

Social Programs That Work Review

**Evidence Summary for Treatment Foster Care Oregon
(formerly Multidimensional Treatment Foster Care, or MTFC)**

HIGHLIGHTS:

- **PROGRAM:** A foster care program for severely delinquent youth.
- **EVALUATION METHODS:** Two randomized controlled trials (RCTs) conducted in Oregon, one with a sample of 166 girls and the other with a sample of 85 boys.
- **KEY FINDINGS:** For girls, the program nearly halved the incidence of pregnancy over the two-year period after random assignment (51% of the control group became pregnant versus 28% of the treatment group, statistically significant $p < 0.01$). The studies also found evidence of a reduction in delinquency for both boys and girls that we believe is suggestive but not yet strong due to study limitations.
- **OTHER:**
 - (i) Because pregnancy was not the program's primary targeted outcome, the effect on pregnancy rates, while substantial, warrants confirmation in an additional study to rule out the possibility it occurred by chance due to the study's measurement of multiple outcomes.
 - (ii) Both RCTs were conducted in Oregon. A replication RCT conducted in another jurisdiction would be desirable to hopefully confirm the above findings and establish that they generalize to other settings.

I. Evidence rating: **SUGGESTIVE TIER**

The standard for Suggestive Tier is:

Programs that have been evaluated in one or more well-conducted RCTs (or studies that closely approximate random assignment) and found to produce sizable positive effects, but whose evidence is limited by only short-term follow-up, effects that fall short of statistical significance, or other factors. Such evidence suggests the program may be an especially strong candidate for further research, but does not yet provide confidence that the program would produce important effects if implemented in new settings.

II. Description of the Program:

Treatment Foster Care Oregon (TFCO), formerly Multidimensional Treatment Foster Care, provides severely delinquent youths with foster care in community families trained in behavior management, and emphasizes preventing contact with delinquent peers. Typical community treatment for such youth, by contrast, often involves placement in a group residential care facility with other troubled youth.

As an example of the program's behavior management techniques, foster parents track and regulate the youths' behaviors using a point system, with youths receiving points for positive behaviors and losing points for negative behaviors. As youths accumulate points, they are afforded more freedom from adult supervision.

The program also provides the youths and their families with individual and family therapy, and program case managers closely supervise and support the youths and their foster families through daily phone calls and weekly foster parent group meetings. Biological (or adoptive) families to whom the youth is returning after the TFCO placement receive family therapy and support. The average length of stay in the program is 6-7 months. The average cost is about \$4,200 per month (2017 dollars), which is 30 to 50 percent lower than the cost of treatment in a group residential care facility in Oregon (where the studies of the program were conducted).

[Click here for TFCO's website.](#)

III. Evidence of Effectiveness:

This summary of the evidence is based on a systematic search of the literature, and correspondence with leading researchers, to identify all well-conducted RCTs of TFCO in the treatment of juvenile offenders. Our search identified two such studies, summarized below. Importantly, both trials evaluated TFCO in settings where the alternative treatment was community-based group care in a residential facility. Thus their findings apply only to the program as implemented in such settings. In addition, both studies took place in Oregon, and so do not yet establish that the findings generalize to other jurisdictions.

The following is a summary of the two studies and their main findings.

STUDY 1 (Delinquent Girls)

Study Design:

This was an RCT with sample of 166 female chronic juvenile offenders in Oregon who had been mandated by juvenile courts to receive out-of-home care due to chronic delinquency, and who had consented to study participation. The girls were randomly assigned to TFCO or to a control group that received community-based residential group care (the typical treatment for such youth in Oregon).

The girls averaged 15.3 years of age, and 12 lifetime criminal referrals. 25% had a prior pregnancy. 74% were European-American, 61% lived with single-parent families, and 32% lived with families with an annual income of less than \$10,000.

The TFCO group received TFCO with a few adaptations for female offenders, such as additional instruction on how to avoid aggression in social relationships (e.g., by talking to friends about distressing situations) and how to regulate their emotions (e.g., with coping and problem-solving strategies).¹

Key Findings:

- **On the key targeted outcome of delinquency:** The study found that TFCO produced reductions in both criminal referrals and days in locked setting (e.g., jail, correctional facilities) during the two-year period after random assignment. Specifically, the program reduced the median number of criminal referrals from 2.0 in the control group to 1.0 in the TFCO, and it reduced the median number of days in locked settings from 47.5 in the control group to 13.5 in the TFCO group. The program’s effect on a “construct” outcome that combined these two measures was statistically significant ($p < 0.05$), but the study does not report whether the effects on these measures individually were statistically significant. The study found no significant effect on girls’ self-reported delinquency.
- **On teen pregnancy:** The study found that the program nearly halved the incidence of pregnancy during the two-year period after random assignment. Specifically, 51% of the control group became pregnant versus 28% of the TFCO group. This effect was highly statistically significant ($p < 0.01$).
- **On other outcomes:** The study has reported effects on a sizable number of additional outcomes over follow-up periods as long as nine years after random assignment. It found significant effects on some outcomes (e.g., psychotic symptoms at the two year follow-up) but not others (e.g., incidence of marijuana use, other illicit drug use, miscarriages, and child welfare involvement at the 7-8 year follow-up).

