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MTFC for High Risk Adolescent Girls: A Comparison of Outcomes in England and the United States

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Abstract

The current study examined 12-month outcomes for girls enrolled in an implementation trial of Multidimensional Treatment Foster Care (MTFC) in England. In addition to examining changes from pre-treatment to post-treatment, we also compared results for girls enrolled in the England implementation trial to girls enrolled in two randomized controlled trials (RCTs) of MTFC in the United States (US). The England MTFC sample included 58 girls in foster care between the ages of 12 and 16 years. The US MTFC intervention samples included 81 girls between the ages of 13 and 17 years who were referred to out-of-home care due to chronic delinquency. Results indicated improvement in offending, violent behavior, risky sexual behavior, self-harm, and school activities for girls enrolled in the England implementation trial. The effect sizes of these results were similar to those obtained in the US RCTs, with the exception of substance use which showed significant decreases for girls enrolled in the US RCTs, but not for girls enrolled in the England implementation trial. These results, in combination with other cross-cultural findings, support the notion that MTFC might be relevant across US and European cultures.

Keywords

MTFC; implementation; cross-cultural; girls; delinquency

There is a growing body of studies that examine the transportability of evidence-based intervention models for the prevention and treatment of delinquency among children/adolescents and their families across cultures with some mixed (Sundell et al., 2008), but largely encouraging, results (Hansson, Cederbald, & Höök, 2000; Ogden & Amlund-Hagen, 2006). These studies address two important issues. First, do evidence-based interventions maintain relevance across countries and cultures? And second, how are key outcomes affected when the intervention is delivered in another country and culture? Randomized controlled trial (RCT) designs are clearly the most rigorous “gold standard” approach that can be used to address these two questions. One such trial of the Multidimensional Treatment Foster Care (MTFC; Chamberlain, 1998) model was conducted in Sweden. In the Swedish trial, youth referred from social services in need of out-of-home placement were randomized to either MTFC or to “treatment as usual.” MTFC is a community-based alternative to placement in group or residential care for youth with severe behavioral/emotional problems referred from juvenile justice or social services systems. In MTFC, youth are placed with foster parents who are intensively trained and supported and, along with their families, receive individualized, family, and skills training therapy. Consistent and statistically significant positive treatment effects were found in the Swedish trial on the

majority of outcome variables examined, and the authors concluded that MTFC could be successfully implemented within the Swedish culture (Westermarck, Hansson, & Olsson, 2010).

Although the use of the RCT design is clearly optimal, we argue that there is knowledge to be gained from the examination of results from less rigorous, quasi experimental, pre-post design studies, especially when those studies focus on understudied populations and the intervention has demonstrated effectiveness in prior RCTs. Additionally, comparisons of results from research-based trials and real world implementations provide information on potential decrements of effects that have been documented to occur when moving from researcher-conducted studies to practice-based settings (Weisz, Weiss, & Donenberg, 1992). Such comparisons also have the potential to inform the relevance question: does the intervention “translate” well to the different types and severities of problems and to the different system structures (e.g., child welfare/social service, juvenile justice/youth offending boards) that are present in real world cross-cultural settings? In this paper, we compare outcomes of MTFC programs for adolescent girls referred for out-of-home placement due to severe behavior problems in England to the results obtained in two RCTs with girls in the United States.

Girls, relative to boys, are an understudied population. Over the last decade, there has been increasing recognition of the seriousness of the problem of antisocial behavior in adolescent females (Pepler, Madsen, Webster, & Levene, 2005; Prescott, 1998; Putallaz & Bierman, 2004), largely due to an increase in arrest rates (Puzzanchera, 2009). The poor outcomes associated with girls’ offending behavior are significant, and include behaviors such as ongoing engagement in criminal offending, drug use, adolescent childbearing, and mental health problems (Chamberlain, Leve, & DeGarmo, 2007; Kerr, Leve, & Chamberlain, 2009; Miller-Johnson, Lochman, Coie, Terry & Hyman, 1998; Underwood, Kupersmidt, & Coi, 1996; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002). Therefore, it is of high public health significance to develop and evaluate intervention models for these young women and to understand if these models have relevance across cultures.

