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*Chapter 14*

**TREATING YOUTH AGGRESSION AND RELATED  
PROBLEMS IN A SOCIAL SERVICES AGENCY**

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**ABSTRACT**

Family TIES (training in essential skills) is a multilevel treatment program for helping youth with anger, aggression, and interconnected problems. It is embedded within a social service centre that provides child protective and youth offender services. In this article we summarize the program's origin and theoretical foundation, and discuss the results of a preliminary investigation. Based on the premise that youth problems emerge largely from family discord, the program involves (a) teaching prosocial and anger management skills to youth, (b) training parents to become supportive coaches for their children, and (c) enacting effective family problem solving within the context of multi-family group sessions. The intention is to replace negative family processes with constructive communication between family members, positive expectations about one another, and shared beliefs in the family's capacity to arrive at mutually agreeable solutions to problems. As part of an internal investigation of the program, youth-report and parent-report measures of youth behaviour, youth social skills, youth and parent anger, parenting, and family functioning were administered prior to and after delivery of the program. Positive changes were found in principal measures of interest, i.e., reductions in youth aggression, rule breaking, and anger; improved parental monitoring; and fewer family functioning problems. The results provide justification for evaluating Family TIES using an experimental design.

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## INTRODUCTION

A growing body of research demonstrates that cognitive behavioural treatments are effective for treating youth aggression and related problems (1), their efficacy further established in meta-analyses (2,3). In a review of juvenile justice programs (4), Aggression Replacement Training® (ART®) was determined to be the most cost effective, providing an estimated cost-benefit ratio of between 45:1 and 20:1. However, mixed findings have also been reported (5). Furthermore, Armelius and Andreassen (2) concluded that the capacity of cognitive behavioural treatments to reduce anti-social behaviour was modest, and contributed to a reduction of roughly 10% in past-year recidivism. Given the public costs associated with these problems (6) and the savings expected with helping even a fraction of youth, continued research on promising treatment options is imperative.

One alternative is to adopt a multilevel approach and incorporate prevention activities, youth/parent skills training, family counselling, and school/juvenile justice policy changes. Ecological (7) and transactional (8) models provide useful frameworks for understanding the need for such approaches, positing the root causes of persistently aggressive behaviour to be issues of not only temperament or genetic makeup, but also breakdowns in family, peer, and community relations. Thus, programs for the treatment of youth behaviour problems should involve their social environment (1). The downside of multilevel programs is that they require considerable resources and complicated collaborations between government, police, schools, and social services.

Family-centred programs (9) represent an appealing compromise, as they address issues at three levels (youth, parent, and family), but are more economical and manageable than comprehensive ecological approaches. Results of meta-analyses are encouraging (10,11). Interventions targeting younger children are preferred because the family is more likely to be intact, and patterns of dysfunction are less likely to be ingrained (12). However, this is not always possible, and a more prudent policy would be to intervene whenever the family is ready to accept help. Moreover, treatment of families with adolescent children was found to be effective (9,10,13).

In this paper, we describe Family TIES (training in essential skills), a unique program that combines family skills training, ART®, and the principles of family therapy, and report the findings of an internal investigation. Family TIES is a voluntary program delivered within a comprehensive social service agency to families struggling with youth anger and aggression problems. An objective of the investigation was to examine whether participants experienced significant changes in emotion, behaviour, and family functioning, from the beginning of the program to 5-7 weeks after the last session. Because there is no comparison group, this study cannot serve as an assessment of treatment effects. However, the design does allow an estimation of the magnitude of change in families and whether a more sophisticated evaluation is merited.

A major benefit of this research is that Family TIES is an agency program. Thus, other child protective and youth offender service networks could reasonably expect to be able to successfully implement such a program. This issue of external validity is particularly relevant. Youth aggression treatment evaluations are often conducted on demonstration projects, which tend to generate larger effect sizes than institution-based evaluations (3). This is not

surprising, as university-based projects tend to unfold in enviable conditions, e.g., supervision by leading experts and suitable funding.

The relatively low-cost (approximately \$24,000 USD) project described here is part of a growing trend toward university-public sector research collaboration. In response to a request from the host organization to evaluate their program, university-based researchers led the study, with practitioners and managers offering data gathering and other assistance. Given the complexities of this collaboration and the challenges of researching high-risk clientele, another investigation objective was to consider the degree to which legitimate research can be garnered from this partnership.