Discussion of Study Quality:

Overall, we believe this was a well-conducted RCT with weaknesses in the analysis and reporting of findings that somewhat reduce confidence in the results.

Study strengths include:

- The study had very low sample attrition for the delinquency and teen pregnancy outcomes discussed above (attrition rates were under 10% and similar for the TFCO versus control group).
- At the start of the study, the TFCO group and control group were highly similar in their observable characteristics (e.g., demographics, past delinquent behavior, pregnancy history).

¹ About half of the girls in the treatment group (those in the second cohort that was randomized) also received a program component targeting HIV-risk behaviors that provided information on dating, sex, and high-risk behaviors, and taught strategies for being sexually responsible (e.g., refusal skills).

- The study measured outcomes for all youths assigned to the TFCO group, regardless of whether or how long they actually participated in the program (i.e., the study used an “intention-to-treat” analysis).
- The study evaluated TFCO as it is typically implemented in community settings (e.g., without direct researcher involvement in program delivery), thus providing evidence about the program’s effectiveness under real-world implementation conditions.
- Research staff gathering outcome data were blind as to which girls were in the TFCO group versus the control group.
- The study used multiple measures to assess outcomes, including official police/court records of criminal referrals, self-reports of delinquency and days in locked settings, and self-reports and caregiver reports for pregnancy outcomes.

Study limitations include:

- In reporting the effects on delinquency for the full sample, the study does not say whether it found a statistically-significant effect on the outcome it had identified in an initial study report² as its primary measure – namely, a construct measure that combined criminal referrals, days in locked settings, and self-reported delinquency. The study reports only that it found a significant effect on a construct measure combining criminal referrals and days in locked setting but *excluding* self-reported delinquency (on which no effect was found). Thus, based on the existing reports, it is not possible to determine whether the study’s primary hypothesis was supported. In addition, the shift in delinquency measures between the initial and later study reports raises a concern that the significant effect discussed in the later report could be a spurious finding – rather than a true effect – that occurred because the researchers tested multiple outcome measures for delinquency (and each test has roughly a 1 in 20 chance of producing a false positive or adverse effect when the program’s true effect is zero).
- None of the study reports contains a comprehensive listing of the effects found on all outcomes that the study measured. Such a listing is needed to rule out the possibility that the statistically-significant positive effects that the study found were just a small fraction of the effects that were measured, in which case the positive effects could be spurious (because, as noted above, significance tests sometimes produce false findings, especially when a study measures many effects).

² Chamberlain, Leve, and DeGarmo 2007.

STUDY 2 (Delinquent Boys)

This was a randomized controlled trial of 85 serious juvenile male offenders in Oregon who had been mandated by juvenile courts to receive out-of-home care due to chronic delinquency, and who had consented to study participation. The boys were randomly assigned to TFCO or a control group that received community-based residential group care (the typical treatment for such youth in Oregon).

The boys averaged 15 years of age, and had an average of 14 lifetime criminal referrals and more than four felony referrals. 85% were Caucasian, and 57% were from single-parent families

Key Findings:

The study found that the program produced large reductions in youth violence over the 2-year period following random assignment. Specifically, 21% of the TFCO group received an official criminal referral for a violent offense versus 38% of the control group, and the number of self-reported violence incidents was 10.5 per youth in the TFCO group versus 32.6 per youth in the control group. Both effects were statistically significant ($p < 0.05$). The study also found statistically-significant reductions in self-reported substance use at follow-up 18 months after random assignment, but it is difficult to gauge whether the effect is large enough to be of practical importance because substance use was measured on a five-point scale that does not lend itself to ready interpretation.

Discussion of Study Quality:

Overall, based on the study strengths and limitations described below, we believe this RCT provides suggestive but not yet strong evidence of reductions in boys' violence and substance use.

Study strengths include:

- The study had low to modest attrition: At the two-year follow-up, data on official criminal referrals were obtained for 93 percent of the sample, and data on self-reported violence were obtained for 79 percent of the sample. The follow-up rates were similar for the TFCO group and the control group.
- The study measured outcomes for all youths assigned to the TFCO group, regardless of whether or how long they actually participated in the program (i.e., the study used an “intention-to-treat” analysis).
- The study used both official court records and self-reports (i.e., multiples sources) to measure crime/delinquency outcomes.

