as he pleases, a few minutes to watch TV – In this respect, each child is different. Each one has his preferences.

If material encouragement or permission doesn't work, or has no effect, it is probably because the encouragement or permission is not interesting enough to the child.

> **At first, it is better to choose small objects or permissions that are available every day, rather than big objects and permissions that can only be granted once a week or once a month.**

What is a reinforcer?

1. Giving a child .25¢ as soon as he finishes mowing the lawn is an example of using a reward or reinforcer. If you give him a piece of cake as soon as he straightens up his room, the _____ is a positive reinforcer.

2. Food and money are not the only two important rewards. Other types of reinforcers are much more effective. Some of the most powerful reinforcers are love, attention, and interest shown by the mother and father. Listening to a child, smiling at him, or talking to him are all _____ that most children receive several times a day.

3. If Charles' parents praise him every time he puts his toys away, it is more likely that Charles will put his_____ away in the future.

4. If the parent's reinforcement only happens once, there is no certainty that Charles will put his toys away the next time. To "really" teach him to put away his toys, the parent must remember to reinforce the behaviour _____ time.

5. We want our son to hang up his coat as soon as he takes it off. We can start teaching him to do it by first telling him to hang up his coat, then giving him a positive _____ when he does it.

6. In a given situation, a number of rewards can reinforce the behaviours we want to see our child adopt. For example, smiling at him and saying, "Thank you for doing such a thing." Or kissing him and giving him a candy. These are positive _____ that we can use to raise our child.

7. We should not take our child's good behaviour for granted. We must remember to _____ it.

8. If a child cries when we refuse to give him something and we take him in our arms, we are teaching him to cry when something is refused. The reinforcer of these tears is the fact that _____.

Section 4

Pitfalls: Unknowingly Encouraging Unwanted Behaviour,
or Using Ineffective Means to Change Disruptive Behaviour

Occasionally, all children will exhibit disturbing or unpleasant behaviours. And all parents want to put a stop to this type of behaviour on the part of their child.

Parents then try all sorts of methods, such as asking the child to stop; raising their voice to repeat the request; making fun of the child; criticizing him; threatening him with punishment; punishing him and sometimes spanking him.

When parents use these methods, they are convinced that they are doing it for the right reasons. They want to raise and teach their child properly. However, those who have already tried these methods realize that, even though the behaviour may stop immediately, the methods have to be used over and over again, without an overall improvement of the situation.

In the next few pages, we are going to look together at what happens when a parent uses methods that do not really change the child's behaviour.

Answers to the questions on the last page:

1. make fun of
2. criticize
3. humiliate
4. hurt
5. sad
6. hate
7. hate
8. learn
9. threats
10. sad
11. afraid
12. loved
13. punished
14. slap
15. hit
16. move away from
17. resentment
18. vengeance
19. hide
20. learn
21. use

Let us take a situation that many families are familiar with, the bedtime situation we saw in Section 2. What happens when a parent tells her child to go to bed, and the child continues to play?

For the parent	*For the child*
The child has to be in bed by a certain time, whether he likes it or not. After all, a parent knows that a child needs sleep to stay healthy, to be in good spirits, and to be able to learn in school.	It is very difficult to go to bed. - It means he has to stop playing. It means being cut off from what the other people in the house are doing and saying. - It might mean missing out on something important. It might mean not waking up again. So, for the child, there are definite advantages to delaying bedtime.

What happens with the methods used by the parent?

For the parent	*For the child*
1) She repeats herself, raising her voice. She gets a bit upset.	He does not listen; he is used to hearing his parent repeat herself.
2) She yells things at the child. She gets a bit more upset.	He does not listen; he is used to it.
3) She threatens the child: "Don't make me go put you to bed…" She wants to start to scare him.	He keeps playing; he is used to threats.
4) She starts blackmailing the child: "You're not going to the restaurant on Saturday…" The parent does not like to scare the child, so she tries to win his consent some other way.	He keeps playing; he is used to blackmail.
5) Angry, she storms into the child's room and… shakes him, more or less roughly.	He goes to bed crying.
6) She feels bad about having gone that far, but justified because now the child is in bed. But at what price? Above all because she will have to start all over tomorrow.	He went to bed later. But at what price? He is hurt and angry. He wonders whether his parent still loves him?