## **Origin and context of Family TIES**

Early versions of this treatment model were first offered by Robert Calame, Guy Robillard, Carole Ladouceur and Marilyn Finesilver in 1993. Family TIES (14, 15) is designed to help youth internalize ART® and Prepare® Curricula by training youth with their caregivers, hereafter referred to as parents. This encourages a transfer of skills to the home environment. This investigation was completed at Batshaw Youth and Family Centres (BYFC), a Greater Montreal Area social services agency. BYFC offers psychosocial health, rehabilitation, social integration, child placement, mediation, adoption, and reunification services to primarily English-speaking children, youth, and families (16). The agency serves roughly 3500 youths in need of protective services and 650 youth offenders in a given year.

Two factors favoured the development of Family TIES. Firstly, the family-centred model adopted by BYFC (16) underscores a commitment to strengthening parents and families and preventing of out-of-home placements. Family TIES clearly articulates this commitment. Secondly, Canadian policy has shifted toward a therapeutic approach with youth offenders, particularly in the province of Quebec. With the enactments of the Youth Protection Act (1979) and the Youth Criminal Justice Act (2003), youth offenders with a lesser gravity of offenses are kept out of closed detention centres in favour of less intrusive and restrictive measures. In Quebec, services to these youth are typically administered by child protective services agencies (17). As a result of their dual mandate, agencies like BYFC serve a significant number of youth with aggression problems.

## **Theoretical foundation**

Family TIES shares theoretical assumptions with Skillstreaming®, ART®, and the Prepare Curriculum® (1, 18). For example, child behaviour problems are likely driven by faulty social information processing (19) and incapacities to enact alternatives to aggressivity in provocative situations. As a multilevel program, Family TIES also draws from ecological-transactional, family systems, social learning, and resiliency theories. The following concepts are essential to understanding the rationale of the intervention.

Expectations: Ecological transactional models (20) are useful because they conceive people as being in reciprocal relations with their environment. For example, positive parenting promotes healthy child adjustment, but parents are better at employing positive parenting strategies if the child is well adjusted. When parents expect their children to behave

badly they indirectly contribute to the behaviour (21). They over-emphasize child misbehaviour, respond harshly to insignificant misconduct, and overlook positive behaviour. Family TIES participants enact positive parenting processes through role-play, thereby shifting expectations. When parents believe they can expect good behaviour from their children, they are more likely to remark on and reinforce it. Receiving encouragement for good behaviour, children are encouraged to hone their social skills, and changes that parents see in their children make them feel better about their parenting.

**Efficacy:** Self-efficacy (22) refers to a belief that with persistent effort one will be successful. At the family level, it is shared confidence in one another. For a family to thrive as a cohesive unit there has to be a common belief that members are able to assume their obligations and promote family well-being. Family TIES facilitators reinforce participants' sense of efficacy by pointing out individual and family improvement. These beliefs are reinforced when skills are successfully applied to real life situations.

**Communication:** Many families involved in social services are crippled by enduring, unresolved conflicts and ineffective communication. A crucial aspect of Family TIES is improving family communication, particularly during conflict. By acquiring and rehearsing tension-reducing scripts, families are more equipped to work through disagreements and reach mutually satisfactory compromises.

While families might benefit from each component part of Family TIES, it is reasoned that the use of all its components is likely to bring about appreciable change. When family members hold more positive expectations about one another and have greater trust in their family's efficacy and ability to communicate, they approach potential conflict situations with greater optimism. This positive sentiment is carried forward to other parts of youth's social networks and contributes to reduced aggression.

Finally, Family TIES is informed by resiliency theory, specifically that a supportive relationship with at least one caring adult is a key protective factor for overcoming adversity in childhood and adolescence (23). States Griffin (24), "When you adopt the position that environmental and contextual information drive behaviour, then it follows that treatment implies altering the environment ... families and relationships are the most potent change agents in an environment" (p. 2-3).

The research questions for this study are: Do Family TIES participants demonstrate improvement in family and individual functioning from pre- to posttest, and can worthwhile research be produced from this low-cost university-public sector collaboration?

