
How Effective Are Family Treatment Drug Courts? Outcomes From a Four-Site National Study

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Family treatment drug courts (FTDCs) are a rapidly expanding program model designed to improve treatment and child welfare outcomes for families involved in child welfare who have substance abuse problems. The present study compares outcomes for 250 FTDC participants to those of similar parents who did not receive FTDC services in four sites. Results show that FTDC parents, compared to comparison parents, entered substance abuse treatment more quickly, stayed in treatment longer, and completed more treatment episodes. Furthermore, children of FTDC parents entered permanent placements more quickly and were more likely to be reunified with their parents, compared to children of non-FTDC participants. Finally, the FTDC program appears to have a "value added" in facilitating positive child welfare outcomes above and beyond the influence of positive treatment experiences.

Keywords: *substance abuse; foster care; parenting; program evaluation; courts*

The association between parental substance abuse and involvement in child welfare services has been well documented, with studies indicating that problems with drugs and/or alcohol are present in between 25% and 80% of child welfare cases (Besharov, 1989; Magura & Laudet, 1996; Murphy,

Jellnick, Quinn, Smith, Poitras, & Goshko, 1991; National Center on Addiction and Substance Abuse, 1999; U.S. Department of Health and Human Services [USDHHS], 1999). Despite the prevalence of substance abuse problems in this population, working effectively with parents with substance abuse issues remains one of the most significant challenges facing child welfare systems (Semedei, Radel, & Nolan, 2001; USDHHS, 1999). Historically, parents with substance abuse problems have had the lowest probability of successful reunification with their children, and children from these families are more likely to remain in foster care for extended periods of time (Gregoire & Shultz, 2001; Murphy et al., 1991; Tracy, 1994).

The challenge of serving these families effectively has been highlighted by a number of studies (USDHHS, 1999; Young, Gardner, & Dennis, 1998)

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and is complicated by federal legislation in the form of the Adoption and Safe Families Act (ASFA; 1997), which mandates a 1-year timeline for permanency hearings. Parents who are unable to successfully address their substance abuse problems (as well as the many related challenges facing these families) within this timeline may face permanent termination of their parental rights. In the face of ASFA's stringent requirements, many child welfare and treatment systems have embraced new strategies for serving substance-abusing parents. One of the most rapidly proliferating program models for addressing the multiple challenges of these families is the family treatment drug court (FTDC; also known as dependency treatment courts, family treatment courts, family drug treatment courts, etc.).

As of April 2006, there were 183 FTDCs operating in 43 states in the United States and more than 100 additional programs in development (Bureau of Justice Assistance [BJA] Drug Court Clearinghouse, 2006). These courts serve thousands of substance-abusing parents and their children, and the rapid proliferation of this model makes it likely that many more families will receive FTDC services in the next 5 years. Despite this rapid proliferation, however, there is currently very little empirical research that examines the effectiveness of the FTDC model. The present work represents one of the first outcome studies of the FTDC model.

Advocates of the FTDC model have drawn primarily from evaluations of adult drug courts. A number of studies (Belenko, 2001; Marlow, DeMatteo, & Festinger, 2003; Roman, Townsend, & Bhati, 2003) have shown adult drug courts to be effective at improving treatment service compliance and reducing criminal recidivism among adults involved with the justice system because of drug-related charges. Although FTDCs are indeed modeled after adult drug courts, the participants, context, and consequences of noncompliance are quite different, and thus, research specific to this model is critical.

What Are Family Treatment Drug Courts?

Although individual FTDCs vary in structure and process, the basic FTDC model, much like adult drug courts, includes regular (often weekly) court hearings, intensive judicial monitoring, provision of timely substance abuse treatment and other wrap-around services, frequent drug testing, and rewards and sanctions linked to service compliance (Center for Substance Abuse Treatment, 2004; Edwards & Ray, 2005). FTDCs strive to provide a nonadversarial judicial context in which parents receive clear messages about what they need to do to be reunified with their

children. Typically, FTDCs involve a "drug court team" that includes representatives from the judicial, child welfare, and treatment systems, who work together to support and monitor the parent. Parents appear before the FTDC judge much more frequently than is the case in traditional child welfare processing, often with a diminishing schedule of hearings as parents make positive progress. Because of the close involvement of the treatment system, FTDCs are able to facilitate rapid entry into treatment for participants (sometimes with partnering treatment providers offering dedicated treatment slots) and close communication between treatment providers, child welfare, and the judicial system to monitor progress and provide swift intervention should relapse occur. Programs typically last about 1 year, with a graduation ceremony at the end of services.

Although adult drug court services are typically offered in lieu of jail time and their goal is preventing criminal recidivism, the primary motivation for participation in FTDCs is the prospect of family reunification. Put another way, the threat for adult drug court participants is incarceration, whereas the threat for FTDC participants is losing custody of their children, often permanently. It is important to note, however, that although successful reunification is often a goal of FTDCs, courts typically focus most extensively on parents' drug treatment and other collateral issues. Indeed, in some FTDCs, the final decision regarding reunification is not made by the FTDC judge but by a separate dependency judge (Edwards & Ray, 2005). Thus, two critical unanswered questions for FTDCs are whether they are successful in helping parents succeed in treatment and, if so, whether this makes a difference in terms of their child welfare outcomes.

Research Questions

The current study examines key outcomes across four different FTDCs. Using a quasi-experimental design, we examine the effectiveness of the FTDC in improving treatment and child welfare outcomes for parents. In addition, we begin to take a closer look "within the black box" of FTDCs by looking at the type of treatment experiences that FTDC participants are most likely to have and at the relationship of these treatment experiences to child welfare outcomes both for FTDC and non-FTDC clients. In general, research has shown that for parents involved in the child welfare system because of substance abuse issues, successful treatment (treatment completion, duration of treatment) is positively associated with the likelihood of reunification (Gregoire & Schultz, 2001; Green, Rockhill, & Furrer, 2006; Smith, 2003).

Given this relationship, it is important to ask whether FTDC program effects are due primarily to increasing the likelihood of treatment success or whether there is a value added to FTDC participation, such that families with similarly positive treatment experiences who participated in FTDC are more likely to be reunified with their children than are non-FTDC participants. Specifically, we address the following research questions.

1. Do FTDC participants, compared to similar parents who did not receive FTDC services, have more positive substance abuse treatment outcomes? Specifically, are FTDC parents more likely to (a) enter treatment, (b) remain in treatment longer, and (c) complete treatment compared to non-FTDC parents?

2. Do FTDC participants, compared to similar parents who did not receive FTDC services, have more positive child welfare outcomes? Specifically, (a) are the children of FTDC participants placed in permanent living situations more quickly, (b) are reunifications more likely, and (c) is child welfare recidivism less likely?

3. Do FTDC parents have different types of treatment experiences compared to non-FTDC participants?

4. Is the relationship between treatment experiences and child welfare outcomes stronger for FTDC participants, that is, does participation in FTDC provide a value added above and beyond the treatment experience?

