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Feedback-Informed Family Treatment for Conduct Disorder: Findings from a Pilot Study

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### Abstract

As part of a larger randomised controlled trial, this study reports findings from a pilot evaluation of a new family intervention for conduct disorder using a single case design strategy. Across four participants, two who were on court orders through local youth justice services, the intervention was seen to help families realise goals in relation to youth conduct disorder, to improve parenting and family practices, and to improve youth functioning, including peer affiliation. Substantial drops in youth- and parent-reported youth criminality and other antisocial behaviours were maintained across 12 month follow-up. Official offending reports also showed criminal offending reduced across intervention and follow-up, including 3 of 4 participants not offending during or following treatment. For the final participant, through 2 year follow-up, official reports noted 18 months of offending free functioning versus the 18 months prior where 19 separate charges were laid. Benchmarking noted similar trends in offending reductions across time but also less time being required for this treatment versus that required for another systemic intervention evaluated in earlier studies. Discussion considers educational-vocational pathways as mediators of long-term stability and the possibility that feedback-informed services help make for more efficient treatment delivery with these families.

*Keywords:* antisocial youth; systemic, family treatment; feedback-informed services; implementation feasibility.

## Feedback-Informed Family Treatment for Conduct Disorder: Findings from a Pilot Study

The prevalence of antisocial behaviour in youth and the associated negative outcomes for individuals, their families and society have generated considerable research (e.g., Dodge, Bates, & Pettit, 1990; Henggeler et al., 2009; Kazdin, 1987; Kazdin & Weiss, 1998; Loeber, 1982; Patterson, Reid, & Dishion, 1992; Ronan & Curtis, 2008). Prevalence estimates for antisocial behaviour and conduct disorder have risen in the past two decades with financial and socio-emotional costs to young person, family, peers, schools, victims and others being significant (Bonin et al., 2011; Foster, 2010; Romeo, Knapp & Scott, 2006). For example, Romeo and colleagues found that by the time a youth reached 28 years of age, the financial cost of unchecked antisocial behaviour was ten times the initial annual cost with higher costs yet for more severe behaviour.

### Interventions for Conduct Disordered Youth: From Short- to Long-term Efficacy

Therapeutic intervention has historically focused on the child or adolescent (e.g., Kendall, Reber, McCleer, Epps, & Ronan, 1990; see also, Kazdin, 1987; Kendall, Epps, & Ronan, 1991; Ronan & Kendall, 1991). However, various individual and group approaches to addressing antisocial behaviour (e.g., individual therapy; peer groups; residential settings; outdoor-based), though capable of producing effects in the short-term, have often also proven ineffectual in the long-term (Foster, 2010; Henggeler et al., 2009; Kazdin, 1987; Kendall et al., 1990; Ronan & Curtis, 2008). More recently developed interventions that focus on parents, on engagement strategies designed to overcome known predictors of drop-out, on systemic solutions in the context of a larger range of risk and protective factors and on increased quality control have been shown to be more effective in both the short- and long-term (Chamberlain, 2003; Henggeler et al., 2009; Kazdin & Whitley, 2003; Kazdin & Weisz, 1998; Nock & Kazdin, 2005; Ronan & Curtis, 2008).

A family-based, multiple systems approach to intervention has been found to lead to reductions in offending frequency and intensity, poor parenting, and antisocial peer affiliation; increases in positive behaviour, school attendance, positive parent-child interaction, use of positive discipline and monitoring strategies, and prosocial peer association. The most empirically

supported of these interventions is Multisystemic Therapy (MST) (Henggeler et al., 2009). Support for MST includes both efficacy and effectiveness trials in the US (Curtis, Ronan, & Borduin, 2004) and in many overseas locales (Henggeler et al., 2009). For example, Curtis, Ronan, Heiblum, & Crellin (2009) focused on effectiveness evaluation and benchmarking of the initial roll-out of MST in New Zealand (NZ), with findings comparing favourably with previous benchmarked MST efficacy trials. In addition, offending frequency and severity was seen to decrease over time, including continuing reductions following treatment. The intervention itself was successful in producing significant gains across a number of other outcome indicators. Like other MST evaluations, attrition was low with 98% of the participating families successfully completing treatment (average MST treatment completion rate of 86%; Curtis et al., 2004).

#### Current Concerns in Family Treatment Approaches

Despite favourable findings for MST and other similar approaches (e.g., Ronan & Curtis, 2008), problems linked to day-to-day delivery as well as larger scale implementation within a range of mental health (MH), youth justice (YJ) and related organisations continue (e.g., Schoenwald et al., 2008). Thus, for example, a meta-analysis of MST outcomes, done with one of the MST developers (Curtis, Ronan, & Borduin, 2004), found a significant difference in effect sizes between those carried out by highly trained postgraduate students in university settings ( $d = .81$ ) versus by therapists in more usual services settings ( $d = .27$ ) (Curtis et al., 2004; see also response to meta-analysis by Henggeler, 2004).

Other problems linked to service delivery in child mental health and juvenile justice settings are staff burn-out and therapist attrition (e.g., Glisson et al., 2008). For example, the evaluation of MST in NZ reviewed earlier demonstrated positive outcomes across a range of indicators but also found significant therapist attrition over the trial period (over 40%; Curtis, Ronan et al. 2009). Reasons for this attrition rate were not formally ascertained. However, reports from therapists indicated that being responsible for geographic regions requiring, in some cases, considerable

commuting and MST's requirement for therapist 24/7 availability were a couple of reasons cited anecdotally (Curtis et al., 2009).

Additionally, MST was developed overseas and implementation requires significant scoping and oversight. An attempt at both a randomized controlled trial (RCT) and an effectiveness-based evaluation of MST in a public child protection context in Queensland saw a limited number of successful treatment completions. Thus, despite a highly successful legacy, including high levels of successful treatment completion compared to usual services (Curtis, Ronan, & Borduin, 2004), even interventions like MST have problems related to successful dissemination in usual service settings (see also Henggeler, 2004). As one solution, interventions developed and disseminated more locally, with attention to developing organisational relationships and accounting for local conditions (e.g., public service employees' unwillingness to work odd hours or be available 24/7) may assist. However, importantly, with MST being the most evidence-supported intervention for antisocial behaviour in youth, interventions that draw on similar principles are more likely to be successful.

#### The Current Intervention

As a consequence, like MST, the current intervention targets major risk and protective factors, is delivered in the home, and focuses on quality assurance mechanisms, including week-long training, ongoing weekly supervision, and ongoing fidelity assessment. Unlike MST, the current intervention is designed not to require therapist 24/7 availability. The reasons here are threefold: (1) to help promote therapist retention, (2) 24/7 availability may not be necessary for a number of families and perhaps even contraindicated in some circumstances (Curtis, 2004), and (3) to increase potential for uptake of the intervention in public service delivery settings in Australia.

This includes youth justice (YJ) settings, one of which referred 2 of the 4 participants included in this pilot study, provided 2 of the 3 therapists for the current study, and whose parent agency provided funding for this study. Complementing the practice of not requiring 24/7 availability, therapist support and self-care is emphasised within the program. Thus, supervision is aimed at treatment adherence and allegiance as well as pastoral, mentoring forms of support. To

assess the extent to which therapists do feel supported, therapists in the current study were asked to complete a rating scale to assess the extent to which they felt supported and were engaging in self-care.

Linked to the idea of feedback, an enhancement incorporated within the current intervention is underpinned by findings of Michael Lambert and others about the role of ongoing monitoring and its role in enhanced treatment outcomes. Lambert's research has documented that ongoing client feedback about treatment services has been shown to boost effect sizes of treatments for adults between .34 and .92 of an ES (Lambert, 2010a). As a consequence, the current intervention evaluates one set of outcomes through the parent rated Goals Tracking Form (GTF; Ronan, 2009). The GTF is designed to assess ongoing progress on three major family goals/target complaints reflecting problems related to the youth's emotional and behavioural functioning. The family's level of service satisfaction is evaluated with the Session Rating Scale V. 3 (SRS; Miller, Duncan, & Johnson, 2002). The GTF and SRS are introduced to families and include a discussion of the value of the therapist getting feedback, including the role of both positive and negative feedback in helping set the stage for effective outcomes. An additional model enhancement drawing on similar principles is through maintaining contact with families post-treatment through simple 5-10 minute "check-ins" at scheduled intervals through a 12 month follow-up interval. The check-in incorporates a phone chat on how things are going while obtaining GTF ratings. Families are explicitly reminded at check-ins that booster sessions are available if required. This check-in/booster session approach differs from the normal MST policy of terminating therapy contact with families after treatment is concluded, providing referrals for services rather than providing booster sessions or some other form of renewed therapy involvement:

"The latter stage of MST is spent preparing the youth, family, and stakeholders for the withdrawal of MST services. Caregiver competence is highlighted, and mechanisms for maintaining progress are identified. If there is a need for further services, appropriate referrals are made" (p. 20, Multisystemic Therapy Services, 2007).

Thus, this manualised intervention model has tried to retain principles that underpin MST and other approaches (e.g., Multidimensional Treatment Foster Care; Chamberlain, 2003) while including hypothesised enhancements, including soliciting ongoing family feedback and using simple check-in and booster sessions during the 12 month follow-up period. In addition, organisational practices aimed at supporting and retaining therapists and developing a program that is attractive to public mental health and youth justice organisations in Australia are also in place. In addition, similar to MST, while therapists offer to see families more than once a week, part of the focus in this study was to see in fact how often therapists were required to see families, both in terms of frequency and duration of sessions and to compare that with findings from our MST trial (Curtis et al., 2009; see also Curtis, 2004) and MST meta-analysis (Curtis et al., 2004). It was hypothesised that effective outcomes could occur through seeing families primarily on a once a week basis over a duration of approximately 4-6 months. This hypothesis was based on findings that have shown that feedback-informed interventions can increase efficiency and effectiveness of intervention (e.g., in couples therapy, Anker, Duncan, & Sparks, 2009). In that study, Anker et al. (2009) found that treatment as usual enhanced with feedback was capable of producing gains comparable to RCT's, in an average of 5 sessions (versus over 20 sessions in a comparison efficacy RCT; Christensen et al., 2004).