## **OUR STUDY**

Weekly sessions run for 2 hours over 11 weeks, with a booster session scheduled 5-8 weeks later. The length of the program is consistent with principles of effective family-focused interventions, namely that skills training programs with high-risk families be 10-45 weeks and 25-50 hours long (9). Groups involve two facilitators and three to nine families, with each family typically consisting of a youth and one or both parents. Occasionally, two or more siblings are involved. The curriculum is suitable for male and female adolescents.

Recruiting parents is a priority, even if they are experiencing important challenges in their parenting roles. The rationale is that parents have powerful impacts on the lives of their

children; thus they are key catalysts for effecting change. When parents are unavailable, significant others may be substituted, e.g., grandparent, uncle, aunt, sibling, or friend. Mandated clients are often hesitant to participate and successful recruitment requires considerable encouragement and frequent informal contact. Trained Family TIES facilitators who participate in the recruitment also work as care providers for youth and families. The clients' familiarity with those who actually facilitate the training helps to reduce potential anxiety.

Activities are focused on listening, expressing feelings, understanding the feelings of others, negotiating, controlling anger, empathizing, perceiving situations, problem solving, and moral reasoning. A specific acquisition process is applied: Facilitators introduce and model skill, participants rehearse skill through role-play, successful enactment of skill is reinforced, participants are given assignments to integrate skill in real life, their experiences are discussed in subsequent sessions, and positive efforts are further reinforced.

In the first four weeks parents participate in skills training sessions, acquiring skills that they will later practice with their children. The explicit objective of parent sessions is to prepare them to become coaches for their children. However, in teaching parents how to coach their children, parents expand their own repertoire of social skills. During this time, youth receive ART® training (1).

Parents and their children begin working together in multi-family group meetings on week 5. Learned skills are reviewed, and effective family problem solving strategies are modelled and rehearsed. Participants discuss ongoing problems and how these might be resolved using learned skills. New skills are introduced as required. The emphases on week 11 are to recognize the progress made by participants and highlight their accomplishments. Also, a meal is organized, and personalized certificates are awarded. During the booster session, the content of the program is reviewed, and families troubleshoot newly arisen problems.

## **Attrition**

Families attending either the 10th, 11th, or booster session were considered program completers. Of 114 families who attended the first session, 28 (25%) withdrew from the program. Also, 37 youths (32%) and 36 parents (32%) did not complete both questionnaires. The most common reasons were: not present at the time of testing and unavailable at a later date, explicit refusal, passive refusal (e.g., accepting to participate and repeatedly postponing questionnaire completion), and administrative problems.

We compared pretest scores of participants who had completed the study (i.e., answered both pre- and posttest questionnaires) to those of non-completers (i.e., participants who had answered only the pretest questionnaire). Youth completers ( $M = 14.7$ ) were marginally younger than non-completers ( $M = 15.3$ ;  $t(97) = 2.0$ ,  $p = .052$ ). Female youth had higher study completion rates than male youth (74% and 50% respectively;  $\chi^2(1, N=101) = 5.8$ ,  $p = .012$ ). We found no statistically significant differences in the age, gender, family income and education of parent completers and non-completers. Finally, no differences in parent-reported and self-reported youth aggression and family functioning were found.

## Participants

We analysed 49 youth-report and 50 parent-report information from 58 families. Percentages of males and females were 52% and 48% respectively for children, and 28% and 72% for parents. Mean ages were 14.8 years (SD = 1.5) for youth and 45.3 years for parents (SD = 8.4). The mean ages for male and female youth were 14.9 and 14.7 years respectively. The most common answers to a question on cultural/ethnic affiliation of parent were: Canadian (26%), White (18%), Black/African American (16%), and Italian (13%). Other demographic information is presented in table 1.