METHODS

Site Selection

Four sites were selected for the study based on an initial evaluability assessment conducted for the Substance Abuse and Mental Health Services Administration (SAMHSA). The sites represented somewhat different FTDC models; all were judged to have adequate data for administrative records-based data collection and sufficiently large sample size. Despite differences in some elements, all sites provide a core set of common services, including more intensive judicial monitoring, immediate substance abuse assessment and referral, and wrap-around services provided through a collaborative drug court team. The programs have similar exclusionary criteria: all sites excluded cases that involved child fatalities or sexual abuse, serious mental illness, voluntary cases, cases that were being immediately moved to termination of parental rights (fast tracked), or cases that involved parental incarceration that would preclude attendance at the FTDC. Participation in the FTDC program in all sites is voluntary; however, there is variability in other aspects of the referral and eligibility processes, the basic mechanisms of their child welfare and dependency court systems, some specific service elements, and in the availability of

treatment and other resources in the community. These differences are described briefly below; differences in the demographic and other characteristics of FTDC participants are described in the study participants' section.

Site A. Site A, located in a very large Western urban region, serves every identified substance-abusing parent involved with the child welfare system in a system-wide reform adopted in 1998. The program involves two levels of service for parents identified with substance abuse problems. Tier 1 services are provided to all parents with substance abuse problems and include assignment to a specialized case manager, immediate assessment and referral to appropriate substance abuse treatment services, and frequent drug testing. Clients who fail to enroll in treatment services or who are noncompliant with treatment services are offered the second level of service, which is the more intensive FTDC. Clients in the drug court receive more intensive and frequent case management, judicial oversight (in the form of more frequent hearings), and additional wrap-around services. Approximately 10% of all Tier 1 cases go on to enter the FTDC. Thus, this site represents the least traditional drug court model because a number of clients receive case management and recovery support outside the judicial context per se and only those with more difficulty in recovery receive the court-based intervention. This site, located in a large metropolitan region, draws from a large pool of treatment services and options for the parents; indeed, parents can be referred to any one of several dozen treatment providers, including a variety of residential and outpatient modalities.

Site B. Site B, also located in a large Western urban city, began in 1998. Parents are referred by case-workers and attorneys and must voluntarily agree to participate in the program. Participants begin services with weekly court hearings and services through a drug court team. In addition to providing immediate assessment and referral to treatment, this program has a substantial transitional housing service, uses graduates of the program as mentors for current participants, and has a Head Start program that provides services and parenting classes to drug court parents. Site B is located in a service-rich metropolitan area and therefore drug court clients are referred to a variety of treatment services, including short- and long-term residential treatment and a variety of outpatient treatment providers.

Site C. Founded in 1997, Site C serves substance-abusing parents whose cases involve neglect allegations

only; thus, in contrast to the other sites, children in the Site C sample are less likely to be removed from the parents' custody. This site is located in a geographically isolated metropolitan region of the eastern United States. In addition to traditional FTDC services, this program offers court-appointed special advocates who conduct individual family meetings and regular case conferences with Child Protective Services (CPS) and other team members. As with Sites A and B, Site C refers drug court parents to a wide variety of treatment providers throughout the county.

Site D. Site D, located in a moderately sized Western city, was established in 1994 and serves parents with both abuse and neglect cases. In addition to traditional FTDC services, this site uses foster grandparents as mentors for participants and has weekly team meetings to discuss and monitor participants' progress. Unlike the other study sites, at the time of our sample building and data collection, Site D had contracts with just three treatment providers; all drug court parents were referred to one of these three providers for residential or outpatient treatment.

STUDY DESIGN AND SAMPLE SELECTION

The study uses a quasi-experimental nonequivalent control group design. The samples at each site consist of 50 FTDC cases and 50 comparison¹ cases in addition to 50 Tier 1—only cases in Site A for a total of 451 cases. Comparison cases were selected if they met the eligibility requirements for the FTDC site, had substance abuse problems as a presenting issue on the child welfare petition, and did not receive FTDC services. The comparison groups were primarily drawn from child welfare records prior to the implementation of the FTDCs, although in Site C a subset of participants were unserved eligible participants following the FTDC implementation. Below is a description of the sampling methodology used at each site.

Site A. Three samples were drawn for Site A: an FTDC sample, a Tier 1 sample, and a comparison sample. The FTDC and Tier 1 samples included cases from September 1999 through July 2000. During this period, 61 families entered the FTDC and the first 50 that had data available in the electronic child welfare database were selected. Also during this period, 100 families entered Tier 1 and the first 50 cases were selected for the sample. The comparison sample consisted of cases with substance abuse allegations with petitions filed between January 1996 and July 1997 (prior to the implementation of the FTDC and Tier 1). Site staff conducted a query of the child welfare database for cases with

petitions in that time period that had allegations commonly associated with parental substance use (neglect, severe neglect, and unsafe home); this query resulted in more than 1,000 cases. Research staff then reviewed the first 686 of these cases to determine whether there was indication of parental substance use in the detention hearing report and whether there was adequate electronic data for extraction, resulting in 65 potential cases. Research staff selected 50 of these cases for the comparison sample by matching to the FTDC and Tier 1 samples based on gender, race, prenatally exposed births, number of children, and number of prior terminations of parental rights.

The sample at this site was predominantly female (86%, $n = 129$; 14% male, $n = 21$). Participants were 44% Caucasian ($n = 66$), 27% Hispanic ($n = 41$), 24% African American ($n = 36$), and 5% Other² ($n = 7$). At this site, 63% ($n = 95$) of the parents had at least one infant child (0-1 year), 47% ($n = 70$) had at least one 2- to-5-year-old child, and 45% ($n = 67$) had at least one child older than 6 years. On average, parents at this site were 30 years old at the time of their petition (ranging from 18-46 years old) and had two children involved in their child welfare case. There were 347 children on the 150 child welfare cases examined at this site, and 99% of these children were in an out-of-home placement at some point during the case; 1% ($n = 3$) were never removed from their parents' care.

Site B. The FTDC sample consisted of the universe of 50 parents who entered the program between February 1997 and July 2000. The comparison sample cases were drawn from the universe of 500 cases that entered the child welfare system in 1997 and 1998 (prior to the implementation of the FTDC). These cases were first reviewed to determine whether there were allegations of parental substance abuse and whether the cases met the drug court eligibility criteria and then 50 comparison cases were selected matching on case type (family reunification, family maintenance, safety, and permanence), ethnicity, and age of child.

The sample at this site was predominantly female (96%, $n = 96$; 4% male, $n = 4$) and Hispanic (47% Hispanic, $n = 44$; 39% Caucasian, $n = 39$; 8% African American, $n = 8$; 6% Other, $n = 6$). At this site, 45% ($n = 45$) of the parents had at least one infant child (0-1 year), 51% ($n = 51$) had at least one 2- to-5-year-old child, and 41% ($n = 41$) had at least one child older than 6 years. On average, parents at this site were 28 years old at the time of their petition and had two children involved in their child welfare case.