In the bedtime example, we see how repeating, yelling, threatening, or blackmailing can even lead to hitting. We could call this a progression of methods, and an ineffective progression at that, because even hitting will not prevent the next bedtime from resembling this one. The methods above are true pitfalls for parents because they do not really change the child's behaviour, despite the energy invested. At best, they teach the child to stop in time to avoid a spanking.

We probably all use methods that are pitfalls at one time or another. To recognize pitfalls properly, we will describe them and give examples.

Pitfalls in what we say	*Pitfalls in using force*
1. **Criticism:** "You big baby." "Clumsy." "Liar." "Idiot." "Stupid." "You eat like a pig." "You think you're so smart."	1. **Spanking**
2. **Teasing:** "Baby." "Chicken." "Sissy." "Scaredypants." "Talk louder, I can't hear you" (when the child is screaming). "Look at those crocodile tears." "You're wet behind the ears."	2. **Slapping**
3. **Threatening:** "If you don't stop, you'll see…" "I'm going to tell your father." "If you don't stop, there's no TV for you for 2 weeks." "If you do that again, I'm going to send you to private school." "If you keep that up, no bicycle for the entire summer."	3. **Other physical punishments.** On his knees in the corner; standing spread-eagle; twisting arms, pulling hair…

We succumb to pitfalls when we criticize, tease, threaten, hit. These methods produce results in the short term, because the child stops the behaviour. But tomorrow, he will start the behaviour again. "We can't do anything, it's always the same." The child learns to criticize, threaten, tease, and hit when he wants something, and learns to obey us not when we ask for something, but rather when we criticize, threaten, or hit.

Pitfalls

1. We must not _____ and _____ the child.

2. Making jokes and teasing the child about his appearance and behaviour: _____, _____ the child and make him _____. That makes him _____ himself and _____ his parents because of the teasing and criticism. He might also _____ to do the same thing to others.

3. _____ may scare the child and make him _____. He might really be _____ of getting hurt or of not being _____, or of being _____ for too long.

4. It is never good to _____ a child, nor to _____ him with a ruler, a belt, a stick, or any other object.

5. A child that we hit might _____ us out of fear or hatred. He might feel _____ toward us. He might try to seek _____ against us. He might _____ to misbehave. He might _____ to hit others and to _____ violence to impose his will.

Section 5

Discouraging Certain Behaviours

Ignoring the behaviour

This is a question of not giving attention to certain behaviours. We can do this when the child is not in a situation that is dangerous to him or to others, and when the problem behaviour does not occur too often.

How do we ignore the behaviour? By mentally and physically distancing ourselves from the difficult situation: by leaving the room or changing activities, for example. If that is not possible, we can turn away from the child, not speak to him, or not look at him.

When parents use the method of ignoring behaviour in order to change it, they are teaching the child that he will not get their attention when he misbehaves.

At the same time, they must teach him appropriate ways to obtain their attention, and they must reward good behaviour by giving the child attention, praise, and encouragement.

Only on this condition will ignoring problem behaviour be effective.

Answers to the questions on the last page:

1. Ignore
2. Often
3. Withdraw it, take it away
4. Teach
5. Less often
6. Every time
7. Bathroom
8. Toys
9. Television
10. 5 minutes
11. 15 minutes
12. Regularly
13. Short

Taking the object away

In certain situations, we can take the object that is being used inappropriately away from the child. For example, if Peter refuses to stop making bubbles in his milk, we can take the glass away for a few minutes. If he is breaking a toy, we can put the toy away, and later show him how to use it properly.

> **This way of doing things teaches the child that he can use things as long as he learns to use them properly.**

Using time out

The best way of gradually changing a behaviour is to reinforce (encourage) the positive behaviour that we appreciate.

However, some of the things that children do must be curbed quickly. Some examples are hitting the baby, yelling in your ears while you are talking on the phone, bothering others.

Here, punishment, if used properly, will quickly produce changes in the behaviours that are disturbing the family. These behaviours often make us angry, although we may not always feel like punishing them. And, if the child is only punished occasionally, it can become a problem.