**Table 1. Demographic information on parents**

Relation to child	
<i>Mother</i>	65
<i>Father</i>	20
<i>Grandmother</i>	5
<i>Foster parent</i>	4
<i>Other</i>	6
Relationship status	
<i>Married</i>	45
<i>Divorced</i>	35
<i>Common law partner</i>	10
<i>Widowed</i>	3
<i>Other/not answered</i>	7
Education	
<i>University</i>	28
<i>College/technical</i>	24
<i>High school</i>	46
<i>Primary school</i>	2
Family income	
<i>\$75,000 +</i>	32
<i>\$30,000-\$74,999</i>	34
<i>\$0-\$29,999</i>	34

## Measures

The Child Behavior Checklist (CBCL) and Youth Self-Report (YSR) are standardized and normed assessments of global functioning. Both parents and youth responded to the same 112 statements. These instruments have been used extensively by clinicians and researchers, and found to have satisfactory factor structure, validity, and reliability (25). Four subscales were examined: *Aggression*, *Rule breaking*, *Social problems*, and *Somatic problems*.

The 55-item State Trait Anger Expression Inventory-2 (STAXI-2) was administered to parents and youth. In addition to describing their own emotions, parents completed parts of the measure to describe their child's anger. Six subscales were examined. *Trait-anger-temperament* measures inclination toward unprovoked anger, and *Trait-anger-reaction* identifies people who react poorly to criticism. Other subscales assess anger management strategies: *Anger-expression-in*, inwardly directed; *Anger-expression-out*, expressed toward

people or objects; *Anger-control-out*, monitored and prevented from escalating; and *Anger-control-in*, vented by cooling off. Satisfactory reliability and convergent validity have been reported (26).

The 40-item social skills section of the SSRS was administered to youth only. This standardized instrument assesses four facets of social competence: *Cooperation*, *Assertion*, *Empathy*, and *Self-control*. High scores indicate stronger skills. The authors (27) report good internal consistency, reliability, and construct and convergent validity.

Both the parents and youth completed the 60-item McMaster Family Assessment Device (FAD), designed to help distinguish healthy and unhealthy family processes. There are seven subscales: *Problem solving*, *Communication*, *Roles*, *Affective responsiveness*, *Affective involvement*, *Behavioural control*, and *General functioning*. High scores indicate unhealthy family processes. Good reliability and validity are reported (28).

The 42-item Alabama Parenting Questionnaire (APQ) was administered to parents. The APQ was designed to assess parenting behaviours that are known to be protective or risk factors for child aggression and related problems. It is divided into five subscales: *Involvement*, *Positive parenting*, *Poor monitoring/supervision*, *Inconsistent discipline*, and *Corporal punishment*. Higher scores are indicative of healthy parenting for the first two subscales and unhealthy parenting for the latter three subscales. Good internal consistency, convergent validity, and factor structure have been reported (29).

## **Procedure**

Institutional ethics approval was granted by BYFC. Unit managers and caseworkers identified families that might benefit from Family TIES. With support from unit managers and caseworkers, Family TIES facilitators contacted youth in person to participate in the program and evaluation. Parents were sent a formal letter of invitation followed by a phone call to check their address and make an initial contact. After enough time had elapsed for parents to receive the letter, recruiters called again to solicit their participation. Those who accepted were contacted prior to the start of the training to remind them of the engagement, resolve issues that might prevent attendance and invite them to participate in the evaluation.

Participants were recruited from 25 group sessions that ran twice a year between January 2008 and December 2010. Most parents and youth completed the pretest questionnaire prior to commencement of the introductory session, but some were administered within a week at the participants' place of residence. The posttest took place during the first booster session. Some questionnaires were administered at the participants' place of residence or in a BYFC office up to two weeks following the booster session. Parents and youth were tested separately.

Participants were advised that their decision to participate in the study would not affect the quality of services received, they could withdraw from the study at any time, they were free to skip questions without penalty, and their answers would be confidential. They were given a \$20 gift certificate for their participation in the study. Client names were replaced with a non-identifiable number.

## Analytical strategy

Two-tailed paired sample t-tests were administered to determine whether differences between pre- and posttest scores were statistically significant. Scores of participants failing to answer more than 15% of a measure or 20% of a subscale were excluded from analyses. If the data was non-normal, a follow-up nonparametric test (Related Sample Wilcoxon Signed Rank Test) was administered; no discrepancies in the results were found. Outliers were screened, and analyses were performed with outliers removed; no discrepancies in the results were found. Cohen's *d* was calculated using the formula,  $d = (M^{T1} - M^{T2}) / \text{pooled SD}$ ; this provided an estimate of the magnitude of change.