There were 190 children on the 100 child welfare cases examined at this site and 100% of these children were in an out-of-home placement at some point during the case.

Site C. The FTDC sample consisted of the universe of 50 parents who entered the program between August 1999 and September 2000. During this same time period, there were cases eligible for the FTDC that were not calendared before the FTDC judge for a variety of reasons, including full dockets and judicial discretion. Therefore, the comparison group consisted of the universe of 51 FTDC-eligible cases from 1999 who never received FTDC services.

The sample at this site was predominantly female (81%, $n = 82$; 19% male, $n = 19$) and Caucasian (69% Caucasian, $n = 70$; 21% African American, $n = 21$; 10% Hispanic, $n = 10$; 0% Other). At this site, 48% ($n = 48$) of the parents had at least one infant child (0-1 year), 51% ($n = 51$) had at least one 2- to-5-year-old child, and 61% ($n = 62$) had at least one child older than 6 years. On average, parents at this site were 34 years old at the time of their petition (ranging from 18 to 51 years old) and had two children involved in their child welfare case. There were 247 children on the 101 child welfare cases examined at this site; 68% of these children were in an out-of-home placement at some point during the case and the remaining 32% ($n = 78$) were never removed from their parents' care.

Site D. The FTDC sample consisted of the universe of 50 parents that entered the program between January 1998 and April 2001. At the time of sample building, Site D had no electronic child welfare database and therefore the comparison sample was identified through paper files. Social workers were asked to identify parents on their caseloads who had substance abuse problems and were referred to treatment but who did not participate in the FTDC. Research staff reviewed the case files identified by social workers and excluded cases that did not meet FTDC eligibility criteria. Next, cases were matched to the FTDC group based on custody status and substance abuse problem. The 50 comparison cases began between January 1998 and June 2001.

The sample at this site was predominantly female (93%, $n = 92$; 7% male, $n = 7$) and Caucasian (76% Caucasian, $n = 70$; 11% Other, $n = 11$; 7% Hispanic, $n = 7$; 6% African American, $n = 6$). At this site, 44% ($n = 44$) of the parents had at least one infant child (0-1 year), 45% ($n = 45$) had at least one 2- to-5-year-old child, and 41% ($n = 41$) had at least one child older than 6 years. On average, parents at this site were 30 years old at the time of their petition (ranging

from 20 to 51 years old) and had two children involved in their child welfare case. There were 183 children on the 100 child welfare cases examined at this site; 95% of these children were in an out-of-home placement at some point during the case and 5% ($n = 9$) were never removed from their parents' care.

Data Collection Procedure and Data Sources

Data were collected for the primary parent on the case (typically the mother) and all children from three primary data sources: child welfare records and case files, drug and alcohol treatment records, and court records. Information for the study was extracted from these sources by data collection staff using a data extraction tool that was standard across the sites. Although data sources varied considerably across sites and included both paper documents and electronic data sets, care was taken to provide data collection staff with clear operational definitions and data collection guidelines to ensure consistency in data across sites. A detailed document defining each key variable was provided to staff and continually reviewed during the data collection process. The field data coordinator made quarterly site visits to each of the programs to check the reliability of data and ensure consistency with cross-site definitions. Data were collected on each case for 5 years after the initial petition, with the exception of a small subset of participants from Sites C and D for whom only 4 years of data were available.³

Because of the well-known problems of missing data in administrative data sets, where possible, information was obtained from any of the three data sets in the following priority order: (a) child welfare records, (b) treatment records, and (c) court records. Using all three sources of data reduced the amount of missing data on demographic and other family-related variables, although a small percentage of cases were still missing some variables. To identify any pervasive problems with missing data in the administrative data sets, we conducted several analyses of covariate and outcome data. First, we noted that about 30% of cases, regardless of treatment group, were missing either parents' education level and/or employment status. Thus, these variables were omitted from the primary data analyses.⁴ After removing these covariates, we found that parents in the comparison group were somewhat more likely to be missing at least one of the remaining covariates, compared to those in the FTDC group. This was not surprising because FTDC parents typically had more detailed intake information in the court records than did comparison group parents. About 13% ($n = 27$) of comparison parents were

missing at least one covariate, as compared to 8% ($n = 19$) of the FTDC group. Parents from Site A were somewhat more likely to be missing at least one covariate compared to parents at other sites. However, no one site was missing more of a particular variable than the others, with the exception of Site C, which had fewer permanent placement dates than other sites. This difference is because children at Site C were less likely to ever be removed from the parents' custody (as noted previously).

The following variables were created from the data extraction tool.

DEMOGRAPHIC AND BACKGROUND VARIABLES

Parent demographic information was based on information at case inception, including age, number of children, race/ethnicity, education level, employment status, and marital status. As noted above, these variables were extracted from the three data sources using the identified priority order.

Parent risk factors was a count of the following six parental risk factors: (a) history of mental health issues, (b) history of learning or developmental delays, (c) history of medical problems, (d) history of criminal issues, (e) history of domestic violence, and (f) history of childhood victimization. Each of these variables was coded as 1 = yes, clearly documented or 0 = no or undocumented. Parental risk factors could range from 0 to 6.

Child risk factors was a count of whether any child on the original child welfare case had the following five risk factors: (a) medical issues, (b) developmental issues, (c) educational issues, (d) behavioral/emotional issues, and (e) prenatal substance exposure. This variable ranged from 0 to 5. Each of these variables was coded as 1 = yes, clearly documented or 0 = no or undocumented.

Both parent and child risk factors were coded positively only if there was clear evidence in one of the existing data sources of the presence of the risk factor. Thus, these are likely to be underestimates of the level of risk for both parents and children.

Family history of Child Welfare System (CWS) investigation was calculated as the number of times that CPS had previously investigated a particular parent for child neglect and/or other abuse allegations (ranged from 0-25). Data were not available to determine which parents had previously received child welfare services.

Previous alcohol or drug treatment was as a dichotomous variable indicating whether a parent had received alcohol and/or drug treatment before the start of the child welfare case (no = 0, yes = 1).

ALCOHOL OR DRUG TREATMENT VARIABLES

Alcohol or drug (A&D) treatment episodes were included only if they (a) started after the case petition date and before the end of the case or the data collection window, whichever came first; (b) were classified as outpatient or residential (detoxification, assessment only, self-help, crisis services, or housing/aftercare services that were not therapeutic were excluded);⁵ and (c) were included in county- or state-level treatment databases (thus, the study data excludes services provided by private treatment counselors or facilities that received no public funds or reimbursements and were therefore not required to report to state-level databases).

Time to treatment was defined as the number of days from the case petition date to the first eligible A&D treatment episode ($M = 115.00$, $SD = 187.83$, ranged from 1 to 1,679 days, $n = 359$, or 80% of the total sample). Parents who did not access treatment were coded as "missing," which included 11% ($n = 29$) of the FTDC sample and 31% ($n = 63$) of the comparison sample.⁶

Number of days in treatment was defined as the total number of nonoverlapping days in treatment between petition and case closure or the end of the data collection window, whichever came first ($M = 250.80$, $SD = 241.52$, ranged from 0 to 1,526 days, $n = 426$). If a treatment episode was ongoing at the end of the case or the data collection window, the missing discharge date was replaced with the case or data collection closure date. Parents who did not enter treatment during their case were assigned a 0 because they spent zero days in substance abuse treatment during their case. There were 25 parents (6%) whose treatment episodes were missing the entry and/or exit date, making it impossible to calculate number of days in treatment; these episodes were coded as missing.