### Pilot Study Rationale and Aims

As part of a larger, funded multi-year randomised controlled trial, the purpose of the current study was to provide a preliminary evaluation of the current intervention via 4 single case studies, using a simple AB(A) design, including baseline assessment, ongoing evaluation of family goals across treatment and again across 1, 3, 6, 9 and 12 month follow-up intervals. Alongside ongoing monitoring of these family generated outcomes, an additional battery of parent measures, along with a youth self-report delinquency measure, was used at pre-treatment, post-treatment and 12 month follow-up intervals. In addition, official police reports of offending frequency and severity were also tracked, including a 6 month pre-treatment baseline, during treatment and across a 2 year

follow-up (FU) interval to assess longer term offending rates. Thus, the battery overall assessed a range of instrumental and ultimate outcome indicators. In addition, families were provided the opportunity to give ongoing feedback across therapy regarding satisfaction with their therapist and services being received on the Session Rating Scale (SRS). To complement direct feedback to the therapist from families via the SRS, monthly fidelity assessment was carried out with parents by an independent evaluator not affiliated with the treatment team who was based in a separate location in another city. Therapists were also asked to provide feedback about the extent to which they felt supported and the extent to which they engaged in self-care. Finally, additional data on the total number of sessions, total time, average session frequency, and number of booster sessions per family was also gathered and then compared to some benchmarking data linked to contact time required in MST both generally (Curtis et al., 2004) as well as in MST as delivered here in Australasia (Curtis et al., 2009; see also Curtis, 2004).

## Method

### Participants

Participants are referred to the intervention and evaluation program through a number of possible sources:

- Queensland Police Service Co-ordinated Response to Young People at Risk (CRYPAR) Referral Program;
- Child and Youth Mental Health Services (CYMHS);
- Department of Communities, Child Safety Services (DoCS);
- Education Queensland;
- Central Queensland Youth Justice;
- CQUniversity Psychology Wellness Centre;
- Private practitioners;
- Self-referral.

Participants ( $n = 4$ ) included in the initial pilot study were referred through Central Queensland Youth Justice (YJ;  $n = 2$ ), CRYPAR ( $n = 1$ ), and a private psychologist ( $n = 1$ ).



Families (dual-parenting,  $n = 2$ , single-parenting,  $n = 2$ ) were residing in the Rockhampton region at the time of referral and all met program inclusionary criteria: aged between 8 to 15 years,<sup>1</sup> a primary caregiver being willing to participate in the program, and the youth meeting the *Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition, Text Revision* (DSM-IV-TR) criteria for Conduct Disorder. Participant ages ranged from 10-15 years in the current sample (10 year-old; 12 year-old; two 15 year-olds). Pilot study participants consisted of three males and one female, all from Caucasian backgrounds. Informed consent from the youth and a parent/primary caregiver legally responsible for their care was necessary for participation.

### Measures

*Self-Report Delinquency (SRD) Scale: Youth Version* (Moffitt & Silva, 1988). This 58 item measure, adapted for Australasian conditions, asks the youth to endorse any anti-social/criminal activities that they may have engaged in, from 58 possible activities across a total score and six subscales. An advantage of this self-report measure is that it allows the young person to disclose activities that may not have come to the attention of parents or police.

*Self-Report Delinquency (SRD) Scale: Parent Version* (Moffitt & Silva, 1988). This companion measure to the Youth SRD is completed by a caregiver and asks parents to indicate which activities they believe their young person is, or has been engaged in. This scale consists of the same 58 items, and subscales, contained in the SRD: Youth Version.

*Alabama Parenting Questionnaire (APQ)* (Shelton, Frick & Wooton, 1996). This 42 item questionnaire measures parenting practices across five domains: parental involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment.

*Multisystemic Behavioural Rating Scale (MBRS)* (Curtis, Ronan, Heiblum & Crellin, 2009). This 11 item measure assesses various family systems-related factors such as family communication, family relationship, youth relationship and youth compliance. Owing to its recent development, it is worth noting that the measure has been supported as a treatment evaluation tool, having reliability

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<sup>1</sup> Priority age group of the state funding agency.

and support for convergent validity (Curtis, 2004). It also has demonstrated treatment sensitivity (Curtis et al., 2009).

*Parental Supervision Index (PSI)* (Jang & Smith, 1997). To supplement the APQ and MBRS, this 2 item measure assesses parental monitoring and supervision, a well known risk factor for antisocial outcomes.

*Antisocial Process Screening Device (APSD) (Parent version)* (Frick & Hare, 2001). The APSD, parent version, consists of 20 items and allows caregivers to rate their young person with regard to antisocial behaviours and tendencies.

*Offending Statistics.* Permission was provided by caregivers and the Queensland Police Service (QPS) to gather information on offending frequency and severity, including arrests and documented offences where the young person was charged. For severity ratings, following previous research (Curtis et al., 2009), the scale used in this study was developed by Curtis (2004) for use in Australasia. Each offence is categorised from on a scale from 1-17, reflecting a range from low severity (1 - Truancy) to high severity (17 – Murder). Data were collected from 6 months prior to starting therapy through a 2 year follow-up interval.

*Session Rating Scale V. 3.0 (SRS)* (Miller, et al., 2002). This measure was completed at the end of every second therapy session and provides the primary care giver the opportunity to rate the level of satisfaction with the previous two therapy sessions and with the therapist. The rationale for every other session was based on the possibility of more than one session per week and feedback from families seen multiple times a week by the senior author prior to this trial who requested fewer tracking assessment intervals. This rating and subsequent discussion is intended to reflect therapist openness to feedback for the purposes of ensuring satisfaction with services, including addressing any dissatisfaction noted by lower scores with the family. The session rating scale consists of 4 items covering *relationship*, *goals and topics*, *approach*, and *overall* rating. Scales used are visual analogue scales are rated between 0 and 10, with 10 indicating complete satisfaction; psychometric

qualities appear adequate in this measure being increasingly used in practice settings (Duncan et al., 2003).

*Goal Tracking Form (GTF)* (Ronan, 2009). Similar to target complaints measures, the GTF reflects initial discussions with parents on what they consider to be the most important behavioural and emotional problems of the youth and that they want addressed over the course of the intervention. These problems are then reframed as goals with Goal 1 being the primary issue followed by Goals 2 and 3. This measure is completed three times during baseline, two prior to seeing the therapist and one following the initial assessment session with the therapist. Once therapy has begun, it is completed at the beginning of every second therapy session (see previous section for rationale). The scale used for rating is, like the SRS, a visual analogue scale, with the level of achievement for each goal rated on a scale between 0 (No progress) to 10 (Couldn't be better).

*Fidelity Measure* (Ronan, 2009). Rated by parents monthly, this measure consists of 22 items and provides ratings on the integrity of program delivery with regard to the therapist stance, engagement and support, therapy skills and strategies. While a main purpose of this instrument is to evaluate intervention adherence, it is also designed to convey to parents what the focus of the program is intended to be and that the program assumes accountability for the integrity of its delivery. The fidelity measure is administered over the phone by a graduate of the psychology program who has received training through the program and who is based in a separate location to the treatment team location (i.e., located in a different city). The measure is administered to parents once a month. Based on the first 21 administrations, alpha reliability for the measure was found to be .82.

*Therapist Support & Self-care Rating Scale (TSSRS)* (Davies & Ronan, 2010). Therapist supervision and support was monitored as part of the philosophy of a “parallel process” between supporting program therapists as they then are expected to support families. The TSSRS was developed as a simple measure that reflects this philosophy and asks the therapist to rate the quality

and quantity of supervision, support and self-care experience prior to, during (at 3 months) and after the intervention period. Quality is rated between '0' (poor) to '10' (excellent) and quantity is rated between '0' (not sufficient) to '10' (sufficient). The quality and quantity of professional development is also measured with this scale.

#### Procedure: Setting and Therapists

The therapeutic intervention typically occurs in the family home, with a therapist who has participated in week long training and receives a minimum of weekly supervision in individual and group formats. This study had one fulltime therapist funded through grant monies and two therapists who were given release time by the local Youth Justice agency where one worked as full-time youth caseworker and the other a youth support worker. This release time was based on a partnership established between the intervention and evaluation program and the agency. These two therapists allocated .2 of their time to program intervention. Two therapists had 4 year undergraduate degrees in Psychology; the other, no formal university training but had many years' experience as a youth support worker.<sup>2</sup> Therapists initially attended a comprehensive 5 day training prior to intervention with families focused on providing necessary knowledge and skills. An integral aspect of this program model is focused on supporting therapists, including reducing the potential for therapist attrition. Therapist support also includes regular weekly supervision to ensure client best interests, ensure treatment adherence, promote treatment allegiance, and facilitate professional development and self-care for therapists. Similarly, weekly team meetings incorporate a combination of individual case discussion and professional development activities specifically related to family intervention with conduct disordered youth and families as well as related to job satisfaction and self-care.

Once an initial referral has been received, trained program personnel (either the project manager or a graduate student studying clinical psychology) contact the parent/primary caregiver by

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<sup>2</sup> This therapist began taking Psychology courses during her work on this program as part of professional development as well as part of self-care.

phone. This discussion includes a focus on the nature of the young person's problems and provides a general background on the program. The discussion includes talking about the young person's behaviour, the caregiver's perspective with regard to possible causes for this behaviour, an initial discussion about young person and family strengths, and demographic information such as the youth's age, family members living in the home, family dynamics, schooling, and peers. The parent/primary caregiver is also asked to consider the three most important issues that they would like addressed over the duration of the intervention. These three issues are prioritised by the parent/primary caregiver and documented as Goal 1, 2 and 3 on the GTF and then given a current rating by the parent/caregiver on a scale of 0 (no progress) to 10 (couldn't be better). This phone screen also includes an initial assessment of inclusionary criteria (diagnosis of Conduct Disorder; parent willingness to participate in the program; youth aged between 8 to 15 years). An initial meeting is then scheduled for a member of the team (i.e., one of two psychologists), who is independent of the therapy, to meet with the family for the initial assessment purposes.