## FINDINGS

**Table 2. Change among youth according to self and parent reports**

	Youth Self-Report			Parent-report		
	Pretest Mean (SD)	Posttest Mean (SD)	t (Cohen's d)	Pretest Mean (SD)	Posttest Mean (SD)	t (Cohen's d)
YSR/CBCL						
Aggression	14.3 (5.9)	12.3 (5.3)	2.8* (.42)	14.7 (5.8)	11.0 (7.3)	3.9** (.61)
Rule breaking	13.5 (5.5)	12.0 (4.6)	2.1* (.32)	11.7 (6.3)	8.9 (5.3)	4.5** (.68)
Social problems	4.9 (3.1)	4.2 (3.2)		5.1 (3.6)	3.7 (3.4)	4.0** (.61)
Somatic problems	5.8 (3.8)	4.7 (3.4)	2.7* (.40)	3.0 (3.2)	2.0 (2.9)	2.7* (.42)
STAXI-2						
Trait anger temperament	8.0 (3.3)	7.9 (3.1)				3.4** (.50)
Trait anger reaction	14.5 (3.9)	12.7 (4.2)		10.5 (3.4)	8.8 (3.4)	2.6* (.39)
Anger expression out	19.2 (4.2)	17.9 (4.5)	3.1** (.47)	-15.6 (4.1)	-13.9 (4.9)	
Anger expression in	17.6 (4.4)	16.1 (4.4)		-	-	
Anger control out	18.9 (4.2)	18.9 (4.0)	2.4* (.34)	-	-	
Anger control in	18.7 (4.2)	18.7 (4.6)		7.9# (2.3)	9.7# (3.0)	-3.8** (.67)
SSRS						
Cooperation	12.9 (3.2)	13.6 (3.1)		-	-	
Assertion	12.7 (3.5)	12.3 (3.7)		-	-	
Empathy	14.1 (3.2)	14.3 (3.0)		-	-	
Self-control	9.6 (2.7)	10.7 (3.0)	-2.2* (.34)	-	-	

Notes. Higher scores on the YSR/CBCL and the first four STAXI subscales are indicative of greater problems. Higher scores on the latter two STAXI subscales and the SSRS are indicative of greater strength/protective factors. The N for analyses range from 43 to 48, except for SSRS Cooperation and SRSS Empathy. These subscales were administered to 3 of 5 cohorts (N = 22). Only statistically significant t scores are reported. Hyphens indicate that this measure was not administered. \*  $p < .05$  \*\*  $p < .005$

# The scores for this measure are roughly half that of the youth self-report scores because they were calculated from 4 items instead of 8

Attendance records were used to consider whether program participation levels were sufficient for eliciting change in families. The results were positive, as 90% of the participants

who completed the Family TIES program attended at least 60% of the sessions. On average, parents attended 83% of the scheduled sessions, and youth attended 87% of the sessions. Facilitator checklists provided an indication of treatment fidelity. After every session, facilitators completed a 15-item list indicating which of the scheduled activities were accomplished. Facilitators complied with the weekly schedule 95% of the time.

For the most part, study outcomes were promising, as discernible improvements were noticed on most measures of interest. Compared to pretest scores, youth anger and aggression levels were lower at the end of the program. Youth reported higher SSRS self-control scores and were more satisfied with the assignment of roles within the family. Parents' self-reported anger scores were lower, and they perceived fewer problems related to supervising their children and sweeping improvements in family functioning. One unanticipated improvement was a reduction in youth somatic problems. Descriptive statistics and t-test results (T1-T2) are presented in table 2 for measures of youth behaviour, anger, and social skills. Parent and family level changes are presented in table 3.