> **In fact, when we decide to use punishment to change a child's behaviour, he must be punished each and every time he manifests that behaviour.**

It is important to be consistent (to punish every time the child behaves in the way he is not supposed to behave); otherwise, we encourage the child to continue the disruptive behaviour.

Time out is a truly effective form of punishment

Time out is usually used with children between the ages of 3 and 11, and maybe up to age 12. After that age, loss of privileges (taking away a permission, a pleasant situation, a TV program, etc.) is more effective.

What is time out? It consists of isolating the child for a few minutes. The time out must be in a place where: - there are no toys
     - no people
     - nothing else that might distract or occupy the child

It is not a question of scaring the child, but rather of putting him in a place that is **boring** without being a place that is cold or dark. And, often the best place in the house is the bathroom.

Many people have tried a chair in a corner or in the hallway, but, in those two places, the child continues to receive attention from people going by.

How is it done?

To start with, we choose a behaviour that we really want to change. For example, pestering.

Set up a program to encourage the positive behaviour that must replace the behaviour that we are not happy with, and warn the child before beginning the program, "You have done some nice things for me in the last few weeks, but now I want to help you pester less. From this moment on, every time you pester, I will say: 'You are pestering. Time out.' Then you will go into the bathroom (we can gently lead the child there) and sit on the toilet seat for **5 minutes**. I will put the timer on when I close the door. When you hear the timer ring, you can come out of the bathroom. The punishment will be over."

- Prepare the bathroom by removing hazardous objects, bath toys, etc.

- When the pinpointed behaviour occurs, it is useless to talk or lecture the child. Simply say: "You (name the behaviour). Time out."

- If the child refuses to serve time out or stamps his feet… CALMLY say: "That's another minute," and ask him to serve time out. Extra minutes can be added, to a maximum of 15 minutes. Then it is time to decide what privilege to withdraw (example: loss of a TV program, etc.).

- When the child finishes the time out, it is important for the parent to check the state of the bathroom. If the child has made a mess, he must clean it up immediately. If he refuses, there is no discussion; a privilege is simply withdrawn by saying, for example: "O.K., I will clean up, but there will be no TV for you before supper."

- If, during the time out in the bathroom, the child kicks the door, screams, etc., extra minutes can be added, saying: "You're yelling, another minute."

- When a child behaves well in time out, it should be highlighted briefly: "You behaved well during time out."

> **Research shows that 5 minutes of time out are just as effective as 30 minutes. It is better for the child to experience *short periods* of time out *regularly*.**

Many people say, "We have done that, but it doesn't work." That usually means that they have tried it a few times, but…
- they haven't done it every time
- they have not used a time-out room, or
- they have made mistakes (which are easy to make when using the time-out method).

One frequent mistake, when using time out, is not staying calm. This error can be avoided, and we can stay calm by…
- not raising our voice
- not getting angry

Time out is not a way of getting revenge for the child's disruptive behaviour.

**Administered properly, time out will reduce
the child's disruptive behaviour.**

Discouraging certain behaviours

1. When a parent decides to _____ inadequate behaviour on the part of his child, it means withdrawing all forms of attention.

2. A parent can ignore an undesirable behaviour, as long as the behaviour does not occur _____.

3. When the child handles objects in a way that makes too much noise or mess, we can _____ from him for a while. Then, it is important to _____ him how to use it in a better way.

4. Time out is an effective punishment to make the undesirable behaviour occur _____.

5. If we use time out for a child that pushes, shoves, or hits his brothers and sisters, it is important to use it _____ the child pushes, shoves, or hits.

6. The room used for time out must be the same room every time. It can be the _____ or any other place where the child will be alone. He cannot have any _____, nor can he watch _____.

7. The minimum time-out period is _____, and the maximum is _____.

8. Time out can only be effective if it is applied _____ for _____ periods.

Section 6

How to Teach a Child Obedience

It is normal for a child to sometimes refuse to comply with a parent's request or social standards, but here we will examine frequent cases of disobedience and look at the unpleasant consequences they bring about for the parents and the child.

Disobedience and its consequences

Disobedience is defined as: **repetitive behaviour or refusal and opposition to the demands of an adult.**

These demands can be specific and precise, such as, "I'm cold, please close the door."