Percentage of treatment episodes completed was calculated by counting the number of A&D treatment episodes that were completed during a parent's case and dividing by the total number of treatment episodes ($M = 40.0\%$, $SD = 41.0\%$, ranged from 0% to 100%, $n = 448$). Parents who did not enter treatment during their case were assigned a 0.

CHILD WELFARE VARIABLES

Time to permanent placement was defined as the number of days from the case petition to the date the child was placed in a permanent placement, averaged across all children on the case ($M = 392.21$, $SD = 317.87$, ranged from 0 to 1,632 days, $n = 391$).

Missing values were assigned to parents whose children were not removed from their care (i.e., permanent placement not applicable, $n = 33$) or who had missing permanent placement dates for one or more children ($n = 27$; these cases had reached permanent placements but were missing specific date information).

At least one child reunified with their original parent(s) was calculated by counting the number of children in the family whose final case disposition indicated that they were reunified with their original parents and then dichotomizing the count to indicate whether at least one child was reunified (0 = no, 1 = yes, $n = 451$).

Child welfare recidivism. Although a number of possible recidivism variables were collected (e.g., subsequent unfounded reports, subsequent case openings, subsequent out-of-home placements, etc.), for the present study, we present results for subsequent substantiated CPS reports only. This variable was chosen as the most balanced indicator of recidivism that neither underestimates recidivism, as might be expected when analyzing out-of-home placements, nor overestimates recidivism, as might be expected from using unsubstantiated reports. Subsequent substantiated reports were defined as a dichotomous variable (0 = no, 1 = yes, $n = 446$) indicating whether children from the original case were involved in a founded CPS report after the original court case was closed.

RESULTS

Descriptives

Table 1 presents the demographic and background characteristics of FTDC and comparison group participants. We conducted analyses (either t test or chi-square, as appropriate) to examine whether there were significant differences between the FTDC and comparison groups on any of these variables. We found that FTDC parents were more likely to have infant children involved in their child welfare case, to have children with more risk factors, and were more likely to be unemployed, unmarried, and to have had previous alcohol/drug treatment than the comparison group parents. The two groups of parents were not different in terms of age, number of parental risk factors, number of previous CPS investigations, number of children, gender, ethnicity, or education level. Thus, FTDC parents appear to have characteristics suggesting they are at somewhat higher demographic risk relative to comparison parents. Because of the preexisting differences between the two groups, all outcome analyses include these variables as covariates.

Of the 451 parents, 39% ($n = 176$) had 1 child on their child welfare case and the remaining had 2 (30%, $n = 137$), 3 (17%, $n = 76$), 4 (8%, $n = 36$), or 5 or more children (6%, $n = 26$), for a total of 967 children (2.14 per family on average). To enable analysis at the parent level, we aggregated child welfare outcomes for the 61% ($n = 275$) of families who had 2 or more children on their child welfare case (see Table 3). However, it is also useful to consider the child-level permanency outcomes for descriptive purposes. In the FTDC group, there were a total of 523 children across 250 parents; in the comparison group, there were 444 children across 201 parents. Forty-three percent of the FTDC children ($n = 227$) were returned to their original parent(s) and 32% ($n = 143$) of comparison children were reunified. Eight percent ($n = 39$) of FTDC children and 11% ($n = 51$) of comparison children were never removed from their parents' care. Forty-seven percent of FTDC children ($n = 248$) eventually had a permanent placement outside of their parents' care, compared to 54% ($n = 241$) of comparison children.

Of the 248 FTDC children who were not reunified, 48% ($n = 120$) had a termination of parental rights, 24% ($n = 60$) were placed with a guardian, 16% ($n = 40$) were placed with another parent, 8% ($n = 19$) went into long-term foster care, and 4% ($n = 9$) had another type of outcome (emancipation, juvenile facility, or other). In the comparison group, of the 241 children not reunified, 46% ($n = 110$) had a termination of parental rights, 25% ($n = 60$) were placed with a guardian, 15% ($n = 35$) were placed with another parent, 10% ($n = 19$) went into long-term foster care, and 5% ($n = 11$) had another type of outcome.

Table 2 presents the correlations between the key treatment and child welfare outcomes. As can be seen, parents who entered treatment more quickly after the start of their petition had children placed in permanent placements more quickly but were somewhat less likely to be reunified with at least one of their children. Parents who spent more time in treatment had children who took longer to reach a permanent placement but were more likely to be reunified. Treatment completion was not related to timely permanent placements but was related to the likelihood of reunification. None of the treatment variables was associated with whether parents had a subsequent substantiated CPS report.

DO OUTCOMES DIFFER FOR FTDC VERSUS COMPARISON PARENTS?

Taking a variable-centered approach, we conducted a series of separate hierarchical regression models to analyze whether FTDC parents had different A&D

TABLE 1: Demographic and Background Variables in FTDC and Comparison Groups

<i>Demographic/Background Variable</i>	<i>Group</i>		<i>n</i>	<i>Significance Test</i>
	<i>FTDC</i>	<i>Comparison</i>		
	<i>M (range)</i>	<i>M (range)</i>		<i>Statistic (df)</i>
Parent age (years)	30 (18-51)	30 (15-51)	437	$t(435) = 0.15$
Parental risk factors	2.2 (0-6)	2.0 (0-5)	450	$t(448) = 1.41$
Child risk factors	1.3 (0-5)	1.6 (0-5)	450	$t(448) = -3.02^{**}$
Previous CPS investigations	3.6 (0-25)	3.2 (0-16)	439	$t(436.7) = 1.03$
Children on child welfare case	2.1 (1-11)	2.2 (1-7)	451	$t(449) = -0.95$
	<i>%</i>	<i>%</i>	<i>n</i>	<i>Statistic (df)</i>
Gender			450	$\chi^2(1) = 0.16$
Female	89	88		
Male	11	12		
Ethnicity			450	$\chi^2(3) = 6.99$
European American	55	57		
African American	18	14		
Hispanic	20	27		
Other	7	3		
High school graduate or beyond	55	50	316	$\chi^2(1) = 0.65$
Legally employed	23	34	375	$\chi^2(1) = 5.20^*$
Married	27	38	420	$\chi^2(1) = 5.53^*$
Previous A&D treatment	67	43	451	$\chi^2(1) = 16.51^{**}$
At least one infant on child welfare (CW) case	59	42	451	$\chi^2(1) = 12.16^{**}$
At least one 2- to 5-year-old on CW case	45	52	451	$\chi^2(1) = 1.91$
At least one 6-year-old on CW case	41	54	451	$\chi^2(1) = 8.07^{**}$

NOTE: FTDC = family treatment drug courts; CPS = Child Protective Services; A&D = alcohol and drug.