The MTFC Model

MTFC has received national attention as a cost-effective alternative to residential care. The results from a series of independent cost-benefit analyses from the Washington State Public Policy group (Aos, Phipps, Barnoski, & Lieb, 2001), and findings from RCTs led MTFC to be selected as 1 of 10 evidence-based National Model Programs (The Blueprints Programs; Elliott, 1998) by the Office of Juvenile Justice and Delinquency Prevention and as 1 of 9 National Exemplary Safe, Disciplined, and Drug Free Schools model programs. The MTFC model was also highlighted in two U.S. Surgeon’s General reports (U.S. Department of Health and Human Services [USDHHS], 2000a, 2000b) and was selected by the Center for Substance Abuse Prevention and the Office of Juvenile Justice and Delinquency Prevention as an Exemplary I program for Strengthening America’s Families (Chamberlain, 1998). In addition, it was selected in 2009 by the Coalition for Evidence-Based Policy as meeting “top tier” evidence of effectiveness (www.toptierevidence.org).

MTFC involves placing youths individually in well-trained and supervised foster homes. Close consultation, training, and support of the foster parents are the cornerstones of MTFC. Program Supervisors with small caseloads (10 families each) maintain daily contact with MTFC parents to collect data on youth adjustment and to provide ongoing consultation, support, and crisis intervention. The basic components of MTFC include: (a) daily (Mon. through Fri.) telephone contact with MTFC parents using the Parent Daily Report checklist (PDR; Chamberlain & Reid, 1987); (b) weekly foster parent group meetings led by the

Program Supervisor focused on supervision, training in parenting practices, and support; (c) an individualized behavior management program implemented daily in the home by the foster parent; (d) individual therapy for the youth; (e) individual skills training/coaching for the youth; (f) family therapy (for biological/adoptive/relative family of the youth) focused on parent management strategies; (g) close monitoring of school attendance, performance, and homework completion; (h) case management to coordinate the MTFC, family, peer, and school settings; (i) 24-hour on-call staff availability to MTFC and biological parents; and (j) psychiatric consultation as needed. The MTFC intervention embodies a strong focus on strength-building and positive reinforcement, and specific treatment services are tailored to the child's age and developmental level. The MTFC team consists of a Program Supervisor (who is the clinical lead), the treatment foster parents, family and individual therapists, a skills trainer, and a foster parent recruiter/trainer.

Study Aims

The primary aim of the current study was to examine behavior changes from pre-treatment to post-treatment (12 months post-baseline) for girls who participated in MTFC in England. As a corollary of this aim, we compared the pre-post outcomes in England to those from two randomized controlled trials of MTFC in the US. Based on previous results from RCTs of MTFC, we expected overall improvement in functioning for girls enrolled in MTFC in England, similar to improvements seen for girls enrolled in the United States RCTs of MTFC. Based on previous findings that the magnitude of effects may be reduced in real-world implementations (Weisz et al., 1992), we anticipated that the effect sizes from the English implementation trial might be slightly lower than the effect sizes from the US RCTs, even though we expected improvements in both groups of girls.

Method

Participants

US Sample Participants—The US sample was selected from a larger sample of 166 girls who participated in one of two consecutively run RCTs (n s = 81 and 85 for Trials 1 and 2, respectively) conducted from 1997 to 2006 to contrast MTFC and group care (GC) conditions in Oregon. The girls had been mandated to community-based, out-of-home care because of problems with chronic delinquency. In this study, we attempted to enroll all referred girls who were 13–17 years of age, who had at least one criminal referral in the prior 12 months, who were not currently pregnant, and who were placed in out-of-home care within 12 months following referral. The project coordinator randomly assigned (coin flip) enrolled girls to either MTFC (n = 81) or GC (n = 85). All youths and caregivers were aware that they were participants in a research study and were aware that they were receiving treatment services. The current analyses included the entire intent-to-treat treatment sample (n = 81). Girls in the treatment sample were 13–17 years of age at baseline (M = 15.31, SD = 1.13); 72% were Caucasian, 1% were African American, 9% were Hispanic, 1% were Native American, 1% were Asian, and 16% reported mixed ethnic heritage. In comparison, 93% of the girls 13–19 years of age living in the region of the study were Caucasian (U.S. Department of Commerce, 1992). At baseline, 62% of the girls randomly assigned to MTFC were living with single-parent families, and 46% of the girls randomly assigned to MTFC were living in families earning less than \$10,000 annually. No adverse events occurred during the course of the study.