The central focus of the initial home visit/meeting with the family covers such items as informed consent, confidentiality, pre-treatment measures (to be completed between the initial home visit and the second home visit), the use of other ongoing measures (GTF, SRS & Fidelity) completed over the duration of the intervention program and any other initial questions that may be related to program participation. This session is also aimed at confirming a conduct disorder diagnosis through semi-structured interview that is focused on DSM diagnostic criteria. When the parent/primary caregiver notifies the project manager that the pre-treatment measures have been completed, a second meeting is scheduled.

This second meeting involves picking up the assessment battery, including the second GTF. An overview of the program and issues related to program participation (e.g., the role of positive and negative feedback; having a discussion about family views of causes and solutions for CD-related problems; the value of active participation including a brief discussion about the relative merits of individual therapy versus more systemic intervention with caregivers as central). This

session also addresses any questions the family might have regarding the program. This meeting is followed by the therapist making phone contact with the family as soon as possible to arrange a time for a first meeting. The first meeting then continues a focus on assessment, with a main focus on functional assessment (FA) and collaborative case formulation. Following MST, this session starts to identify through FA where intervention efforts might be most successful early as well as ultimately. This initial session concentrates on gathering additional information and discussing relevant features including historical factors, risk and protective factors, behaviour sequences, and family interaction style. The therapist asking about and observing specific behaviour sequences and family interaction patterns is an emphasis in this session.

The therapist's intervention approach is guided by a program manual (Ronan & Davies, 2009). The manual provides the therapist with a structured model to cover session by session objectives, goals and strategies over the duration of the program intervention. Therapist allegiance and adherence to the intervention model is important. A flexible approach is similarly important when accounting for diverse family factors/needs such as time availability of parent/primary caregiver(s), family dynamics and structure. In fact, the manual itself is configured in such a way so as to support flexibility. The treatment itself is broken up into blocks of sessions with the intended purpose to increase flexibility. One idea that the program conveys in training and ongoing supervision is the value of "custom-fitting normative interventions and techniques." That is, the program emphasises particular techniques/interventions that fit a family's circumstances, strengths and the collaborative formulation, mindful that different phases of therapy typically focus on fairly universal themes: in the early phase, more emphasis on identification of a functional formulation and motivation, engagement and expectancies; intermediate phases typically emphasise more active techniques focused on parenting, obstacles to parenting and young person issues; the late stage focus is on consolidating gains and relapse prevention. Homework is intended to supplement and extend in-session discussions to promote skill generalisability and enhance treatment gains (e.g., Kazantzis, Deane, Ronan, & L'Abate, 2005; Ronan & Kazantzis, 2006).

Initial treatment sessions focus on building the therapeutic relationship and treatment engagement and continue to build and extend the collaborative formulation, while focusing early on initial treatment targets that can leverage family strengths to get some quick early change to promote increased engagement and to build momentum (Haas, Hill, Lambert, & Morrell, 2002; Lambert, 2010a; see also Henggeler et al., 2009). Linked to the idea of early change, this is an important period to help the family, particularly the parents, develop a sense of hope given a tendency to report various levels of demoralisation and hopelessness. It is also the case that time series data supports the idea that parent expectancies and motivation appear to have a knock-on effect that enhances youth motivation to change (Curtis, 2004). A non-directive, motivational approach (e.g., Miller & Rollnick, 2002) is maintained until such time when the therapist considers the therapeutic alliance to be sufficiently strong to incorporate a more directive approach where indicated.

As introduced in the context of early treatment targets, another role more generally for the therapist in the initial therapy sessions is to identify, reflect, and amplify young person and family strengths. Following MST's ideas of "strengths as levers," the therapist frames identified strengths within the family as a first set of "solutions" that also then provide a platform on which to build with therapeutic strategies. In this way, initial targets for change, mediated through parenting and other family strengths, emphasises families being able to "get runs on the board" more quickly. "Strengths talk" is also designed to provide emotionally-based "fuel" that helps to motivate more active parenting involvement in the program. Another programmatic emphasis linked to strengths is promoting client autonomy and choice to develop within the therapeutic alliance. An essential part of this phase is for the therapist to begin collaboratively building and enhancing the caregiver's ability to shift their focus from an excessive focus on problem behaviours to noticing and praising what the youth is doing well. Of course, this phase also involves helping parents to attend to misbehaviour in increasingly appropriate ways. Caregivers often pay more attention to problem behaviours that are typically coupled with maladaptive parenting strategies (e.g., overly coercive;

overly lax or permissive). While the manual demarcates this early phase as Sessions 2-4, therapists are trained and supported to have a flexible focus and stay attuned to an early phase focus for the period necessary to ensure solid engagement and a shared working formulation with accompanying initial treatment targets. Thus, if the early phase requires more sessions, the therapist keeps the early phase goals and tasks in mind as s/he “custom-fits” these principles to the unique family context.

Sessions in the mid-phases are focused on collaboratively developing strategies with the family based on a solution-focused formulation that is tied directly to the family goals and strengths. This is when a combination of teaching and facilitation of knowledge and skills development for the family occurs based on the collaborative case formulation, all the while focused on supplementing, extending and building on family strengths. The third phase of therapy then starts to consolidate and extend gains through reviewing what works, making a coping plan for the future, discussing attributions for success and other factors linked to maintaining gains and relapse prevention.

The final phase of therapy occurs when the therapist and the family feel sufficient positive progress has been made (i.e., GTF scores are stable and the family and therapist are satisfied with outcomes). Sessions then start to be titrated downward (i.e., sessions on average 2 -3 weeks apart) to help the family function increasingly independently while still having support from the therapist. Once they are confident to manage independently, then closure is discussed and finalised. In particular, relapse prevention strategies are incorporated into the closing sessions to enhance the potential for improvements to be maintained, and extended, over the long-term. Prior to closure, families are also reassured that although the formal intervention phase is finishing, follow-up booster sessions continue to be available. GTF progress and the follow-up assessment/phone check-in schedule is also discussed during this final phase.

Across therapy, the Fidelity measure is administered at one-monthly intervals to families over the duration of the intervention phase by an independent assessor and reflects the extent to which the therapist is delivering the intervention as intended. Once therapy is then completed, the



family completes the post-treatment assessment battery independently and does so again at the 12 month follow-up interval. In between, the therapist checks in with them over the phone at 1, 3, 6, 9, and 12 months to assess their status, including getting a GTF filled out. Finally, official offending reports continued to be gathered through a 2 year follow-up interval.

### Program Manual Overview

- Session 1: Assessment session focused on functional assessment (FA). Discuss confidentiality, program orientation, discuss assessment thus far and focus on asking about and observing behaviour sequences and family interaction patterns. Begin to develop collaborative case formulation that identifies behavioural sequences where intervention might more quickly get “runs on the board.”
- Session 2 - 4: Focus on therapeutic relationship, engagement, instil hope. Paying attention to strengths and risk factors within the family and other systems, with strengths emphasised as first-line solutions to behaviour sequences identified in assessment; identify supports and resources in the community; session rating and goal tracking.
- Session 5 - 10: Continue to monitor family engagement and motivation; focus on major risk and protective factors, including providing strategies that build on family strengths for parent-child relationship, discipline and routine, family cohesion, supervision and monitoring, peer influence; monitor and extend solution-focused formulation focused on goals and strengths, with both strengths and strategies focused on “do-able links” in the FA chain; provide parenting handouts and “custom-fit” these to FA and individual family; continuing parenting intervention work that concentrates on paying attention to positive behaviour versus negative focus; young person engagement and intervention; working on obstacles to engagement and intervention.
- Session 11 - 16: Keeping an eye on engagement; continuing parenting and youth intervention work; working on any obstacles identified; review and confirm gains made; amplify and celebrate successes; plan for finish & follow-up; relapse prevention discussion, identifying what works, making a coping plan.
- Session 17 - 20: Closure of formal therapy through titrating downwards session frequency and interval between sessions; celebrating successes; reviewing coping plan and relapse prevention, including discussion of booster sessions and follow-up phone appointment at one month; troubleshooting; discuss and plan follow-up phone appointment at 1, 3, 6, 9 and 12 months. Discussion and celebration of family plans for the future and provide closure for the program.

## Results

### Intervention Fidelity

Based on monthly administration of the 22 item fidelity measure, the fidelity scores at the first administration, mid-treatment administration and end-of-treatment administration were

calculated. Across the 22 item measure, the mean item score at each interval (range 1-5) was, respectively, 4.52 (SD = .25), 4.95 (SD = .09), 4.89 (SD = .23). These scores indicate a good level of fidelity that improved by mid-treatment and was generally maintained through the end of treatment. Inspection of lower item means indicates that items that contributed to the lower score at pre-treatment were focused on more active treatment strategies (e.g., provision of behavioural management strategies; setting clear rules; reward good behaviour; accessing additional supports; how to use family strengths to solve problems; school-related strategies). Thus, the fact that this cluster of items was seen to improve scores to near ceiling by mid-treatment is not surprising. By contrast, therapeutic alliance items (e.g., our therapist genuinely wants to help; we feel our family and therapist are all working together; our therapists asks for our opinion on goals; our therapist believes in us as a family) were rated highly across treatment (mean item scores of 4.80, 4.86, 5.00, respectively). Given that early engagement prevents drop-out (i.e., drop-out tends to happen early) and predicts successful treatment completion (e.g., Lambert, 2010b), this finding suggesting early engagement is noteworthy.