* $p < .05$. ** $p < .01$.

TABLE 2: Correlations Between Treatment Variables and Child Welfare Outcomes

<i>Treatment Variables</i>	<i>Child Welfare Outcomes</i>		
	<i>Days to Permanent Placement^a</i>	<i>Had at Least One Child Reunified</i>	<i>Had Subsequent Substantiated CPS Report</i>
Time to treatment ^b	.20** (322)	-.13* (359)	.07 (354)
Days in treatment	.24** (371)	.16** (426)	.09 (421)
% Completed treatments	.01 (389)	.29** (448)	-.02 (443)

NOTE: CPS = Child Protective Services.

a. Number of days to permanent placement was calculated only for children who were removed from their parents' care during the study period.

b. Time to treatment was only calculated for parents who had at least one treatment episode during the study period.

* $p < .05$. ** $p < .01$.

treatment and child welfare outcomes than the comparison group parents (see Table 3 for means and descriptive information for these outcomes). In the first step of each of these models, we included all of the demographic and background variables listed in Table 1 as covariates⁷ as well as an indicator of site.⁸ The second step of the model contained a dummy-coded variable indicating whether parents were in the

FTDC (coded 1) or comparison (coded 0) group. The same sets of variables were used in each two-step regression model to predict each A&D treatment and child welfare outcome.

After controlling for all of the demographic and background variables, regression results (see Table 4) showed that in contrast to comparison parents, FTDC parents (a) entered treatment more quickly

TABLE 3: Descriptives for A&D Treatment and Child Welfare Outcome Variables for FTDC Versus Comparison Group Parents

	Group					
	FTDC			Comparison		
	M	SD	Range	M	SD	Range
A&D treatment outcomes						
Average days from petition to treatment (<i>n</i> = 359)	73	97.5	1-583	182	263.9	2-1,679
Average days in treatment (<i>n</i> = 426)	303	237.7	0-1,278	184	230.4	0-1,526
% Completed treatments (<i>n</i> = 448)	44	—	—	34	—	—
Child welfare outcomes						
Average days to permanent placement (<i>n</i> = 391)	359	264.3	0-1,353	435	373.3	0-1,632
% Parents reunified with at least one child (<i>n</i> = 451)	57	—	—	44	—	—
% Parents having at least one subsequent substantiated CPS report (<i>n</i> = 446)	23	—	—	14	—	—

NOTE: FTDC = family treatment drug courts; A&D = alcohol and drug; CPS = Child Protective Services.

TABLE 4: Regression Results for A&D Treatment Outcomes

Predictors	A&D Treatment Outcomes		
	Time to Treatment (<i>n</i> = 334)	Days in Treatment (<i>n</i> = 374)	% Treatments Completed (<i>n</i> = 378)
	$\Delta F = 2.24^{**}$ $\Delta R^2 = .11$ B	$\Delta F = 4.09^{**}$ $\Delta R^2 = .16$ B	$\Delta F = 3.74^{**}$ $\Delta R^2 = .14$ B
<i>Step 1: Covariates</i>			
Site contrast 1: San Diego = 1 vs. Other = 0	.21**	-.24**	-.29**
Site contrast 2: Santa Clara = 1 vs. Other = 0	.17*	-.04	-.19**
Site contrast 3: Suffolk = 1 vs. Other = 0	.18*	.06	-.14*
Parent gender (male = 0/female = 1)	-.02	.12*	.05
Race contrast 1: African American = -1 vs. Caucasian = 1	.03	.07	-.22**
Race contrast 2: Hispanic = -1 vs. Caucasian = 1	.05	-.16	.07
Race contrast 3: Other = -1 vs. Caucasian = 1	-.09	.07	.04
Parent age	-.06	.08	.20**
Married (no = 0/yes = 1)	-.03	-.11*	.05
# Parent risk factors (0-6)	.19**	.04	-.08
# Child risk factors (0-5)	-.02	-.05	< .01
Parent had previous A&D treatment (no = 0/yes = 1)	-.03	.13*	-.08
Parent had at least one child 0-1 years old (no = 0/yes = 1)	-.24**	.06	-.03
Parent had at least one child 2-5 years old (no = 0/yes = 1)	-.08	.04	< .01
Parent had at least one child 6+ years old (no = 0/yes = 1)	-.18*	.09	.09
# Previous CPS investigations	-.04	-.17**	-.04
# Children on child welfare case	.19*	.11	-.09
	$\Delta F = 23.70^{**}$ $\Delta R^2 = .06$ B	$\Delta F = 22.88^{**}$ $\Delta R^2 = .05$ B	$\Delta F = 12.48^{**}$ $\Delta R^2 = .03$ B
<i>Step 2: FTDC status</i>			
Comparison = 0/FTDC = 1	-.27**	.25**	.18**

NOTE: All outcomes were analyzed using hierarchical regression for continuous outcomes; standardized betas are reported from the second step of the model. A&D = alcohol and drug; CPS = Child Protective Services; FTDC = family treatment drug courts.
p* < .05. *p* < .01.

after the start of their child welfare case (73 vs. 182 days),⁹ (b) spent more time in treatment (303 vs. 185 days), and (c) completed more treatments (45% vs.

34%). Thus, supporting the effectiveness of the FTDC model, it appeared that treatment outcomes were more positive for FTDC parents. Regression results

TABLE 5: Regression Results for Child Welfare Outcomes

	<i>Child Welfare Outcomes</i>				
	<i>At Least One Child Reunified</i> (n = 398)		<i>Time to Permanent Placement</i> (n = 356)	<i>At Least One Subsequent Substantiated CPS Report</i> (n = 348)	
	$\Delta\chi^2 = 55.51^{**}$ $\Delta R^2 = .18$		$\Delta F^2 = 1.48$ $\Delta R^2 = .07$	$\Delta\chi^2 = 38.03^{**}$ $\Delta R^2 = .17$	
<i>Step 1: Covariates</i>	b	<i>Odds Ratio</i>	B	b	<i>Odds Ratio</i>
Site Contrast 1: San Diego =1 vs. Other = 0	-1.41**	0.24	.13	-0.86	0.42
Site Contrast 2: Santa Clara =1 vs. Other = 0	-0.92*	0.40	.05	-0.02	0.98
Site Contrast 3: Suffolk = 1 vs. Other = 0	-0.19	0.83	.10	-0.73	0.48
Parent Gender (male = 0/female = 1)	0.24	1.27	-.01	1.09	2.96
Race Contrast 1: African American = -1 vs. Caucasian = 1	-0.19	0.83	-.02	0.16	1.18
Race Contrast 2: Hispanic = -1 vs. Caucasian = 1	0.16	1.17	-.01	-0.02	0.98
Race Contrast 3: Other = -1 vs. Caucasian = 1	-0.06	0.95	-.02	0.17	1.18
Parent age	0.05*	1.05	.02	0.01	1.01
Married (no = 0/yes = 1)	0.25	1.28	-.14*	-0.65	0.52
# Parent risk factors (0-6)	-0.34**	0.71	-.02	0.17	1.19
# Child risk factors (0-5)	-0.17	0.84	.06	-0.26	0.77
Parent had previous A&D treatment (no = 0/yes = 1)	-0.03	0.98	.10	0.30	1.34
Parent had at least one child 0-1 years old (no = 0/yes = 1)	-0.18	0.84	-.09	-0.46	0.63
Parent had at least one child 2-5 years old (no = 0/yes = 1)	0.63*	1.88	-.01	-0.76	0.47
Parent had at least one child 6+ years old (no = 0/yes = 1)	0.39	1.48	-.05	-1.66**	0.19
# Previous CPS investigations	0.06	1.06	-.07	-0.04	0.96
# Children on child welfare case	-0.03	0.97	.13	0.86**	2.37
# Days to recidivate (end of case to end of study window)	—	—	—	< -0.01	1.00
	$\Delta\chi^2 = 11.18^{**}$ $\Delta R^2 = .03$		$\Delta F^2 = 7.64^{**}$ $\Delta R^2 = .09$	$\Delta\chi^2 = 0.61$ $\Delta R^2 = .01$	
<i>Step 2: FTDC Status</i>	B	<i>Odds Ratio</i>	B	B	<i>Odds Ratio</i>
Comparison = 0/FTDC = 1	0.82**	2.27	-.16**	0.47	1.60