England Sample Participants—England sample participants were selected from a larger sample of 105 girls in foster care who were enrolled in an implementation trial of MTFC. Of these 105 girls, 82 were at least 12 years of age, and our final analytic sample

consisted of 58 girls who were between 12 and 16 years old at MTFC placement ($M = 13.74$, $SD = 1.21$) and who had pre-treatment and post-treatment data available on at least one outcome domain. Girls were enrolled between 2004 and 2010 from one of 18 sites that were funded by the government to set up MTFC and make placements. Of those 18 sites, five were considered rural and the remaining urban. To be referred to MTFC, girls had to be in the age range of 10–16 (we selected those 12 and older at entry in order to maximize the comparability of the US and England samples), in need of a new foster care placement, have complex difficulties including behavioral and emotional difficulties, and/or histories of offending. Fifty-one (88%) girls were white British, two were black Caribbean (3%), and five (9%) indicated more than one race or another race.

At intake, 30 girls were accommodated under section 20 of the Children Act 1989 (the 1989 Act) by the local authority, under a voluntary arrangement between the parents and the local authority. The parents retain parental responsibility for the child and continue to make decisions about the child's welfare. Twenty girls were the subject of a full care order under section 31 of the 1989 Act which grants parental responsibility to the local authority. It is shared with the parents but the local authority may determine how it should be exercised. Three girls were the subject of an interim care made during care proceedings, which typically lasts for 8 weeks in the first instance, pending the outcome of a full hearing of the evidence as to whether the child is suffering or is likely to suffer significant harm. One girl had a supervision order (section 31 of the 1989 Act) and was placed under the supervision of the local authority or a probation officer. For this order, the child remains in the family home and the local authority has no parental responsibility for the child; however, they may supervise the parents' care of their child. One girl was placed for adoption, two girls had other placement orders to enable them to be placed for adoption, and for one girl this information was missing.

Intervention

US MTFC girls were individually placed in one of 22 highly trained and supervised homes with state-certified foster parents. Across the years that the trials were conducted, each MTFC home served 1 to 19 study participants ($M = 3.68$, $SD = 4.53$). In Trial 2, the MTFC condition also included an additional intervention component that targeted drug abuse and HIV-risk behaviors. The girls were provided with information on dating and sexual behavior norms and on HIV-risk behaviors and were taught strategies for being sexually responsible, including decision making and refusal skills. Role play exercises were conducted with the Virtual Date program (Northwest Media, 2002), which depicts key decision points in a practice date. Girls were not randomly assigned to Trial 1 or Trial 2; that is, participation in these consecutively-run trials was based on when girls were court-mandated to out-of-home care.

The England, the subsample of MTFC girls age 12 and older ($n = 82$) were individually placed in one of 74 highly trained and supervised foster homes. Across the years the trials were conducted, each MTFC home served 1 to 3 participants ($M = 1.35$, $SD = 0.65$). MTFC in England was initiated in partnership with the government beginning in 2002. In collaboration with the developers of the MTFC model, a National Implementation Team at the Maudsley Hospital was set up in 2003 to help build program capacity and sustainability, to act as a bridge between researchers and practitioners during the implementation process, and to provide support and training to the sites in England. First, a small number of sites established MTFC teams to implement the intervention. Next, those sites used the experiences and "lessons learned" from implementing in their local authorities to assist in the implementation of MTFC in subsequent sites during successive yearly cohorts. The National Implementation Team collaborated with the developers of MTFC (the first author and Oregon colleagues) to conduct training and to make minor adaptations to the model to

fit culturally (described in Chamberlain, Roberts, Jones, Marcenish, & Price in press). In total, 18 sites set up MTFC programs for adolescents and made first placements between 2004 and 2007. The National Implementation Team worked closely with the MTFC program developers, organized training for staff and foster parents, provided weekly consultation and supervision, attended steering groups with senior managers, organized update events, and received regular audit data and feedback from each site on their development, implementation progress, and concerns.

Measures

Data collection strategies were markedly different for the US RCT and the England implementation trial due to their differing goals and priorities. Whereas the US RCT was designed and had the resources to measure outcomes in depth, data collection for the implementation trial in England was less time intensive and assessed most outcomes with a single question from an audit form versus extensive questionnaire measures. To achieve comparability in outcome measurement for the two trials, we first selected items from the England MTFC audit form that corresponded to domains targeted by MTFC and/or domains that had evidenced improvement in prior analyses of the US RCT. In addition, we only included outcome measures that were measured at both baseline and 12 months post-baseline. Using this strategy, we selected 6 outcome domains: (1) offending, (2) violence, (3) substance use, (4) risky sexual behavior, (5) self-harm, and (6) school activities. We then selected questions from the US RCT assessment batteries that most closely mirrored the questions asked in the England MTFC audit (see Table 1). The six domains selected were assessed at baseline and at 12 months post-baseline or, for the England implementation sample, at discharge if discharge from MTFC was earlier than 12 months post-baseline. We were thus able to examine change in these selected domains from pre-treatment to post-treatment.