#### Treatment Outcome: Goals Tracking

Figure 1 indicates mean GTF scores from baseline (B1) through 12 month FU (GTF 12m) across participants (n = 4). Overall average progress across the 3 goals from pre-treatment baseline (B1-B3) through 12 month FU across pilot group families indicates improvement. Using Kazdin's (2003) criteria, the figure illustrates changes both in terms of slope/trend and mean change across phases. Overall average goal achievement across goals and participants reflects around 600% gain from pre- to post-treatment (average across goals of 1.2 – 8.4, respectively). Mean scores across baseline appear relatively stable, reflecting that both level and latency to change criteria were not met until after the first treatment session (Kazdin, 2003). Family goals from that point to completion (CP) indicate a steady acceleration toward improved behaviour by mid-intervention with a slight relapse for Goal 1 and 2, followed by recovery and improvement by the completion session. As seen in Figure 1 and Table 1, mean scores for all 3 goals cluster around a score of 8 by

completion. Over FU, another relapse-recovery trend is evident with overall maintenance by 12 month FU.

It is worth noting that the theme for the primary goal for participants related to physical aggression, antisocial attitude, personal safety in relation to association with antisocial peers, and oppositional and noncompliant behaviour. Thus, it is encouraging to have participants make gains that were maintained in these primary goals and other areas reflecting Goal 2 and Goal 3.

Figure 2 shows the individual level of goal achievement for the first participant (P1; 10 year-old male) indicating an improvement-relapse-improvement pattern with a gradual overall trend toward reduced antisocial and increased prosocial behaviours. Goal 1, to reduce ‘non-compliant and oppositional behaviour’ in the youth improved from a baseline (B1-B3) low of 0 to a score of 9 at 12 month FU. Similarly, Goal 2, to reduce ‘disruptive and mischievous behaviour’, improved from a baseline low below 1 to a 12 month FU score of 9. Goal 3, to ‘improve relationship with siblings’, improved from a baseline low of 2 to 12 month FU score of 7. This response pattern might reflect gains observed in parenting skills reflected on (1) parenting supervision and (2) discipline becoming more consistent as measured on the APQ and PSI (see Table 2).

Figure 3 shows the individual level of goal achievement for P2 (15 year-old female) indicating an early positive behaviour response to intervention, some decline mid-treatment and again during the FU interval, with overall improvement in goal attainment. Goal 1, ‘personal safety issues’ was operationalised with parents as reducing contact with antisocial peers where the youth’s safety was considered to be at significant risk (owing to risks such as peer group criminality, substance abuse, and sexually irresponsible behaviour). This goal improved from a baseline low of 0 to a score of 9 at 12 month FU. Similarly, Goal 2, reduce ‘verbal and physically aggressive behaviour’, improved from a baseline low of 0 to a 12 month FU score of 7.5. Likewise, Goal 3, ‘to improve behaviour related to honesty’, also improved from a baseline low of 0 to 8.5 at 12 month FU. The overall behavioural response pattern might reflect improvements also seen in parent

involvement, commitment, discipline and more particularly, supervision and monitoring measured on the APQ and PSI (See Table 2).

Figure 4 shows the individual level of goal achievement for P3 (12 year-old male) indicating early and substantial improvement in positive behaviour response to intervention as related goals. Goal 1, 'reducing physical violence', was related to the fact that the youth had prior to treatment physically assaulted students in school. Severe aggression was such that he had to be removed from the school system and home-schooled for over a year prior to treatment commencing. The reduction in physical aggression was such that the parents were able to reintroduce the youth back into the school system with no relapse in aggressive incidents at school. This goal improved from a baseline low of 1 to a score of 10 at 12 month FU. Similarly, Goal 2, reduce 'verbally aggressive behaviour' such as swearing and yelling, improved from a baseline low of 3 to a 12 month FU score of 9. Goal 3, 'to improve behaviour related to social skills', improved from a mean baseline low of 2 to 10 at 12 month FU. The early and overall behavioural response pattern might reflect greater consistency observed in parent discipline style pertaining to rules and consequences, coupled with adequate supervision and monitoring (see Table 2).

Figure 5 shows the individual level of goal achievement for P4 (15 year-old male) indicating generally continual positive improvement over the course of the intervention. However, there was a higher degree of relapse following treatment for this family. Goal 1, 'attitude to improve' from antisocial to prosocial improved from a baseline low of 0 to 9 at completion and then gradual decline to 6 at 12 month post treatment. Goal 2, 'getting a job or training' improved substantially from a baseline low of 0 to a 9 by the end of the intervention. Relapse occurred between 1 and 3 month FU intervals but had improved again to a score of 8 at the 12 month FU point. Goal 3, 'moving away from deviant peers and being respectful', improved from a mean baseline low of 0 to 9 at the end of intervention. Again, relapse occurred during the post-test to 1 month FU interval, with gradual improvement to a score of 8 by the 12 month FU point, reflecting the father's report of reductions in peer influence that the father attributed to helping his son get a trade apprenticeship.

This overall trend might reflect gains in some areas of parenting and family factors coupled with lack of maintenance in other areas, and in other areas yet, declines in parenting and family subscale scores (see Table 2). Thus, the overall pattern suggests that treatment-produced gains may not have stabilised sufficiently. With that said, the family did not want booster sessions, reporting being happy with outcomes at the end of treatment and across FU intervals. This youth was charged with numerous offences before, during and after treatment. That is, a spate of offending that lasted for a period of approximately 18 months resulted in 19 charges across 5 separate arrest incidents. This 18 month interval occurred from 6 months before treatment through 6 month FU. However, for the next 18 months, from 6-24 months following treatment, there were no documented offending incidents (see later section of official offending outcomes). This pattern of large magnitude reductions in documented criminality, both parent-reported and official reports, over an extended period suggest additional stabilisation. Two likely reasons for this dramatic decline was, as reported by the father at the 9 month FU interval, the youth moved away from a deviant peer group (with the help of the father and an older brother primarily) and was able to get a trade apprenticeship (the father was also a “tradie”) soon after the 6 month FU interval. Thus, as suggested by changes in this case on parenting and family factors seen in Table 2, positive parenting, more consistent parenting strategies, and, in particular, more involved parenting may have been particularly helpful in helping him get back on track after relapse during FU as well as help him cease his offending behaviour.<sup>3</sup>

### Early Gains, Service Engagement, and Session Satisfaction

As seen in Figures 1-5, families reported positive changes early in treatment on GTF ratings. Early gains coupled with high early engagement ratings have been shown in research with adult samples to reduce drop-out risk and improve prognosis (Lambert, 2010a). In terms of early engagement ratings, fidelity ratings reported earlier in the Results supports early engagement.

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<sup>3</sup> At 2 year follow-up, a phone call with the father indicated that the young person had been working over the past 12 months in a trade-based job, alongside his father.

Another set of indices are Session Rating Scale (SRS) ratings. Figure 6 shows the level of session satisfaction as rated by the primary caregivers on the SRS. Overall satisfaction experienced by all participants is indicated as highly satisfied with the therapeutic relationship (9.9), therapist attention to participant goals (9.9), therapists approach being a good fit with the participant (9.8) and overall session satisfaction (9.9). Thus, supplementing findings from independent fidelity assessment, SRS findings indicate overall that the therapists and participants in this study had developed a positive therapeutic alliance, starting early and carrying over the duration of the intervention and that they were satisfied with sessions and the program overall.

### Instrumental Outcomes

Table 2 shows outcome results for family-related and parenting factors across the APQ, PSI and MBRS. The pre-treatment rating of 3.2 ( $SD = 1.2$ ) on the APQ subscale Poor Monitoring & Supervision decreased at 12 month FU to a score of 2.3 ( $SD = .54$ ), indicating that parents were on average supervising and monitoring their youth more appropriately and consistently. The mean PSI rating at pre-treatment of 2.5 ( $SD = 1.3$ ) increased at post-treatment to 3.5 ( $SD = 1.3$ ) and again at 12 month FU to 4.1 ( $SD = .85$ ), providing another indicator of a greater ability to supervise and monitor their youth. On other parenting factors, the pre-treatment rating of 3.3 ( $SD = .80$ ) on APQ Inconsistent Discipline decreased at 12 month FU to 2.4 ( $SD = .59$ ), indicating a positive shift away from inconsistent discipline. The APQ Positive Parenting rating at pre-treatment 3.4 ( $SD = 1.5$ ) increased by 12 months FU to 4.3 ( $SD = .37$ ) indicating an improvement in positive parenting practices. The MBRS total score showed similar improvements to the APQ and PSI in that the pre-treatment total score of 2.8 ( $SD = .40$ ) increased across treatment and FU to 3.8 ( $SD = .39$ ). On subscales, there were some modest gains during treatment in enhanced family communication and across follow-up in family relationship factors on the MBRS. However, there were more substantial gains in youth relationship and compliance scores on the MBRS during treatment that maintained, continuing to improve slightly across the 12 month FU interval (see Table 2). Table 2 also reflects findings on instrumental indices for each participant family.

### Offending and Antisocial Behaviour Outcomes: Parent and Youth Report

Table 3 shows parent-reported outcomes on SRD item means and standard deviations at pre-treatment, post-treatment and 12 month FU ( $n = 4$ ). The change in scores across treatment reflects a significant reduction on SRD Total Offending mean scores and across all subscales. Larger magnitude reductions are reflected across the subscales of Norm Violation, Interpersonal Aggression, Theft, Illegal, and Destructive Vandalism. Further reductions or maintenance can be seen through 12 month FU, with the exception of the Drug & Alcohol subscale reflecting some relapse.

Table 4 shows the comparisons for SRD-Parent and SRD-Youth item means and standard deviations across pre-treatment, post-treatment and 12 month FU intervals, where both the parent and the youth completed the measure ( $n=3$  participants; one youth did not complete the SRD). At pre-treatment, youth reported lower levels of delinquency behaviour scores across all subscales compared to parent ratings, apart from the Drug & Alcohol subscale. At post-treatment, youth reported more delinquency compared to parents, with the exception of the subscale Illegal. Thus, parents reported more reductions in criminality and delinquency behaviours across treatment. This trend altered across the 12 month FU phase where youth reported greater delinquency reductions across the FU interval. By 12 month FU, youth and parent scores overall reflected large magnitude decreases across Total Offending and all subscales. Score differences between youth and parent were also the lowest in magnitude across the three intervals at the 12 month FU phase (see Table 4).