They can be in relation to daily routines, the rules of the house, for example, making the bed in the morning before leaving for school.

They can be part of social habits, for example, how to answer the telephone, how to eat, how to behave at the table.

When a child obeys our demands often, we feel positively inclined toward him; the parent feels like praising him, encouraging him, thanking him, making him feel good.

However, when a child disobeys often, we lose it; the parent feels disadvantaged, discouraged, thinks that the child is out to get him, that he does it on purpose to make him angry.

It is therefore indispensable for the parent to use appropriate ways of making demands. This will make it easier to get the child to obey. At the same time, the most effective method to reduce disobedience is time out. We spoke about time out in Section 5.

Answers to the questions on the last page:

1. Move closer, call him, look at him, or touch him
2. Do – choice
3. One
4. Lessen
5. Attention – reinforces
6. Time

An example

    Let us take an example of disobedience and compare two ways the parent might behave: While the parent makes supper in the kitchen, the child watches TV in the living room. When supper is ready:

1	2
The parent goes into the living room, waits 2 or 3 minutes for the program to end, then turns to his child: "Marc, turn off the TV, it's time for supper."	The parent yells from the kitchen "time to eat." The child does not move, and the parent repeats, raising his voice: "Did you understand?" Then the child grumbles: "not yet"
The child stays seated, eyes focused on the TV. The parent moves closer and repeats his demand. Then the child grumbles: "Oh! Not yet"	The parent goes to the door of the living room: "O.K., that's enough, you're always in front of the TV – plus it is much too loud." The child shrugs and does not move.
The parent waits a few seconds, then says: "Marc, you are disobeying, time out." The child goes into the bathroom for 5 minutes. When he gets out, he turns off the TV and joins the family.	Exasperated, the parent turns off the TV and leaves the room, complaining. "It's always the same with you."

What do the parent and the child learn in these two situations?

1	2
The parent keeps control of the situation and stays calm and confident about his way of handling the situation.	The parent is unsatisfied. He does not have a way of obtaining obedience in this situation.
The child learns to follow a demand made by the parent. His disobedience lessens.	The child learns to ignore, and disregard demands. His disobedient behaviour patterns are maintained or increased.
The meal can take place in an enjoyable atmosphere.	Since each behaviour pattern gives rise to an unpleasant response, conflicts continue during supper.

Appropriate demands

Let us compare appropriate demands and inappropriate demands.

APPROPRIATE	INAPPROPRIATE
1. Getting the child's attention by looking at him, moving closer to him, touching him, saying his name or using a firm tone of voice.	1. Speaking from far away, without seeing the child.

CONSEQUENCES

The child feels concerned by the demand; he adopts a listening attitude.	The child cannot understand the demand. He is not convinced of the demand's importance; he ignores it or takes his time.
2. Differentiating between a clear demand, i.e., a demand that must be executed and a question. E.g., "Paul, put the 3 garbage bags on the porch, please."	2. Mixing a demand and a question. E.g., "Paul, you have to help me. Do you want to take out the garbage?"

CONSEQUENCES

The child knows what the parent wants, what the parent expects from him.	A question leads to a yes or no answer; the child therefore has the choice to accept or refuse.

APPROPRIATE	INAPPRORPIATE
3. Specifying what has to be done. E.g., "When you get home from school, come put your bag down, then you can go out and play in the lane."	3. Saying what should not be done. Adding long explanations or justifications, or arguments. E.g., "I do not want you hanging around the park after school, you know it's dangerous; and I don't like not knowing who you hang out with."

CONSEQUENCES

The child knows precisely and positively what behaviour he must have.	The child has difficulty telling right from wrong. He has a tendency to answer in the same way as the parent.

4. Clarifying whether the child will be doing things alone or with help from you or from someone else. E.g., "Get into bed; I will come turn off the light in 5 minutes. You pick up your Lego, I will put your books away."	4. Using a vague formulation. E.g., "It's time to think about going to bed. We're going to tidy up the living room. Take care of your things."

CONSEQUENCES

The child identifies his responsibility very clearly.	The child is not sure of what the parent is asking; he therefore tends to ignore it or to do what he thinks is appropriate, but which does not meet the parent's expectations.