NOTE: CPS = Child Protective Services; A&D = alcohol and drug; FTDC = family treatment drug courts. Reunification and recidivism outcomes were analyzed using hierarchical logistic regression for dichotomous outcomes; unstandardized betas and odds ratios are reported from the second step of the models. The time to permanent placement outcome was analyzed using hierarchical regression for continuous outcomes; standardized betas are reported from the second step of the model. The R^2 reported for the logistic regressions is the Nagelkerke R^2 . Time to recidivate, or the number of days from the end of the child welfare case to the end of our study window, was included in the model predicting child welfare recidivism to control for variation in the amount of time that each parent had to recidivate (i.e., parents who with more time to recidivate were more likely to recidivate).
* $p < .05$. ** $p < .01$.

for child welfare outcomes (shown in Table 5) found that FTDC parents had children placed more quickly in permanent living situations (360 vs. 435 days) and were more likely to be reunified with at least one of their children (57% vs. 44% of children reunified). FTDC and comparison parents did not differ in their likelihood of having at least one subsequent substantiated CPS report filed within our study window (23% and 15%, respectively).¹⁰ These data indicate that the FTDC model appears effective in supporting positive treatment and child welfare outcomes.

HOW DO FTDCS FACILITATE TREATMENT AND CHILD WELFARE OUTCOMES?

To explore the role of the FTDC in facilitating successful treatment and child welfare outcomes, we utilized a person-centered approach to analysis (Bergman & Magnusson, 2001). In contrast to a traditional variable-centered approach, which can identify relationships between individual treatment variables and child welfare outcomes, a person-centered approach can facilitate an understanding

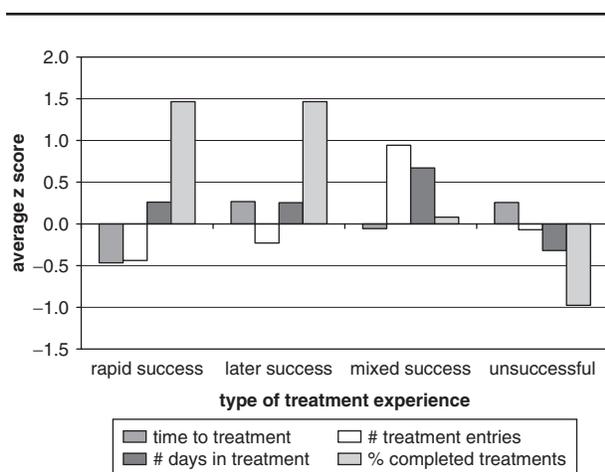


FIGURE 1: Average Alcohol and Drug Treatment Characteristics According to Treatment Experience Type

TABLE 6: Type of Treatment Experiences by FTDC Versus Comparison Groups

Type of Treatment Experience	Group	
	Comparison (n = 138)	FTDC (n = 221)
Rapid success	15% (21)	20% (43)
Later success	20% _a (27)	11% _a (24)
Mixed success	33% _b (45)	47% _b (104)
Unsuccessful	33% _c (45)	23% _c (51)

NOTE: FTDC = family treatment drug courts. Table shows the percentage of parents within group that were assigned to each type of treatment experience. The percentages shown are not adjusted for demographic and background variables. $\pm 1\%$ error due to rounding. Percentages that share a common subscript are significantly different from each other at $p < .05$ for comparisons across FTDC treatment groups.

of how different aspects of the treatment experience work in combination. In this way, a person-centered analysis approach can illuminate differences between groups of parents who have different constellations of treatment experiences based on a more complex array of variables than testing independent predictors or even treatment variable interaction terms (Bergman & Magnusson, 2001). To do this, we first identified four types of conceptually meaningful treatment experiences and assigned each parent to one of the four types:

1. **Rapid Success:** These parents entered treatment within 60 days of petition date, had one or two treatment

episodes, and completed 100% of their treatment episodes ($n = 63$).

2. **Later Success:** This group ($n = 51$) included any parent with a 100% completion rate who took longer than 60 days to enter treatment and/or had more than two treatment episodes.

3. **Mixed Success:** Parents in this group had two or more treatment episodes, only some of which were completed ($n = 148$).

4. **Unsuccessful:** Parents in this final group had one or more treatment episodes but were unable to successfully complete any single treatment episode ($n = 96$).

Figure 1 displays the differences between these four groups on four treatment variables: (a) time to treatment, (b) number of treatment entries, (c) total days in treatment during case, and (d) treatment completion rate. For these analyses, we excluded those parents ($n = 89$) who did not receive treatment during their child welfare case because the reasons for their lack of treatment were not documented (e.g., whether they did not need treatment, refused treatment, or received treatment from another source outside the publicly funded treatment databases to which we had access).

Before looking at child welfare outcomes, we analyzed whether any of these four constellations of treatment experiences were more likely for FTDC versus comparison group parents. These results showed that, in fact, parents in the FTDC group did have different kinds of treatment experiences compared to non-FTDC parents, $\chi^2(3) = 14.76$, $p < .01$, even after controlling for all of the demographic and background variables previously described. As shown in Table 6, FTDC parents were more likely than comparison parents to have had the Mixed Success treatment experience and less likely to have had Later Success or the Unsuccessful treatment experiences. FTDC and comparison parents were equally likely to have the Rapid Success treatment experience. This suggests that FTDC parents were less likely to be completely unsuccessful and that they may have been given more opportunities to drop out and then reenter treatment (Mixed Success). This is consistent with the goal of the FTDC model in providing ongoing support even if a parent relapses.