Measures in the US Sample

Offending—Offending was measured pre-baseline and 12 months post-baseline. We collected the number of criminal charges at both time points using state police records and circuit court data. Court records list the individual charges for each girl and the disposition of each charge and are reliable indicators of externalizing behavior (Capaldi & Stoolmiller, 1999).

Violence—Physical violence was measured at baseline and 12 months post-baseline using 4 items tapping physical violence towards others from the 38-item Elliot Social Behavior Questionnaire (Elliot, Huizinga, & Ageton, 1985) and 2 items from the Youth Self Report (YSR) of the Child Behavior Checklist (CBCL; Achenbach, 1991). The Elliot includes items assessing one's engagement in various delinquent behaviors (e.g., purposefully damaged or destroyed property, carried a hidden weapon, stole something). Ratings are given as a count of the number of times the girl engaged in the behavior. Due to a few extreme outlying behavior counts, we dichotomized all items into 0 = *did not engage in the behavior*, and 1 = *did engage in the behavior*. The four items included from the Elliot were: (1) "attacked someone intending to hurt," (2) "hit a parent," (3) "hit a student," and (4) "hit anyone else." Two items from the Youth Self Report (YSR) form of the Child Behavior Checklist (CBCL, Achenbach, 1991) were included to assess physical violence. The included items were: (1) "gets in many fights" and (2) "physical attacks people." Internal consistency for the violence construct was adequate at both assessment points (baseline $\alpha = .63$; 12 months post-baseline $\alpha = .69$).

Substance Use—Substance use was assessed with four questions which asked the target girls to indicate, on a five-point scale, how frequently they used tobacco, alcohol, marijuana,

and other drugs. The scale was from 1 = *never* to 5 = *one or more times per day*. Responses for the four substances were averaged (baseline $\alpha = .78$; 12 months post-baseline $\alpha = .82$).

Risky Sexual Behavior—Risky sexual behavior was assessed by caregiver report at baseline and 12 months post-baseline using two questions from the Overt Covert Aggression Questionnaire (OCAQ; Capaldi & Patterson, 1989): (1) has sex with strangers and (2) has unprotected sex. Items were rated on a three point scale: 0 = *not true*, 1 = *sometimes*, and 2 = *often*. The two items were significantly correlated at both time points (baseline $r = .66$, $p < .001$; 12 months post-baseline $r = .38$, $p < .001$).

Self-harm—Self harm was assessed at baseline and 12 months post-baseline using one question from the Youth Self Report of the Child Behavior Checklist (CBCL; Achenbach, 1991): “deliberately harms self or tries suicide.” The item was rated on a three-point scale: 0 = *never*, 1 = *sometimes*, and 2 = *often*.

School Activities—School activities were assessed at baseline and 12 months post-baseline with two caregiver and girl report questions: (1) number of days in the past week that the girl spent at least 30 minutes on homework; and (2) how often the girl attends school; 1 = *not attending*, 2 = *attending very infrequently*, 3 = *attending infrequently*, 4 = *attending more than that*, 5 = *attending regularly*. Composite scores were formed for both school activity variables by aggregating caregiver and girl reports. The caregiver-girl correlations were .50 for attendance and .27 for homework completion. These two questions were only included for one cohort of girls in the MTFC condition ($n = 37$), and thus only that subsample of participants were used for the school activity analyses.

Measures in the England Sample

All measures in the England study were assessed from caregivers', social workers', or residential key workers' reports on various aspects of the girls' behaviors. In most cases, information was also obtained from the girls' social care files.

Offending—Offending was assessed at baseline and 12 months post-baseline. Responses were given on a four-point scale: 0 = *none*, 1 = *caution/warning*, 2 = *conviction*, 3 = *3 or more convictions*.

Violence—Violence was assessed at baseline and 12 months post-baseline by reports of “aggression toward others.” Ratings were given on a three-point scale: 0 = *none*, 1 = *yes, low impact*, 2 = *yes, significant impact*.

Substance Use—Substance use was assessed at baseline and 12 months post-baseline by reports of the girls' use of three substances: tobacco, alcohol, and other drugs. Responses indicated the degree of use on a three-point scale: 0 = *no use*, 1 = *yes, low impact*, 2 = *yes, significant impact*. The three indicators of substance use were aggregated (baseline $\alpha = .76$; 12 month post-baseline $\alpha = .77$).