**Table 3. Change at the parent and family levels**

	Youth-Report			Parent-Report		
	Pretest Mean (SD)	Posttest Mean (SD)	t (Cohen's-d)	Pretest Mean (SD)	Posttest Mean (SD)	t (Cohen's d)
<b>Parent (STAXI-2)</b>						
Trait anger temperament	-	-		6.7 (2.4)	5.9 (2.0)	2.7* (.32)
Trait anger reaction	-	-		10.9 (3.0)	9.6 (2.5)	3.5** (.47)
Anger expression out	-	-		15.8 (3.3)	14.6 (2.7)	2.7* (.40)
Anger expression in	-	-		15.1 (3.9)	13.9 (3.7)	2.5* (.33)
Anger control out	-	-		23.2 (5.9)	23.9 (4.3)	
Anger control in	-	-		22.6 (4.2)	24.2 (4.2)	-2.3* (-.38)
<b>Parenting (APQ)</b>						
Poor monitoring & supervision	25.8 (6.2)	24.3 (5.6)		22.7 (6.1)	21.2 (6.2)	2.3* (.34)
Corporal punishment	-	-		4.4 (2.0)	3.8 (1.5)	
Involvement	-	-		36.6 (5.6)	37.0 (5.1)	
Positive parenting	-	-		24.2 (3.5)	24.6 (3.2)	
<b>Family process (FAD)</b>						
Problem solving	11.5 (2.7)	11.3 (2.8)		11.6 (2.2)	10.6 (1.8)	3.2** (.47)
Communication	14.4 (2.5)	14.0 (2.7)		13.5 (2.2)	12.5 (2.2)	3.4** (.49)
Roles	20.0 (3.3)	18.4 (2.9)	2.6* (.42)	21.1 (3.3)	19.3 (2.2)	4.3** (.62)
Affective responsiveness	14.8 (2.6)	14.3 (2.3)		12.8 (2.9)	12.3 (3.3)	
Affective involvement	17.1 (3.4)	15.9 (3.6)		16.2 (3.2)	14.7 (3.2)	3.5** (.51)
Behaviour control	17.8 (4.4)	17.1 (4.4)		17.2 (3.6)	15.0 (3.3)	4.7** (.68)
General functioning	27.2 (6.6)	25.3 (6.0)		27.6 (5.5)	23.8 (5.2)	5.4** (.77)

Notes. Higher scores on the first four STAXI subscales, the first two APQ subscales, and the FAD are indicative of greater problems. Higher scores on the latter two STAXI and APQ subscales are indicative of greater health/protective factors. Hyphens indicate that this measure was not administered. The N for the parent report measures ranged from 46 to 49, except for the latter three subscales of the APQ, which were administered to 3 of 5 cohorts (N = 31-32). The N for the youth self-report measures ranged from 38 to 41, except for APQ poor monitoring/supervision, which was administered to 2 of 5 cohorts (N=19). Only statistically significant t scores are reported. \*  $p < .05$  \*\*  $p < .005$

Parents perceived more positive changes than youth, as a higher number of significant findings and larger effect sizes were noted in analyses of parent reports. Consistent results were noticed between parent-report and youth-report measures that are most germane to this program (e.g., YSR/CBCL-youth aggression, YSR/CBCL-rule breaking, and STAXI-2-anger reaction), with one exception. Although Family TIES is designed to enhance anger management skills, only parents reported improvements in anger control; no such change was noted in youth-report measures.

## DISCUSSION

A principal objective of this study was to examine whether Family TIES participants would demonstrate individual and family level improvements 5-7 weeks following the program. The results were promising, as similar patterns of positive change were noted on parent and self-report assessments of youth aggression, rule breaking, and anger. Moreover, possible secondary benefits were observed, such as diminished youth somatic problems. This indication of improved wellbeing might be a consequence of gains in family functioning and is potentially a precursor to behavioural change in some youth. Although encouraging, it is important to mention that this is a non-controlled study and treatment effects cannot be inferred. A randomized control trial is warranted, ideally one that includes observational measures as well as questionnaires and longer follow-up testing. Further evaluation might also include a bolstered treatment condition (e.g., community-based support services to families exiting the child protection system) and multiple testing points to investigate whether the recovery of emotional wellbeing mediates behavioural improvements.

For the most part, Cohen's *d* statistics reported here are comparable to the magnitude of change reported in evaluations of similar treatment programs (10,11,13). Based on CBCL norms, these improvements might be consequential. The mean parent-report scores for youth aggression and rule breaking went from borderline to normative. Moreover, marked improvements were noted in parent and child Trait-Anger-Reaction, an assessment of pathological anger expression. These changes could translate into increased likelihood of family reunification and improvements to the health of children, parents, and society (i.e., fewer victims of violence).