### Official Offending Outcomes

In terms of official offending statistics, of the youth participants ( $n = 4$ ), Table 5 shows that  $n = 2$  youth (both age 15) had been arrested and charged with offences in the 6 months prior to the program. Of these, one youth (P4) had charges laid while in the treatment phase and again in the 0 to 6 month follow-up interval. However, no charges were laid in the 6 to 12 month interval for any participant ( $n = 4$ ). Further follow-up indicated no charges laid 12-18 months following treatment and, again, in the 18-24 month interval. Thus, all participants were offending free from the 6

month FU interval through 2 year FU, a period of a year and a half. Given the increase in offending for this one youth in particular, this 18 month period of offending-free functioning after such a sustained period of criminality in the previous 18 months (19 separate charges) is noteworthy. It is also worth noting that in terms of benchmarking overall findings here, overall frequency and severity reduced somewhat following treatment across participants (see Table 5), with the major gains being realised after the 6 month FU interval. Similarly, in evaluating MST in New Zealand (NZ) (Curtis et al., 2009), while there were drops early, the biggest drop in frequency and severity occurred in the 6-12 month FU interval, where offending frequency fell by 70% (versus 46% in the 12 months during treatment through 6 month FU). In this sample, offending fell by 100% in the 6-12 month FU interval (versus 17% in the 12 months during treatment through 6 month FU), with offending-free functioning then being maintained through longer term FU at 24 months. In terms of severity, the MST trial indicated a 15% reduction from prior to treatment/during treatment through 6 month FU (from severity of 2.99 to 2.54); here, 12% (from 6.92 to 6.10, respectively). In the 6-12 month interval, the change in severity in the MST trial was 24% (2.54 to 1.92); here, 100% (6.10 to 0). As can be seen in Table 5, changes in frequency and severity then maintained across 24 month FU (no 12-24 month FU interval was included in the NZ MST study).

#### Ultimate Outcomes: Educational, Vocational Outcomes

For the two 15 year olds, outcomes here both ultimately included each young person finding a trade apprenticeship. For the 15 year-old female, prior to that point, during treatment, she re-engaged with her schooling (an equivalency program delivered through Youth Justice) and finished her Year 10 equivalency training. Following treatment, she then engaged in work experience and, finally, successfully applied for a trade apprenticeship during the FU interval. The 15 year-old male was able to secure an apprenticeship, followed by secure employment, with the assistance of his father (who was also a tradesman) during the FU interval (soon after the last occurrence of offending). For the 12 year-old, after a year of home schooling prior to the start of treatment owing to severely aggressive behaviour (e.g., one incident lead to a school lockdown), he was able to be



integrated back within a school setting during the FU phase, with his continuing successfully in school across FU (including no suspensions or behavioural sanctions according to his mother and as noted on both youth and parent versions of the 12 month FU SRD). The 10 year-old, had a long history of problematic school attendance which had resulted in being expelled from one school and numerous suspensions being reported for the 6 month period prior to treatment (3 or more times as reported by both him and his mother on the SRD) from the school he was attending. According to SRD ratings, during the treatment phase, the youth was suspended on one occasion; during the 12 month FU, one suspension. Given a history of expulsion, no expulsions during or following treatment, combined with a reduced number of suspensions, indicated a less problematic, more stable attendance pattern across the FU interval.

#### Intervention Duration, Session Frequency, Benchmarking

Table 6 shows the individual and mean intervention hours and sessions across pilot group participants ( $n = 4$ ). Given that the intervention approach stresses flexibility and ‘custom-fitting’, accommodating for individual family-specific needs, meant that some families required longer session time (2 hourly) initially or a greater number of sessions. Thus, family needs accounted for the difference across individual hours (range = 21 - 41) and number of sessions (range = 20 - 26). Overall, as seen in Table 6, just under 30 hours across approximately 22 sessions was required on average. Also, as seen in Table 6, the number of hours required on average for successful treatment completion of MST intervention in another Australasian trial (New Zealand; Curtis et al., 2009) was just over 55 hours. Thus, on average, just over 45% less time (over 25 fewer hours) was required for this intervention.<sup>4</sup> In more general terms, our MST meta-analysis (Curtis et al., 2004) indicated

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<sup>4</sup> In terms of comparison between samples that might underpin contact time differences (i.e., sampling bias): 35% of the MST sample had documented contact with Youth Justice (YJ) prior to intervention (Curtis et al., 2009; see also Curtis, 2004); 50% of the current sample had contact with YJ. Offending before and during treatment averaged 1.75 incidents in MST per participant versus 3.00 in the current sample. The average age of the current sample was 13 versus just under 14 in the MST sample; the age range here was 10-15 years whereas it was 8-17 in the MST sample. The major difference of course is the fact that this sample had 4 participant families; the MST sample, 65.

40 hours on average was required over U.S. based RCT's. Thus, compared to that benchmarked figure, just over 25% less time (over 10 hours fewer) was required on average for this intervention.

### Therapist Support and Self-care

Therapist supervision and support was monitored as part of the philosophy of a “parallel process” between supporting program therapists as they then are expected to support families. Table 7 indicates the level of supervision, support, professional development activities and self-care that therapists ( $n = 3$ ) reported they had experienced prior to beginning intervention with the families, during the intervention phase and after intervention had been completed. In general therapists participating in this intervention program reported being provided with adequate levels of professional supervision and support, including an emphasis in supervising self-care. In comparison, therapists on average rated the quality and quantity of professional development as slightly lower. Engagement in self-care was also lower, improving from a score of 8 prior to intervention to 9 during intervention.

### Discussion

The results of the current study indicate support for a feedback-driven family treatment in helping reduce CD youth problem behaviour, and increased prosocial behaviour, as reflected on both instrumental and ultimate indices. Gains were also evident across treatment in parenting and family factors, including those known to be both risk factors as well as treatment mediators (Eddy & Chamberlain, 2000). This program was devised first though inculcating major principles of models known to work, including and in particular, MST (e.g. Ronan & Curtis, 2008, see also Curtis et al., 2004, 2009; Henggeler et al., 2009). This includes focusing on known risk and protective factors, on parents as the primary agents of change, on home-based service delivery, on utilisation of strengths within a functional framework, on low caseloads, on support and regular supervision of therapists and on regular monitoring of treatment fidelity (Henggeler & Borduin, 1990; Henggeler et al., 2009). Moving beyond MST, this program also incorporated feedback-driven treatment principles and practices (e.g., Lambert, 2010a, b), including explicit requests and rationales for both positive and negative family feedback in relation to the service being provided. These requests were then supplemented with ongoing tracking of

both important family-driven outcomes and service satisfaction feedback that were coupled with promoting early engagement and early gains to improve family confidence and prognosis (Lambert, 2010a). Furthermore, the availability of check-in and booster sessions is designed to increase the perception of support to assist in improving long-term outcomes for families.

In addition, this approach does not require therapist 24/7 availability, based on research in New Zealand that it may not be required to support successful treatment completion and overall effectiveness. Findings in that study included some of the least treatment responsive families also receiving much more than the average contact time with the therapist (up to three times; Curtis, 2004). A therapist not having to be on call 24/7 is part of a larger effort in this program to promote (1) the empowerment of families and (2) therapist morale and retention. It is also designed to make this program more attractive to organisations whose policies are not receptive to 24/7 staff availability. Therapists in this program, two four year trained psychologists and one youth support worker, reported feeling supported including in their ability to engage in parallel self-care. Similar supervision support ratings as seen in this study portend organisational cultures and climates that may be more capable of implementing and sustaining an intervention program such as the current one (Glisson et al., 2008). In addition, session satisfaction and fidelity ratings suggest families were both happy with services, with the therapy relationship, and the therapist was seen to be carrying out the treatment in a supportive manner, focusing on strengths, important risk and protective factors and related strategies. For adult treatments that are feedback driven, early engagement and early gains reduce drop-out risk and improve prognosis (Haas, Hill, Lambert, & Morrell, 2002; Lambert, 2010a). Both of these indicators were evident across all families. Therapists in this program are trained to promote early engagement and gains through a variety of means. These include a focus on building the therapeutic relationship, mobilising and leveraging family strengths to get “quick runs”, and being able to detect, and repair, relationship ruptures.

In relation to the favourable overall outcomes, findings on the time required for the intervention success also bodes well for future implementation feasibility. An average of 22 sessions over just under 30 hours is less than the average number of hours required in our evaluation of MST in New Zealand

(just over 55 hours) and less than the average time in US-based MST RCT's (40 hours; Curtis et al., 2004). In addition, only 3 booster sessions across 4 families were required over a 12 month interval. Given an average of one treatment session per week, and no 24/7 availability, why was this treatment able to produce meaningful change on instrumental and ultimate outcomes in a reduced timeframe? One reason might simply be sampling bias, based on only four families in this program and other factors. For example, perhaps this sample of four participant families had a youth who did not have a severe form of CD. That is, the more severe the CD, the more treatment input that might presumably be required, though comparison between this sample and the New Zealand MST sample doesn't particularly favour this conclusion. It is also the case that in this study that the two families with youth who had been arrested and charged with multiple offences before treatment also required the least amount of therapy contact time (P2 and P4 average treatment time of 21.5 hours across 19 sessions). Of course, it must also be noted that offending history is not a pure proxy for antisocial behaviour severity. These two families may also have been more receptive to active change strategies than the modal family of a CD youth. Another possibility for fewer sessions required might be related to a treatment approach that is designed to use ongoing feedback about client-driven outcomes and service quality and satisfaction to make quicker adjustments to services as well as to be seen to be responsive to client feedback in such a way that it promotes both engagement and expectancies for quicker change.