5. Making one demand at a time. E.g., "Start by wiping the table with a rag." Once that is done properly, add "Now, rinse your rag and wipe the floor." And so on.	5. Making a series of demands at once. E.g., "Take this rag to wipe up your mess; clean the floor and the table. Don't forget the chair and dry your hands."

CONSEQUENCES

The child proceeds step by step, and gets to the final goal more easily.	There is a risk that the child will forget part of the demands, or will not understand the connection between the different demands.

6. Waiting a few seconds before adding anything else. E.g., (thanks or punishment, reminder or other demand)	6. Asking, but at the same time gloating or threatening. E.g., "You think you can do that yourself, do you? Hurry up before your father finds out."

CONSEQUENCES

The child feels that the time he needs to go from one activity to the other is respected.	The child does what he is told, but feels worried or angry. He tends to reply in the same fashion.

Obedience and clear demands

1. When talking to a child, in order to get his attention, we can _____ to him, _____ by his name, _____.

2. So that the child will know clearly what we expect from him, it is better to explain to him what he must _____, and not give him a _____ by asking a question.

3. It is often easier for the child to fulfill _____ demand than several demands at the same time.

4. If the obedient behaviour is not reinforced, there is a risk that it will _____.

5. By repeating the same demand several times, by scolding or arguing, we give the child _____; this_____ the disobedient behaviour.

6. To make disobedience lessen, we use _____.

Section 7

It Is Important to Communicate Well

Communication is not limited to words

How far way are you from your child when you talk to him? Are you close to him, do you look at him? Or do you look elsewhere? Do you seem relaxed, calm, interested? Or do you seem stressed and tired of hearing your child speak? When you touch him while you are talking with him, is your touch gentle and loving, or rough? Is your voice warm and soft or cold and hard?

Our general attitude is very important for good communication. It is so important, in fact, that it affects whether the words we say will be believed or not.

So when we want to communicate our message properly, it is better:

- **to be close to the person we want to talk and listen to**

- **to look at the person**

- **to seem interested in that person, to show that what he is saying is important and show him that he is the one we are talking to**

- **to touch the person lovingly and gently from time to time to hold his attention (above all with a child)**

- **use a warm, gentle tone of voice**

Once the attitudes needed for good communication have been identified, it is also necessary to think about what we want to say and how to say it.

Communicating with words

Researchers have identified nine verbal behaviours that facilitate or lead to clear, open and effective communication.

1. *Saying what we have to say – Saying our piece – Stating our opinion*

Others need to know what problems are bothering the person, and they need to know what the person wants. If we say nothing, people will act and make decisions for us, thinking they are doing the right thing.

Furthermore, keeping problems inside for a long time, and not saying anything about them, can cause outbursts of anger or impatience.

It is therefore better to talk, to say what we have to say even if it is a problem, than to say nothing: this will avoid the excessive stress that often leads to angry outbursts on the inside or the outside.

2. *Using "I" messages instead of "you" messages*

"I" messages communicate what we are feeling and why. They are not destructive. "You" messages transmit blame, criticism, or judgement. And they prompt defensiveness, anger, or humiliation on the part of the person who receives them.

"**I**" messages	"**You**" messages
- I get worried when you are late.	- You are never on time.
- When I get home after work, I need time to unwind.	- You get on my back as soon as I set foot in the house.
- I want you to get to school on time.	- You can never get to school on time.

3. *Being clear*

It is important to define the desired behaviour clearly:

Arrive on time: means what.
Put away clothes: where, when, how.
Be polite: when, how.
Obey my demands: which demands

This way of proceeding avoids the use of labels to describe problem behaviours: stupid, stubborn, insignificant, etc.

4. *Being brief*

Very long explanations bore others (particularly children) and make them confused, inattentive, and sometimes impatient. We can keep it brief if we:

- Give one or two examples of what we want.
- Do not repeat – say it only once.

5. *Checking to make sure that everyone has understood the message*

We can check to make sure that we were understood by asking questions like:

- Tell me what you have understood.
- What do you think about that?
- Do you agree?