Study limitations include:

- There was a sizable difference between the TFCO group and control group in their self-reported violent incidents prior to the study – namely, an annual rate of 28 such incidents per youth in the TFCO group versus 45 in the control group. Thus study's key finding of lower violence for the TFCO versus control group over the two years post-random assignment could potentially be explained by the fact that the TFCO group was less violent to begin

with, rather than by their participation in the program. Unfortunately, the study's analysis did not adjust statistically for the pre-program imbalance in violent incidents, which is the usual method of addressing such imbalance (instead, the analysis adjusted for pre-program levels of antisocial behavior in general, on which the two groups were fairly similar, resulting in little adjustment).

- Substance use outcomes were measured exclusively through self-reports and not confirmed with biological tests.
- The researchers who interviewed the boys to measure self-reported delinquency were not blind as to which boys were in the TFCO versus control group. Blinding would have been desirable to rule out the possibility that researcher bias (e.g., as proponents of TFCO) could have consciously or unconsciously influenced their measurement of these self-reports.
- The researchers were closely involved in program delivery (e.g., in supervising parent and therapist training). This may limit the extent to which the study's findings generalize to delivery settings without such involvement.

IV. References:

Study 1 – Delinquent girls:

Rhoades, Kimberly A., Leslie D. Leve, Gordon T. Harold, Hyoun K. Kim, and Patricia Chamberlain. "Drug use trajectories after a randomized controlled trial of MTFC: Associations with partner drug use." *Journal of Research on Adolescence*, vol. 24, no. 1, 2014, pp. 40-54.

Leve, Leslie D., David C. R. Kerr, and Gordon T. Harold. "Young adult outcomes associated with teen pregnancy among high-risk girls in a randomized-controlled trial of Multidimensional Treatment Foster Care." *Journal of Child & Adolescent Substance Abuse*, vol. 22, no. 5, July 2013, pp. 421-434.

Van Ryzin, Mark J. and Leslie D. Leve. "Affiliation with delinquent peers as a mediator of the effects of Multidimensional Treatment Foster Care for delinquent girls." *Journal of Consulting and Clinical Psychology*, vol. 80, no. 4, 2012, pp. 588-596.

Kerr, David C. R., Leslie D. Leve, and Patricia Chamberlain. "Pregnancy Rates Among Juvenile Justice Girls in Two Randomized Controlled Trials of Multidimensional Treatment Foster Care." *Journal of Consulting and Clinical Psychology*, vol. 77, no.3, June 2009, pp. 588-593.

Chamberlain, Patricia, Leslie D. Leve, and David S. DeGarmo. "Multidimensional Treatment Foster Care for Girls in the Juvenile Justice System: 2-Year Follow-Up of a Randomized Clinical Trial." *Journal of Consulting and Clinical Psychology*, vol. 75, no. 1, 2007, pp. 187-193.

Leve, Leslie D. and Patricia Chamberlain. "A Randomized Evaluation of Multidimensional Treatment Foster Care: Effects on School Attendance and Homework Completion in Juvenile Justice Girls." *Research on Social Work Practice*, vol. 17, 2007, pp. 657-663.

Leve, Leslie D., Patricia Chamberlain, and John B. Reid. "Intervention Outcomes for Girls Referred From Juvenile Justice: Effects on Delinquency." *Journal of Consulting and Clinical Psychology*, vol. 73, no. 6, 2005, pp. 1181-1185.

Study 2 – Delinquent boys:

Smith, Dana K., Patricia Chamberlain, and J. Mark Eddy. "Preliminary support for Multidimensional Treatment Foster Care in reducing substance use in delinquent boys." *Journal of Child & Adolescent Substance Abuse*, vol. 19, no. 4, 2010, pp. 343-358.

Eddy, J Mark, Rachel Bridges Whaley, and Patricia Chamberlain. "The Prevention of Violent Behavior by Chronic and Serious Male Juvenile Offenders: A 2-Year Follow-up of a Randomized Clinical Trial." *Journal of Emotional and Behavioral Disorders*, vol. 12, no. 1, spring 2004, pp. 2-8.

Fisher, Philip A., and Patricia Chamberlain. "Multidimensional Treatment Foster Care: A Program for Intensive Parenting, Family Support, and Skill Building." *Journal of Emotional and Behavioral Disorders*, vol. 8, no. 3, fall 2000, pp. 155-164.

Chamberlain, Patricia and Kevin Moore. "Models of Community Treatment for Serious Juvenile Offenders" in *Social Programs That Work*, edited by Jonathan Crane (Russell Sage Foundation, 1998), pp. 258-276.

Chamberlain, Patricia and John B. Reid. "Comparison of Two Community Alternatives to Incarceration for Chronic Juvenile Offenders." *Journal of Consulting and Clinical Psychology*, vol. 66, no. 4, 1998, pp. 624-633.