From the adult literature, Lambert (2010a) reports that feedback-driven treatments for adults can outdo treatment as usual (TAU) by .34-.92 of an effect size (ES). Similarly, there exists the possibility that feedback-driven services can not only produce greater magnitude effects but also deliver outcomes more efficiently. In couples therapy, Anker et al. (2009) found in their effectiveness trial that TAU supplemented with ongoing feedback required 5 sessions on average versus over 20 sessions in a comparison efficacy trial (Christensen et al., 2004), with roughly equivalent ES findings. With that said, particularly for treatments for youth and families, the "magnitude and efficiency" potential of feedback-driven services require more systematic empirical support. Nevertheless, the fact that this intervention was able to be carried out successfully in a relatively efficient timeframe is encouraging.

In terms of other possible mechanisms of change, the main factors as measured on the instrumental outcome measures (APQ, PSI, MBRS) that were linked with increases in prosocial behaviour and decreases in antisocial behaviour and criminality included discipline strategies, supervision and monitoring, parent-youth involvement, positive parenting and peer association (Eddy & Chamberlain, 2000). Individual participant GTF ratings support the idea that as the parent(s) used more consistent discipline and monitoring strategies, paid more attention to the parent-child relationship, and paid attention to reducing antisocial peer involvement while increasing prosocial involvement, greater change then occurred on GTF ratings alongside ratings of lower levels of delinquent, antisocial behaviour. In following other models, MST in particular (Henggeler et al., 2009), it is our opinion that while long-term gains become possible with greater parenting effectiveness, family cohesion, and increased youth compliance, changes really stabilise once educational or vocational pathways start to become realised and stabilise. In other words, the idea here is that an educational or vocational outcome is not only an outcome in itself but is also a mediator to realising stability on a longer-term prosocial pathway.

Thus, programs that plan their interventions with this key goal in mind may realise what have been referred to as intervention “sleeper” effects (e.g., White, Young, Pugh, & Morgan, 2007). The fact that changes in documented offending frequency in this and an earlier Australasian study (Curtis et al., 2009) reduced most following the 6 month FU interval may in fact be reflective of prosocial pathways starting to stabilise. Helping a young person to stop “hanging around” a group of delinquent peers while also helping steer them towards prosocial alternatives, including stable educational and vocational pathways, requires sustained parenting effort. Thus, it is no surprise that the most difficult case here involved an older young person who was on an escalating pattern of deviant peer involvement and related criminality when treatment commenced. While numerous documented changes did occur during treatment, including on family ratings of offending behaviour and across a range of instrumental indicators, change overall did not appear to stabilise until after the 6 month FU interval when the youth was able to remove himself from negative peer influences while also getting a trade apprenticeship, with

the help of an increasingly involved parent (as reflected on changes seen on the Parent Involvement scale of the APQ). Similarly, for the other young person with an offending history, she was able to complete her Year 10 equivalency and move into a trade apprenticeship. The other two younger participants were able to re-enter or remain in school without subsequent expulsion. One of these in fact was able to re-enter a school setting after more than a year of home schooling because of behaviour that was simply too violent. Changes in all cases appeared to be linked to increases on various instrumental parenting and family factors (e.g., more effective discipline and monitoring; better parent-child relationship and family cohesion). Future research might assess the mediating links between sustained parenting efforts and its role in producing educational and vocational outcomes and the role that these outcomes might play in producing stable (versus unstable) outcomes both during and following treatment. Previous research supports the treatment mediating role of a focus on what our treatment program calls the Big 4 risk and protective factors (peer involvement; discipline; monitoring; positive parent-child relationship; Eddy & Chamberlain, 2000). Future research might build on that important earlier research to assess different types of prosocial trajectories, including educational and vocational pathways that reflect altered family structures and functions.

### Limitations and Future Directions

While findings of the current study are encouraging, enthusiasm needs to be tempered as a function of this being a pilot study done with four families. Sample size is a limitation. Future research needs to test the potential of this intervention with a larger sample. This pilot study was the first stage of a fully funded RCT that is currently underway to assess the potential of this intervention within a larger sample across a 4 year trial period.

A limitation to the single case design procedure used here is that ongoing assessment of the GTF across treatment and FU, and one of the three baseline evaluations, was done by the therapist. Demand characteristics might lead families to begin to rate progress in a manner that is seen to please the therapist versus reflecting actual gains. This would likely be a particularly strong possibility in the face of a strong alliance, a situation that was evident in all four cases as measured by the SRS. At the same

time, companion findings gathered through independent administration, including across instrumental and ultimate outcomes (including official offending statistics) and fidelity assessments, reduce concerns there somewhat. In addition, the GTF baseline in the majority of cases did achieve reasonable stability, despite the therapist administering the last of the three baseline GTF's. In fact, for that last baseline GTF, when collapsed across all four cases, it was either at an equivalent (Goal 2) or lower level (Goals 1 and 3) than the second baseline assessment. This observation is coupled with the fact that all cases were seen to have some GTF fluctuation across treatment and/or FU. Nevertheless, future research might use some additional ongoing evaluation, administered by a person other than the therapist, to increase confidence in findings related to continuous assessment.

Of course, one essence of feedback-informed services includes the idea of developing a partnership with clients where ongoing outcome and alliance indicators are not used simply as outcome indicators but are used for multiple purposes: to promote engagement and expectancies, to prevent drop out including having available an ongoing barometer to monitor for potential relationship ruptures, and to promote quicker and larger magnitude treatment gains (Anker et al., 2009; Haas et al., 2002; Lambert, 2010a,b). Future research with larger samples is now required, and underway in our case, to evaluate more comprehensively the enhancing role of feedback in interventions for youth and families, including for those youth with disruptive and antisocial behaviour.

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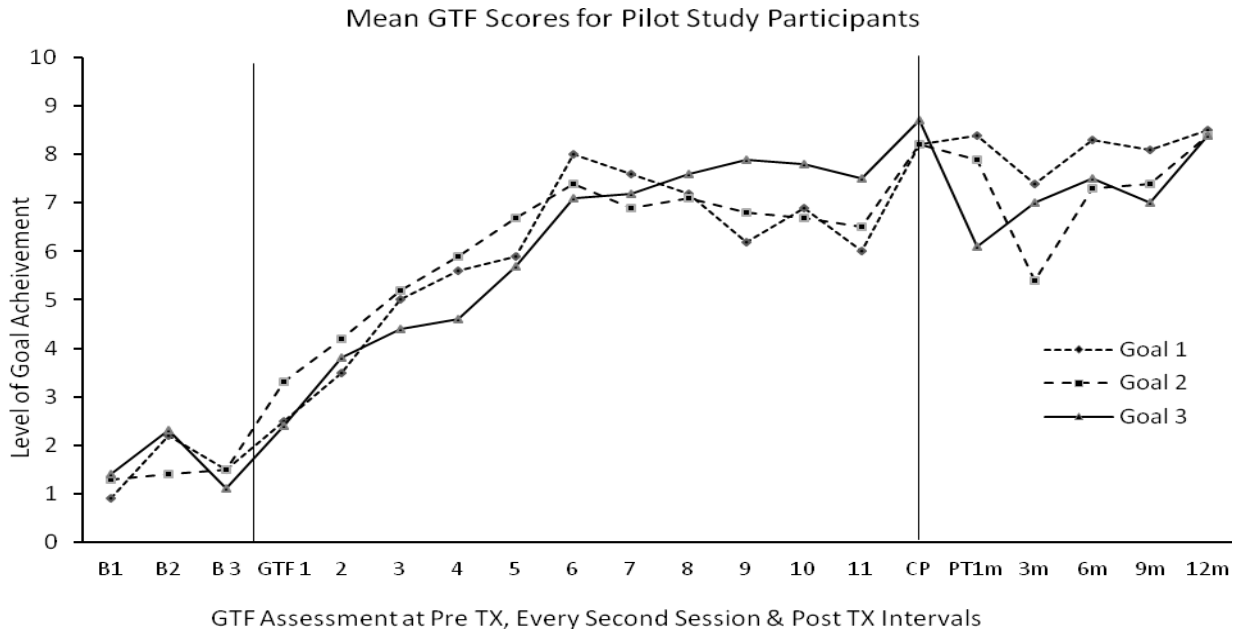
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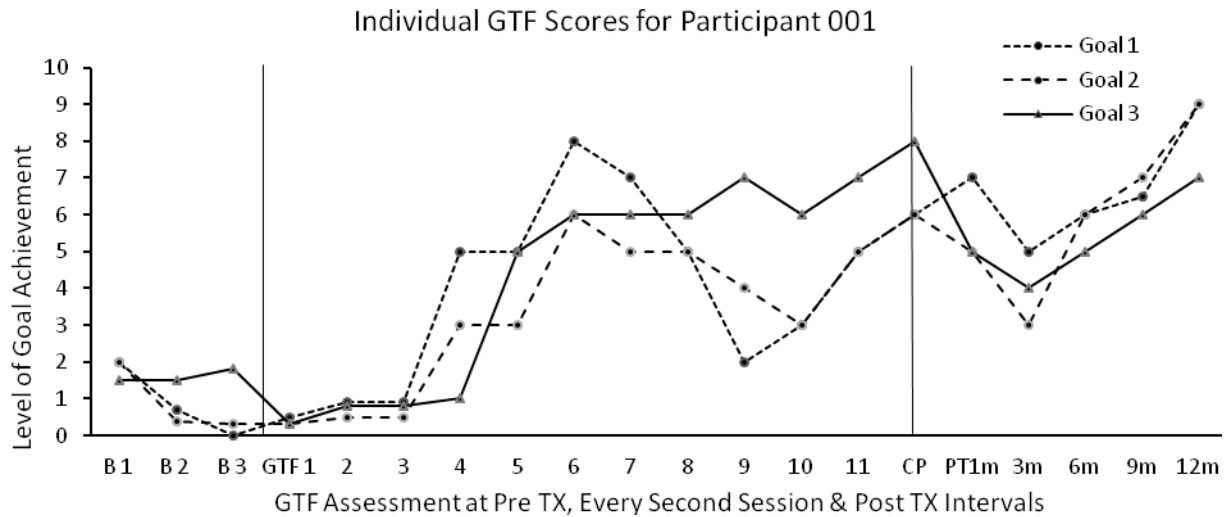
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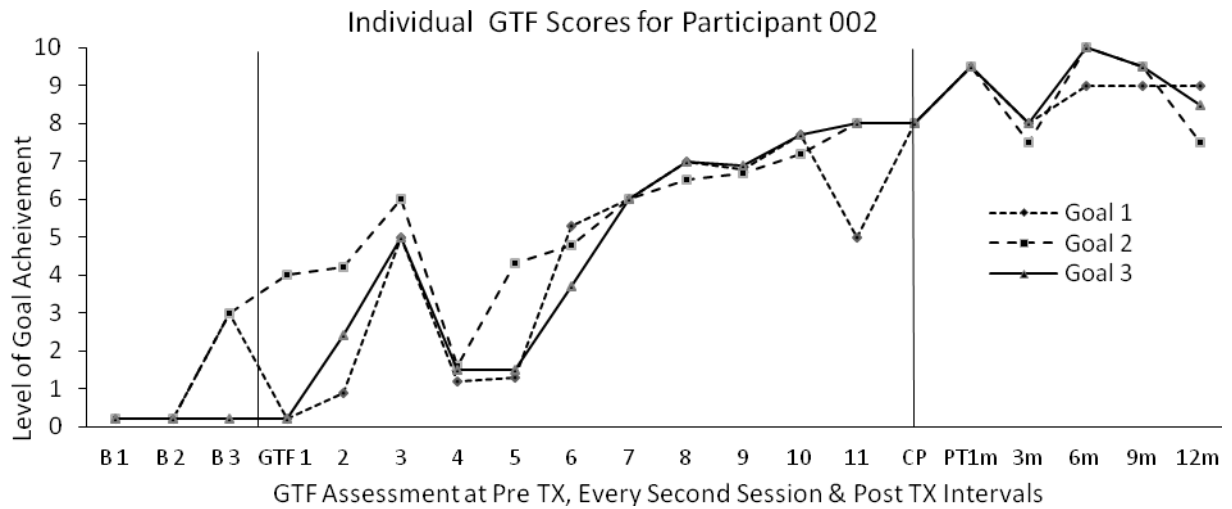
*Figure 1.* Combined Mean GTF Scores for Pilot Study Participants from Pre-treatment to Post-treatment 12 Month Interval (n = 4).