Cohen's *d* statistics for youth-reported change tended to be smaller than those for parent-reported change. Also, analyses of youth-report measures yielded fewer statistically significant results. Thus, it would seem that youth perceived less change in their conduct and family functioning. A number of plausible explanations are conceivable. Parent reports may be influenced by a conscious or unconscious desire to see improvement. Alternately, because youth are predisposed to strong social desirability effects (30), the capacity to detect youth-reported improvement might have been limited by a ceiling effect. Also, the intervention may have improved their awareness of healthy individual and family functioning, a necessary first step in therapy. Thus, real treatment gains might have been partially masked by a downward correction in youth-report scores from pre- to posttest. Further research is needed to better understand similarities and differences in parent and youth appraisals. Regardless of whether the parent-reported changes are real or inflated, they may contribute to long-term benefits if

they result in parents holding more positive expectancies toward their children and optimism that family issues can be resolved.

Results were largely in accordance with the theoretical model that Family TIES activities will result in improvements in youth self-control, parent supervision, and family functioning, which will lead to reduced anger and aggression. However, despite the anger control techniques integrated into the curriculum, youth self-report anger control scores did not change over the course of the intervention. This is curious, given the decreases in self-reported youth anger and aggression. Again, this might be a case of treatment gains masked by improvements in youth self-awareness. Parents rated their child's anger control skills more positively after the program, but this result should be interpreted with caution as the STAXI-2 was validated as a self-report measure only. In future research, it is recommended that a neutral observer rate anger control.

Another objective of this study was to appraise the quality of research obtained from this university-public sector collaboration. The outcome could be described as a qualified success. According to internal records, the program was delivered in a consistent fashion and participants who completed the program were regular attendees. On the downside, a quarter of participants withdrew from the program. This is not unusual for voluntary programs involving a vulnerable population, particularly if they entail discussing sensitive topics like youth aggression and family dysfunction. That said, further analysis of why families withdraw may prove worthwhile, and lead to a more judicious recruitment process. Study attrition was another issue, with roughly a third of participants not completing one or both questionnaires. These rates are high relative to other research (10,11), and represent a limitation of the study. A particular concern is whether dropout families were experiencing more difficulties. We found no evidence that families who completed the study represented a lower risk group, in terms of demographic characteristics, youth behaviour, and family functioning. In fact, the parents who remained in the study reported non-significantly higher aggression scores for their children than parents who completed the pretest only.

The study's results are indicative that Family TIES is an effective agency program for facilitating positive communications between child protection and youth offender clients and a responsible adult family member, however, a large scale empirical evaluation is now needed.