By using such methods, communication becomes a dialogue rather than a long monologue.

6. *Finding out what others are thinking*

If we find out what the other family members are thinking, they will feel involved in the solution reached and will be more inclined to participate.

There are two ways of encouraging everyone to talk:

A. Asking quieter people for their opinions or suggestions.

> - What do you think about that?
> - What would you propose?

B. Asking everyone to hear the others out until the end without interrupting, and show interest in what they have to say.

7. *Showing that we have listened or are listening*

The family members must let the others know that they are listening by maintaining good eye contact, by looking at the person who is speaking, and by indicating that they understand what the other person is saying and feeling.

In order to make the others feel that their problems or points of view have been understood, it is better not to offer solutions or make judgements.

In the following example, the mother hears what her son is telling her, but she is too busy making judgements or giving solutions to really listen.

> Child: "Michael doesn't want me to play with him."
>
> Mother: "If you didn't break his toys, he would like you better." = judgement.
>
> "Do something else, play with your train." = solution.
>
> A better way for the child to feel that he was being listened to would have been:
>
> Mother: "You would like to play with Michael but he doesn't want to and it makes you sad."

The child will feel that he has really been understood, and will be more inclined to find a solution and think about his attitude with the parent's help at a more appropriate time.

8. *Asking questions when we are confused*

This is not a question of interrupting, but of asking questions to better understand the other person's point of view.

In the right doses, questions show that we are interested in what the other person is saying, and that we are really listening.

9. *Pausing communication when it breaks down, and starting it again later*

When there is pressure on one or each member of the family to accept an idea, it is time to stop the communication.

That is when we need a rest, a break, so that everyone can calm down. This pause can last from a few minutes to a day. If the pause is any longer, it will only serve to avoid the problem.

For example, when we see that communication has broken down, we can say:

> **"I need for us to stop talking about this subject for a while."**
>
> **"I feel upset by what's happening, could we continue discussing this when I have calmed down?"**

The members of the family must agree and accept in advance that, if just one person makes that comment, the discussion will stop temporarily.

When the discussion is stopped in time, in other words, before we become too stressed or too upset, there is a chance that it will pick up again quickly and be more effective.

Happy communicating!

Section 8

Negotiating

In order to find solutions that satisfy everyone in the family, the first thing to do when a problem arises is for the whole family to tackle it as a team.

Learning to work together to solve conflicts is the first step toward a solution that will suit everyone and have a chance of really being applied.

To achieve this, we will look at some rules that facilitate the problem-solving process. In the first place, it is important to use the elements essential for good communication to create a climate that is conducive to discussion (review Section 7 on communication).

Rules

Here are some rules that will make the negotiating process easier:
1. Everyone speaks only when it is his or her turn.
2. Everyone states an opinion and provides suggestions.
3. Avoid blaming each other.
4. Avoid unpleasant remarks.
5. Talk about the present rather than the past (by saying what you expect, rather than what went wrong).

These rules make it possible to maintain a climate of attentiveness, openness, and cooperation that will facilitate the participation of all family members.

Problem-solving steps

Here is a summary of the problem-solving steps you can practise as a family:
1. Chose an appropriate moment that gives everyone enough time to talk to each other calmly.

2. Identify **one** problem to work on at a time.
   - What is wrong?
   - When does the problem occur?
   - How do I react in the situation (as a parent, as a child)?

3. Clarify what you do not want (parents and children alike). In other words, specify the purpose of the meeting.
   - What do I want to change?
   - What do I want to happen from now on?
   - Have we taken each person's point of view into account?
   - Are we all in agreement with this purpose?

4. Make a list with the largest number of possible solutions.
   - What can I do differently?
   - Take turns giving varied and new ideas **without criticizing**.

5. Assess each solution proposed.
   - Write a list of pros and cons for each.

6. Choose a solution together, taking into account the list of pros and cons.
   - Each person must be ready to compromise, because there is no perfect solution.

7. Decide exactly how the chosen solution will be applied.
   - Make sure that everyone understands and accepts.
   - Foresee what will happen if someone fails to respect the agreement.

8. Set a trial period.
   - After this trial period, evaluate whether the desired results have been achieved and readjust if necessary.