Note: B1 – B3 = baseline GTF evaluation prior to commencement of therapy services; GTF1 – 11 = evaluation every second intervention session over the duration of intervention; CP = GTF evaluation at the completion of intervention; PT 1m – 12m = GTF evaluations at intervals of 1 month, 3 month, 6 month, 9 month and 12 month Post-Treatment.



*Figure 2.* Goal Tracking Scores for Participant 001 from Baseline to 12 Months Post-treatment.

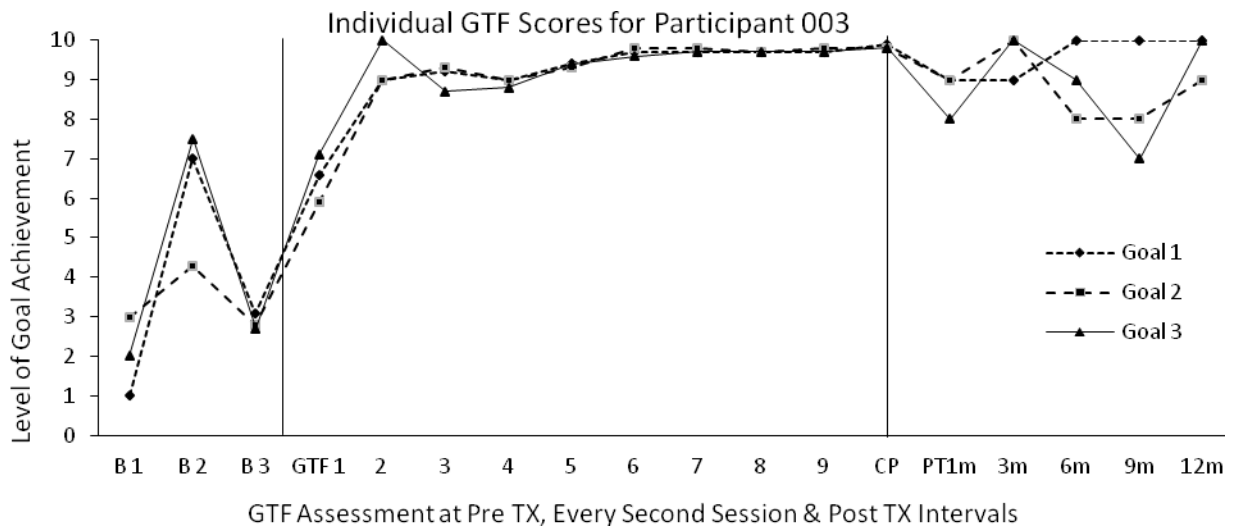
Note: B1 - B3 = baseline GTF evaluation prior to commencement of therapy services, GTF1 – 11 = evaluation every second intervention session over the duration of intervention, CP = GTF evaluation at the completion of intervention and PT 1m – 12m = GTF evaluations at intervals of 1 month, 3 month, 6 month, 9 month and 12 month Post Treatment.



*Figure 3.* Goal Tracking Scores for Participant 002 from Baseline to 12 Months Post-treatment.

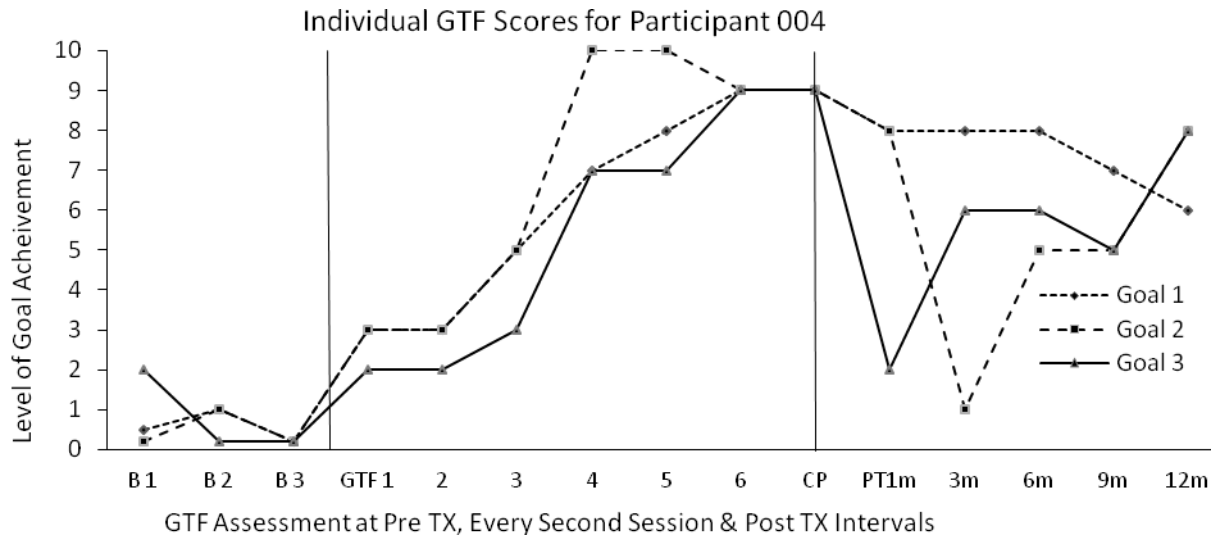
Note: B1 - B3 = baseline GTF evaluation prior to commencement of therapy services, GTF1 – 11 = evaluation every second intervention session over the duration of intervention, CP = GTF evaluation at the completion of intervention and PT 1m – 12m = GTF evaluations at intervals of 1 month, 3 month, 6 month, 9 month and 12 month Post Treatment.





*Figure 4.* Goal Tracking Scores for Participant 003 from Baseline to 12 Months Post-treatment.

Note: B1 - B3 = baseline GTF evaluation prior to commencement of therapy services, GTF1 – 9 = evaluation every second intervention session over the duration of intervention, CP = GTF evaluation at the completion of intervention and PT 1m – 12m = GTF evaluations at intervals of 1 month, 3 month, 6 month, 9 month and 12 month Post Treatment.



*Figure 5.* Goal Tracking Scores for Participant 004 from Baseline to 12 Months Post-treatment.

Note: B1 - B3 = baseline GTF evaluation prior to commencement of therapy services, GTF1 – 6 = evaluation every second intervention session over the duration of intervention, CP = GTF evaluation at the completion of intervention and PT 1m – 12m = GTF evaluations at intervals of 1 month, 3 month, 6 month, 9 month and 12 month Post Treatment.