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## REFERENCES

- [1] Gick B, Gibbs JC. Aggression replacement training: A comprehensive intervention for aggressive youth, 3rd ed. Champaign, IL: Research Press, 2011.
- [2] Armelius BA, Andreassen TH. Cognitive-behavioral treatment for antisocial behavior in youth in residential treatment. *Cochrane Database Syst Rev* 2007;4:CD005650.
- [3] Landenberger NA, Lipsey MW. The positive effects of cognitive-behavioral programs for offenders: A meta-analysis of factors associated with effective treatment. *J Exp Criminol* 2005;1(4):451-76.
- [4] Aos S, Lee S, Drake E, Pennucci A, Klima T, Miller M, et al. Return on investment: Evidence-based options to improve Statewide outcomes (Doc No 11-07-1201). Olympia, WA: Washington State Institute for Public Policy, 2011.
- [5] Greenwood PW, Rand ST. Evaluation of the Paint Creek Youth Center: A residential program for serious delinquents. *Criminology* 1993;31(2):263-79.
- [6] Foster EM, Jones DE, The Conduct Problems Prevention Research Group. The high costs of aggression: Public expenditures resulting from conduct disorder. *Am J Public Health* 2005;95(10):1767-72.
- [7] Bronfenbrenner U. The ecology of human development: Experiments by nature and design. Cambridge, MA: Harvard University Press, 1979.
- [8] Sameroff A. The transactional model of development: How children and contexts shape each other. Washington, DC: American Psychological Association, 2009.
- [9] Kumpfer KL, Alvarado R. Family-strengthening approaches for the prevention of youth problem behaviors. *Am Psychol* 2003;58(6-7):457-65.
- [10] Shadish WR, Montgomery LM, Wilson P, Wilson MR, Bright I, Okwumabua T. Effects of family and marital psychotherapies: A meta-analysis. *J Consult Clin Psychol* 1993;61(6):992-1002.
- [11] Woolfenden S, Williams KJ, Peat J. Family and parenting interventions in children and adolescents with conduct disorder and delinquency aged 10-17. *Cochrane Database Syst Rev* 2001;2:CD003015.
- [12] Tremblay RE, Gervais J, Pettitclerc A. Early childhood learning prevents youth violence. Montreal, QC: Centre of Excellence for Early Childhood Development, 2008.
- [13] Henggeler SW, Melton GB, Smith LA. Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *J Consult Clin Psychol* 1992;60(6):953-61.
- [14] Goldstein AP. The Prepare Curriculum: Teaching prosocial competencies. Champaign, IL: Research Press, 1988.
- [15] Calame R, Parker K. Family TIES: A family-based intervention to complement Prepare®, ART®, and TIES groups. Champaign, IL: Research Press, 2013.
- [16] BYFC. Annual management report. Montreal, QC: Batshaw Youth and Family Centres, 2010. Accessed 2014, Jan 16. URL: <http://www.batshaw.qc.ca/en/who-we-are/annual-management-reports>
- [17] DeGusti B, MacRae L, Vall?e M, Caputo T, Hornick JP. Best practices for chronic/persistent youth offenders. Calgary AB: Canadian Research Institute for Law and the Family, 2009. Accessed 2014, Jan 16. URL: [http://people.ucalgary.ca/~crilf/publications/Final\\_Draft\\_Best\\_Practices\\_Report\\_May\\_2009.pdf](http://people.ucalgary.ca/~crilf/publications/Final_Draft_Best_Practices_Report_May_2009.pdf)
- [18] Goldstein AP. Aggression reduction strategies: Effective and ineffective. *Sch Psychol Q* 1999;14(1):40-58.
- [19] Huesmann LR, Reynolds MA. Cognitive processes and the development of aggression. In: Bohart AC, Stipek DJ, eds. *Constructive and destructive behavior: Implications for family, school, and society*. Washington, DC: American Psychological Association, 2001:249-69.
- [20] Lynch M, Cicchetti D. An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Dev Psychopathol* 1998;10(2):235-57.
- [21] Patterson GR, Forgatch MS. Ny kunnskap om hvorfor det ofte er vanskelig å endre negative samhandlingsmønstre i familier. In: Befring E, Frønes I, Sørli A-M. *Sårbare unge – Nye perspektiver og tilnærminger*. Oslo: Gyldendal Norsk Forlag AS, 2010:168-81. [Norwegian]
- [22] Bandura A. *Self-Efficacy: The exercise of control*. New York: WH Freeman, 1997.

- [23] Masten AS. Promoting resilience in development: A general framework for systems of care. In: Flynn RJ, Dudding PM, Barber JG, eds. *Promoting resilience in child welfare*. Ottawa ON: Univ of Ottawa Press, 2006:3-17.
- [24] Griffin WA. *Family therapy: Fundamentals of theory and practice*. New York: Brunner/Mazel, 1993.
- [25] Achenbach TM, Rescorla LA. *Manual for the ASEBA school-age forms & profiles*. Burlington VT: Research Center Children Youth Families, 2001.
- [26] Spielberger CD. *The State-Trait Anger Expression Inventory (STAXI-2)*. Lutz, FL: Psychological Assessment Resources, 1999.
- [27] Gresham FM, Elliott SN. *Social Skills Rating System Manual*. Minneapolis, MN: Pearson Assessments, 1990.
- [28] Epstein NB, Baldwin LM, Bishop DS. The McMaster Family Assessment Device. *J Marital Fam Ther* 1983;9(2):171-80.
- [29] Elgar FJ, Waschbusch DA, Dadds MR, Sigvaldason N. Development and validation of a short form of the Alabama Parenting Questionnaire. *J Child Fam Stud* 2007;16(2):243-59.
- [30] Feindler EL, Engel EC. Assessment and intervention for adolescents with anger and aggression difficulties in school settings. *Psychol Sch* 2011;48(3):243-53.