For the person-centered analyses, we were especially interested in whether there was value added above and beyond treatment for participants in the FTDC. In other words, given the same type of treatment experience, were FTDC participants more likely to have positive child welfare outcomes than comparison families? To address this question, we constructed models for each child welfare outcome that controlled for all of the previously mentioned demographic and background variables¹¹ and tested

TABLE 7: Mean Level Differences in Child Welfare Outcomes for Parents Having Various Types of Treatment Experiences

Child Welfare Outcome	Type of Treatment Experience M (n)			
	Rapid Success	Later Success	Mixed Success	Unsuccessful
Time to permanent placement	256 days (51) _a	388 days (36) _{ab}	488 days (111) _b	345 days (58) _a
% At least one child reunified with original parents	80 (64) _a	65 (51) _a	53 (148) _{ab}	24 (96) _b
% Subsequent substantiated CPS reports	19 (64) _a	12 (50) _a	24 (145) _a	23 (95) _a

NOTE: Means are not adjusted for covariates in model. Means that do not share subscripts are significantly different at least $p < .05$. CPS = Child Protective Services.

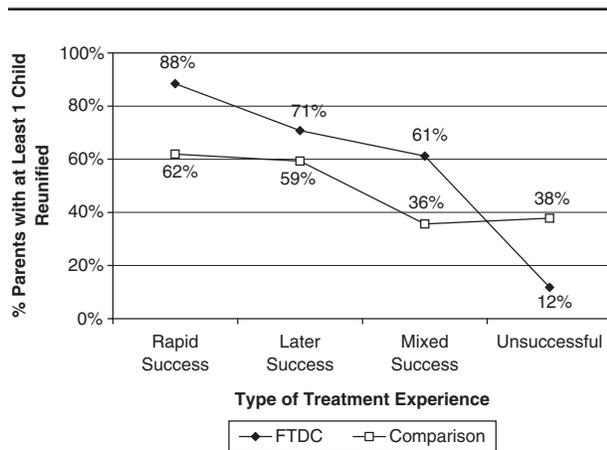


FIGURE 2: Interaction Between Type of Treatment Experience and FTDC Versus Comparison Predicting Whether Parent Was Reunified With at Least One Child

NOTE: Percentages are not adjusted for the covariates in the figure. FTDC = family treatment drug courts.

for differences in child welfare outcomes according to (a) treatment constellation, (b) FTDC versus comparison group status, and (c) the interaction between treatment constellation and FTDC versus comparison groups.

Time to Permanent Placement

The two-step ANCOVA model, which accounted for 21% of the variation in time to permanency placement, revealed that time to permanent placement differed significantly according to both treatment constellation and whether parents were in the FTDC, and the interaction term approached significance. As shown in Table 7, parents who had the Mixed Success treatment experience had significantly longer times to permanent placement (489 days) than did parents who had the Rapid Success or the Unsuccessful treatment experience, $F(3, 275) = 9.32, p < .01$. Although the interaction between type of treatment experience and FTDC versus comparison groups was only marginally significant, $F(3, 275) = 2.49, p = .06$, comparison

group parents who experienced Mixed Success had significantly longer times to permanency than did FTDC parents (669 vs. 418 days), $F(1, 275) = 18.97, p < .01$.

At Least One Child Reunified With Original Parent(s)

Results of the hierarchical logistic regression showed that the likelihood of having at least one child reunified was significantly different according to FTDC status (Wald = 6.36, $p < .05$), and the interaction between type of treatment experience and FTDC status significantly improved the predictive power of the model, $\chi^2(3) = 22.57, p < .01$; Wald = 26.99, $p < .01$.¹² (See Table 3 for FTDC vs. comparison group differences and Table 7 for differences according to type of treatment experience.) As shown in Figure 2, for FTDC parents, the likelihood of reunification decreases markedly as the level of success in treatment declines, a relationship that is less evident for comparison group parents. There were no differences in the likelihood of reunification as a function of treatment experience for comparison parents. Moreover, FTDC parents who experienced the Rapid Success or the Mixed Success types of treatment had a significantly higher likelihood of reunification than did comparison group parents with similar treatment experiences. However, FTDC parents who were in the Unsuccessful group had a lower likelihood of reunification than did comparison parents in this group.

At Least One Subsequent Substantiated CPS Report

Using hierarchical logistic regression, we examined whether parents had at least one substantiated CPS report after the original child welfare case had closed. The likelihood of having at least one subsequent substantiated CPS report significantly differed according to type of treatment experience (Wald = 8.76, $p < .05$), and the interaction between type of treatment experience and FTDC status significantly improved the prediction power of the model (Wald = 9.24, $p < .05$), $\chi^2(3) = 9.88, p < .05$.¹³ Figure 3 illustrates

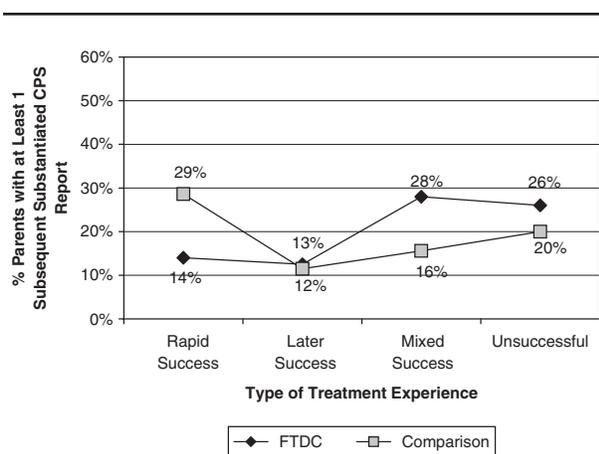


FIGURE 3: Interaction Between Type of Treatment Experience and Drug Court Versus Comparison Predicting Whether Parents had at Least One Subsequent Substantiated CPS Report

NOTE: Percentages are not adjusted for the covariates in the figure. CPS = Child Protective Services.

the nature of the interaction. For FTDC parents, the likelihood of recidivism was highest for parents in the Mixed Success and Unsuccessful groups. However, comparison parents who had the Rapid Success treatment experience were more likely to recidivate than were comparison parents who had the Later Success and Mixed Success treatment experiences. FTDC parents who had Rapid Success had less recidivism than comparison parents who had the same treatment experience; however, comparison parents who had Mixed Success had less recidivism than did FTDC parents who had the same treatment experience.

Thus, it appears that the Rapid Success parents were less likely to recidivate if they were in the FTDC than if they were not. However, the Mixed Success parents, who struggled more with treatment, were more likely to recidivate if they were in the FTDC. Because recidivism is by definition more likely when children are reunified, we tested whether there was a difference in recidivism rates within either the Rapid Success or the Mixed Success groups only for families who were reunified. Results showed that for reunified Rapid Success families, FTDC parents were still significantly less likely to recidivate (16% vs. 23%). For reunified Mixed Success families, there was no significant difference in recidivism for FTDC versus comparison families (23% vs. 19%, respectively). This suggests that the higher rates of reunification for the Mixed Success FTDC families are not accounting for the difference in higher recidivism rate in this group.