Risky Sexual Behavior—Risky sexual behavior was assessed at baseline and 12 months post-baseline by reports of the prevalence and impact of the girls' sexual behavior problems. Ratings were made on a three-point scale: 0 = *no sexual behavior problems*, 1 = *yes, low impact*, 2 = *yes, significant impact*.

Self-harm—Self harm was assessed at baseline and 12 months post-baseline by reports of the girls' self-harming behaviors. Ratings were given on a three-point scale: 0 = *none*, 1 = *yes, low impact*, 2 = *yes, significant impact*.

School Activities—School activities were assessed at baseline and 12 months post-baseline by reports of the frequency of attending school leisure activities after school hours. Responses were given on a three-point scale: 0 = *never*, 1 = *occasionally*, 2 = *regularly*.

Results

Because the England implementation trial did not include a control group, we could not compare the improvement of England girls in MTFC to comparable girls who did not receive MTFC. Thus, our analytic strategy was to separately examine pre-post differences in the six domains for girls in the US RCT and for girls in the England implementation trial. Although these analyses do not provide the most stringent test of the effectiveness of MTFC in England, it does allow us to examine and compare overall changes in our six domains for the two programs. We conducted a series of six paired-samples *t*-tests comparing the following: (1) offending, (2) violence, (3) substance use, (4) risky sexual behavior, (5) self-harm, and (6) school activities from baseline to 12 months post-baseline separately for the US treatment samples and the England sample (see Table 2). Girls who participated in MTFC in the US demonstrated improvements in all six domains of functioning from baseline to 12 months post-baseline (all $ps < .05$). Effect sizes ranged from small to large, with the greatest improvement evidenced for offending and substance use. Girls who participated in MTFC in England demonstrated improvement in five of the six domains of functioning from baseline to 12 months post-baseline; there were no significant decreases in substance use for this sample. Similar to the girls who participated in MTFC in the US, effect sizes ranged from small to medium-large, with the greatest improvement seen in offending.

Discussion

The current study examined pre-post outcomes for girls who were enrolled in MTFC in England and compared those outcomes to those obtained from two randomized controlled trials of MTFC in the US. Results on the effectiveness of the MTFC model for girls, as it is being implemented in England, showed comparability in terms of effect size to the results obtained in the original US randomized controlled trials in five of the six domains examined; comparable effects were not found in England in the area of substance use. This level of comparability of effect sizes in the areas of offending, violence, risky sexual behavior, self-harm, and school activities is impressive for at least three reasons. First, the MTFC model is complex to implement. It has multiple components and involves the coordinated efforts of staff members who comprise the MTFC clinical team (including treatment foster parents, a program supervisor, family and individual therapists, a skills coach, and a foster parent recruiter/trainer). As such, the model requires that several people be trained and supervised and that their efforts are monitored to assure model fidelity. The replication across trials suggests that, despite the complexity of the model, sufficient fidelity was achieved. Second, there are few reports that focus on outcomes for girls with severe problems in need of out-of home care in the US or in England. This study adds to the literature on this understudied but rapidly growing population of youth and suggests that similar developmental mechanisms operate for girls in both countries. Third, although both samples were in foster care, the sampling criteria and sample composition of the two trials differed. In the US trial, all girls were involved in the juvenile justice system and parental rights had been suspended; in the England trial, girls had behavioral problems including offending histories but parental responsibility was retained by the parents during the course of the study. Despite these sample differences, similar results were found, suggesting the appropriateness of MTFC for a wide range of youth in foster care.

The one domain that evidenced differences between the US and the England trials was substance use. The US RCTs demonstrated decreases in drug use from pre-treatment to 12 months post-treatment, while the England implementation trial did not. Girls enrolled in the England implementation trial evidenced less drug use at baseline than did girls in the US RCTs. At baseline, over 30% of girls in the England trial did not have reports of any substance use. In contrast, only a little more than 7% of girls in the US RCTs reported no substance use at baseline. Thus, the girls in the US trials evidenced more use at baseline and had the opportunity to demonstrate greater decreases in use over the course of the trial. For girls enrolled in the England trial, MTFC might have prevented the initiation of substance use for those girls who were not using any substances at baseline. At 12 months post-baseline, about 25% of girls in the US trial reported no substance use, compared to about 32% of girls in the England trial. Therefore, it appears that participation in MTFC was associated with decreases in substance use for girls in the US trials and with prevention of substance use initiation for girls in the England trial, although more complex analyses would be required to definitively address this hypothesis.