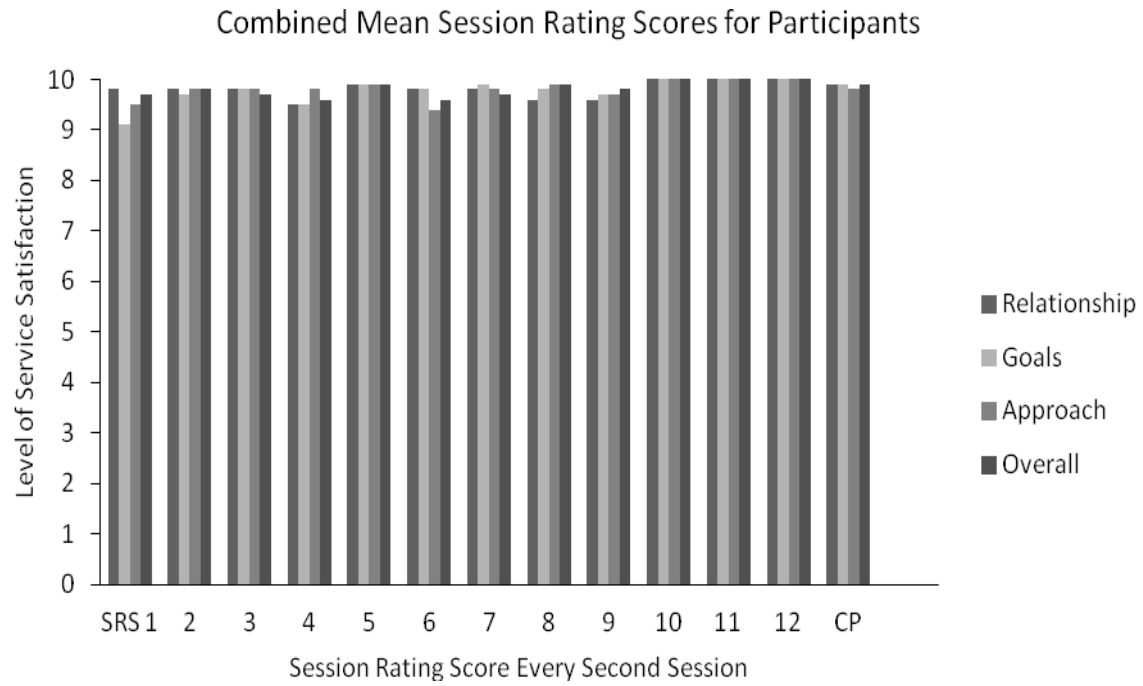


Figure 6. Combined SRS Mean Level of Service Satisfaction Ratings for Participants (n = 4).

*Table 1.* Combined Mean Goal Tracking Scores for Participants

GTF	B1	B2	B3	GTF1	2	3	4	5	6	7
Goal 1	0.9	2.2	1.5	2.5	3.5	5	5.6	5.9	8	7.6
Goal 2	1.3	1.4	1.5	3.3	4.2	5.2	5.9	6.7	7.4	6.9
Goal 3	1.4	2.3	1.1	2.4	3.8	4.4	4.6	5.7	7.1	7.2
GTF	8	9	10	11	CP	FU1m	3m	6m	9m	12m
Goal 1	7.2	6.2	6.9	5	8.2	8.4	7.4	8.3	8.1	8.5
Goal 2	7.1	6.8	6.7	6.5	8.2	7.9	5.4	7.3	7.4	8.4
Goal 3	7.6	7.9	7.8	7.5	8.7	6.1	7	7.5	7	8.4

Note: B1 - B3 = baseline GTF evaluation prior to commencement of therapy services, GTF1 – 11 = GTF evaluations completed every second session over the duration of intervention, CP = GTF evaluation at the completion of intervention; FU1m – 12m = GTF evaluations at intervals of 1 month, 3 month, 6 month, 9 month and 12 month follow-up intervals.

Table 2. APQ, PSI &amp; MBRS Combined Mean Scores for Parenting and Family Factors (n = 4).

Parenting Factors	Pre-TX	SD	Post-TX	SD	12m Post-TX	SD
Poor Supervision & Monitoring (APQ)	3.2	1.2	2.2	.25	2.3	.54
Positive Parenting (APQ)	3.4	1.5	4.3	.43	4.3	.37
Inconsistent Discipline (APQ)	3.3	0.8	2.3	.08	2.4	.59
Parent Involvement (APQ)	3.1	1.3	3.5	.42	3.7	.62
Parental Supervision (PSI)	2.5	1.3	3.5	1.3	4.1	.85
Family Related Factors (MBRS)	Pre-TX	SD	Post-TX	SD	12m Post-TX	SD
Total Scale	2.8	0.4	3.6	.47	3.8	.39
Family Communication	4.4	.75	5.0	.00	4.4	.48
Family Relationship	3.3	.54	3.4	1.2	3.8	.57
Youth Relation	2.3	.50	3.5	.58	3.8	.50
Youth Compliance	2.4	.64	3.5	.97	3.7	.48

## Individual APQ, PSI &amp; MBRS Parenting Factors for Participant 1

Parenting Factors	Pre-Treatment	Post-Treatment	12 Months Post-Treatment
Inconsistent Discipline (APQ)	4.2	2.3	2.8
Positive Parenting (APQ)	4.5	4.8	4.8
Parent Involvement (APQ)	3.7	4.0	4.0
Poor Supervision & Monitoring (APQ)	3.1	2.5	2.2
Parental Supervision (PSI)	1.0	3.0	4.0
Total Scale (MBRS)	2.6	2.9	3.5
Family Communication	5.0	5.0	4.5
Family Relationship	3.3	3.7	3.7
Youth Relation	3.0	3.0	4.0
Youth Compliance	1.7	2.2	3.3

## Individual APQ, PSI &amp; MBRS Parenting Factors for Participant 2

Parenting Factors	Pre-Treatment	Post-Treatment	12 Month Post-Treatment
Inconsistent Discipline (APQ)	3.2	0.9	0.5
Positive Parenting (APQ)	3.7	0.8	0.5
Parent Involvement (APQ)	3.7	0.6	3.4
Poor Supervision & Monitoring (APQ)	3.6	1.5	1.4
Parental Supervision (PSI)	2.0	2.5	2.5
Total Scale (MBRS)	2.4	4.0	3.6
Family Communication	4.0	5.0	4.0
Family Relationship	2.7	4.3	4.0
Youth Relation	2.0	4.0	4.0
Youth Compliance	2.0	3.7	3.3

## Individual APQ, PSI &amp; MBRS Parenting Factors for Participant 3

Parenting Factors	Pre-Treatment	Post-Treatment	12 Months Post-Treatment
Inconsistent Discipline (APQ)	2.3	2.2	0.8
Positive Parenting (APQ)	4.2	3.8	4.0
Parent Involvement (APQ)	3.9	3.7	0.5
Poor Supervision & Monitoring (APQ)	1.6	1.9	1.7
Parental Supervision (PSI)	4.0	5.0	1.0
Total Scale (MBRS)	3.3	3.7	4.4
Family Communication	5.0	5.0	5.0
Family Relationship	4.0	4.0	4.3
Youth Relation	2.0	3.0	4.0
Youth Compliance	2.8	3.5	4.3

## Individual APQ, PSI &amp; MBRS Parenting Factors for Participant 4

Parenting Factors	Pre-Treatment	Post-Treatment	12 Months Post-Treatment
Inconsistent Discipline (APQ)	3.7	2.3	2.5
Positive Parenting (APQ)	1.2	4.2	4.2
Parent Involvement (APQ)	1.1	3.2	3.0
Poor Supervision & Monitoring (APQ)	4.4	2.2	3.0
Parental Supervision (PSI)	3.0	2.0	3.0
Total Scale (MBRS)	3.1	3.7	3.5
Family Communication	3.5	5.0	4.0
Family Relationship	3.3	1.7	3.0
Youth Relation	2.0	4.0	3.0
Youth Compliance	3.0	4.5	3.8

APQ = Alabama Parenting Questionnaire; PSI = Parenting Supervision Index; MBRS = Multisystemic Behaviour Rating Scale.

*Table 3.* SRD Parent Version: Youth Offending and Delinquency Related Behaviour (n = 4).

SRD Subscales	Pre-TX	<i>SD</i>	Post-TX	<i>SD</i>	12 m FU	<i>SD</i>
Total Offending	.72	.49	.15	.22	.08	.06
Norm Violations	.65	.57	.09	.11	.08	.05
Interpersonal Aggression	.79	.45	.06	.13	.07	.08
Theft	.74	.52	.14	.29	.04	.07
Drug & Alcohol	.49	.58	.05	.07	.29	.26
Destructive Vandalism	.75	.67	.13	.16	.06	.13
Illegal	.79	.43	.21	.33	.09	.08

SRD = Self-Report Delinquency Scale; TX = Treatment; FU = Follow-up; SD = Standard Deviation.

*Table 4.* SRD Mean Comparisons for Parent – Youth Dyads (n = 3) for Participants at Pre, Post & 12 Month Follow-up Intervals .

SRD Version	Parent	Youth	Parent	Youth	Parent	Youth
	Pre-TX	Pre-TX	Post-TX	Post-TX	12mth	12mth
Total offending	.88	.72	.20	.30	.09	.06
Norm violations	.83	.78	.13	.36	.09	.04
Interpersonal Aggression	.97	.63	.08	.13	.09	.08
Theft	.89	.60	.19	.24	.05	.04
Drug & Alcohol	.56	.57	.05	.38	.19	.09
Destructive Vandalism	.98	.80	.18	.27	.08	.05
Illegal	.93	.67	.28	.26	.09	.04

SRD = Self-Report Delinquency Scale; TX = Treatment; FU=Follow-up; SD = Standard Deviation.



*Table 5.* Official Offending Rates.

	6 mo. prior to & 6 mo. during TX	0-6 mo. FU	6-24 mo. FU
Charges	12	10	0
Severity	6.92	6.10	0
Number offending	2	1	0

Note: mo. = month; TX = Treatment; FU = follow-up.

*Table 6.* Individual and Mean Program Intervention Hours and Sessions (n = 4).

Participant	Hours	Sessions	Booster Sessions
P1	30.5	26	1
P2*	21.0	20	0
P3	41.0	22	2
P4*	22.0	18	0
Combined Mean	28.6 (55.9; 40)**	21.5	.75

\*- Youth with documented offending history; \*\*average number of face-to-face contact hours with families during MST treatment in New Zealand (Curtis, 2004; see also Curtis et al., 2009) and MST averaged across U.S.RCT's (Curtis et al., 2004), respectively.

*Table 7.* Combined Mean Ratings for Therapist Supervision & Support Factors (n = 3).

	Pre-Intervention	During-Intervention	Post-Intervention
Supervision Quality	9.3	10	10
Supervision Quantity	9.3	10	10
Support Quality	9.7	10	10
Support Quantity	9.7	9.7	10
PD* Quality	9.7	9.3	9.3
PD* Quantity	9.3	9	9
Emphasis on Self-care	9.7	10	10
Engage in Self-care	8	9	9

\*Professional Development Activities.