One additional hypothesis should be considered for the lack of comparable substance abuse findings. In the US sample, many girls received an enhanced protocol directed toward reduction of substance use and other health risking sexual behaviors. The girls in England only received the standard MTFC protocol. Therefore, it might be case that more severe behavioral problems such as substance abuse require additional monitoring and attention in order for reductions in behavior to be seen. That is, the standard MTFC protocol alone may not be sufficient to address these behaviors for youth who are already displaying them at the time of admission. Future research should consider this possibility.

There are several limitations to the analyses presented here. First, the same measures were not available in the US and England. This was expected because of the differences in the original intent of the implementations in the two countries. In the US, the implementation took place in the context of two National Institute of Health-funded randomized clinical trials. The primary intent was to conduct controlled experiments to examine the efficacy of the model relative to group care (treatment as usual in the US). In England, the focus was on conducting a national implementation for the primary purpose of service provision to girls and their families. Thus, the intensity and depth of outcome measurement in the US implementation was much greater than that in the England implementation. To achieve comparability in measurement, it was therefore necessary to select individual item(s) that most closely matched the questions included in the England audit forms. A second major limitation is that a quasi experimental pre-post design was used. Therefore, the results can only be thought of as suggestive of evidence on the efficacy of MTFC across cultures rather than as being conclusive. Third, because the referral systems are obviously different in the two settings, it is not entirely clear how the girls enrolled in the respective programs are comparable in terms of problem severity or other unmeasured characteristics. This system difference also possibly affects system-level responses to the girls' misbehavior (e.g., the potentially differing perceptions of what constitutes offending and/or violence). Despite these substantial limitations, the findings presented here are encouraging. In concert with the findings from the Swedish randomized controlled trial, the results presented here bolster the notion that the MTFC intervention appears to be relevant across European and US cultures. This report provides preliminary data that will hopefully stimulate future research on the cross cultural relevance of MTFC, the comparability of outcomes across cultures, and on the mechanisms of change and how they are similar and/or different in various cultural contexts.

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Table 1

Outcome domains and measurement

Outcomes	England			United States		
	#	Questions	Respondent	#	Questions	Respondent
Offending	1	Offending history	Caregiver or Social Worker and/or Case File	1	Number of arrests	Official Records
Violence	1	Aggression toward others	Caregiver or Social Worker and/or Case File	6	Four Questions from Elliot Two Questions from CBCL	Caregiver and Girl
Substance Use	3	Tobacco, Alcohol, and Drug Use	Caregiver or Social Worker and/or Case File	4	Tobacco, Alcohol, Marijuana, and Other Drug Use	Girl
Risky Sexual Behavior	1	Sexual Behavior Problems	Caregiver or Social Worker and/or Case File	2	1 has sex with strangers 2 has unprotected sex	Caregiver
Self Harm	1	Self-Harm	Caregiver or Social Worker and/or Case File	1	From CBCL Deliberately harms self	Caregiver
School Activities	1	Attends school leisure activities	Caregiver or Social Worker	2	1 Number of days last week 30+ minutes of homework 2 How often attends school	Caregiver and Girl

Note. # = number of questions included in the domain for each sample.

Table 2

Pre-post outcome comparisons for girls in MTFC in the US versus England

Outcome	England MTFC	Effect Size	US MTFC	Effect Size
Offending	$t(54) = 5.65^{***}$	$d = .76$	$t(80) = 8.07^{***}$	$d = .90$
Violence	$t(64) = 2.08^*$	$d = .26$	$t(74) = 2.09^*$	$d = .24$
Substance Use	$t(63) = 0.43$ ns	$d = .05$	$t(74) = 6.54^{***}$	$d = .75$
Risky Sexual Behavior	$t(62) = 2.25^*$	$d = .28$	$t(64) = 2.26^*$	$d = .28$
Self-Harm	$t(65) = 3.41^{***}$	$d = .42$	$t(65) = 5.26^{***}$	$d = .65$
School Activities	$t(58) = -2.81^{**}$	$d = .37$	$t(31) = -2.72^{**}$	$d = .48$

Note. d = Cohen's d effect size (.20 = small effect, .50 = medium effect, .80 = large effect).

* $p < .05$;

** $p < .01$;

*** $p < .001$.