Summary of Person-Centered Analyses

The person-centered analyses revealed a number of important findings. First, FTDC parents were more likely to have certain constellations of treatment experiences than were comparison group parents. In particular, they were less likely to be unsuccessful in completing treatment and appeared to be more likely (compared to non-FTDC parents) to be given multiple opportunities for reentry into treatment. Second, parents in FTDC who had particular types of treatment experiences had different (generally more positive) permanency and recidivism outcomes than did comparison parents who had similar treatment experiences. We summarize the findings for each type of treatment experience below.

Rapid Success. All parents, regardless of treatment group, who were in the Rapid Success group, not surprisingly, tended to have faster permanent placements overall than did parents with other treatment experiences. However, FTDC participants who were Rapid Successes were more likely to be reunified with at least one child than were comparison parents in this group and were less likely to have subsequent substantiated CPS reports.

Later Success. In contrast to the Rapid Success type, parents who had the Later Success treatment experience took longer to get into treatment, had three or more treatment entries during their child welfare case, but did complete all episodes. FTDC parents were less likely in general to have this type of treatment experience, and this type did not differentiate itself from the Rapid Success and Mixed Success types on any of the child welfare outcomes. Given that the prime difference between the Rapid Success and the Later Success group was the time it took parents to enter treatment, it is likely that the lower rate of FTDC parents in this group is due to the successful efforts of FTDC to facilitate rapid treatment entry for parents.

Mixed Success. Parents who completed at least one but not all of their two or more treatment entries comprised the Mixed Success groups. FTDC parents were more likely than were comparison parents to be in this group. Parents with this type of treatment experience generally had slower permanent placements, but children in comparison group families were significantly slower to reach these placements than were children of FTDC parents. In contrast to Mixed Success comparison parents, Mixed Success FTDC parents had higher reunification rates but were somewhat more likely to have subsequent substantiated child welfare reports.

Unsuccessful. Parents who did not complete a single treatment episode were more common in the comparison group. The Unsuccessful treatment experience was associated with faster permanent placements, and families in this group were generally less likely to be reunified. Furthermore, FTDC parents who had this type of treatment experience were less likely to be reunified than were comparison parents. This suggests that for parents in FTDC, failing to complete treatment successfully had a stronger negative influence on permanency outcomes. Given the additional supports that FTDC provides, FTDC judges may be more likely to decide against reunification for FTDC parents in the face of parental failure to comply with treatment requirements than was the case for comparison group families.

DISCUSSION

These data provide preliminary support for the effectiveness of the FTDC model. Participants in FTDCs entered treatment more quickly, stayed in treatment longer, and were more likely to successfully complete treatment, even controlling for a host of risk factors. Moreover, FTDC participants were more likely to be reunified with their children, and children were placed in permanent living situations more quickly compared to those in the comparison groups. It also appears that participating in the FTDC has a value added over and above having a successful treatment experience. Results showed that even relative to comparison group families who entered treatment quickly and completed treatment successfully, FTDC parents with similar treatment experiences were more likely to be reunified and less likely to have subsequent out-of-home placements.

Data from this study do not allow us to identify precisely what it is about the FTDC that is responsible for these positive effects. One aspect of the FTDC context that has been seen as important to its success is the increased information sharing between treatment, child welfare, and the courts and the regular contact between judges and participants (Edwards & Ray, 2005). In theory, this enables judges to be more knowledgeable about the case and in a better position to make good decisions regarding reunification (or alternatives). Because the judge has more knowledge about the success (or lack thereof) of the participants, this may help account for why there is a stronger link between treatment success (and failure) and child welfare outcomes for the FTDC group. It also may be that the wrap-around and auxiliary services provided by FTDCs enable families to be more successful at reducing other barriers to reunification,

such as unemployment, homelessness, or physical or mental illness. Research that can improve our understanding of the mechanisms through which FTDCs have their effects is clearly needed.

The present study also suggests that FTDCs are supporting parents who may struggle more with treatment. FTDC parents were more likely than comparison parents to show evidence of repeated entries into treatment, with less-than-perfect treatment completion (Mixed Success). Furthermore, parents who fell into this treatment constellation and were also in the FTDC were significantly more likely than similar comparison group parents to be reunified with their children. However, it is also important to note that children of FTDC parents who had Mixed Success in treatment were more likely to have a subsequent substantiated CPS report (compared to non-FTDC parents). Of interest, it appears that the higher rates of reunification among the Mixed Success FTDC parents does not fully account for this difference. Recidivism rates for Mixed Success FTDC and comparison families that were reunified were similar (23% and 19%, respectively). Thus, it appears that children whose parents were in the Mixed Success FTDC group, regardless of whether they had reunified, were more likely to have subsequent contact with the child welfare system. Along these lines, it is worth noting that families in the Mixed Success group who were in the FTDC program had faster times to permanency compared to similar comparison group parents. Thus, although it appears that for some parents the FTDC can expedite successful treatment and timely permanency, others who struggle more may need more, rather than less, time in the FTDC program. Follow-up and post-FTDC services also may be especially important to parents who demonstrate mixed success in treatment. Exiting the supportive environment of the FTDC and returning to potentially difficult life circumstances without the additional support and structure provided by the FTDC program may be especially difficult for these parents. However, post-FTDC and other transitional services have not been consistently implemented at these (or many other) FTDC programs.

Study Limitations and Areas for Future Research

Although the present study provides some positive preliminary evidence of FTDC effectiveness, research employing more rigorous randomized study designs, using larger sample sizes, and that can directly assess other key outcomes, such as parents' subsequent substance use and child well-being, are clearly needed. Furthermore, the current study used a large number of statistical tests, and therefore, some of the findings may have been significant by

chance, especially for effects with small sample sizes. For this reason, we have focused primarily on findings that draw from a pattern of results across sites and outcome variables in drawing our conclusions. We are currently in the final year of a SAMHSA-funded project in these same four sites that follows more than 1,800 cases and that includes a subset of parent interviews (Worcel, Green, Furrer, & Burrus, 2005). This study also will allow a better examination of how site-level differences in services provided, populations served, and eligibility criteria may influence outcomes. In the current study, variations across sites introduce potentially nonrandom variance at the site level but sample sizes are insufficient to fully explore the possible causes or consequences. However, a case can be made that finding results consistently across these somewhat different versions of the FTDC program model speaks to the robustness of the results. It is particularly encouraging that although there were differences across sites for some of the major outcome variables, there were no significant Site \times FTDC group (treatment vs. comparison) interactions in terms of outcomes. Thus, the differences across sites in terms of such things as time to treatment and days spent in treatment were more likely due to differences in the child welfare and treatment systems of those sites generally. Within each of the site contexts, results suggest that participating in the FTDCs improved outcomes over the typical outcomes for that site.

Another key site difference that warrants future study is the issue of treatment availability, quality, and appropriateness. Three of the four sites relied on a large number of different community providers for substance abuse treatment services. The fourth contracted with only three providers; site visits at this site also suggested that there was a much stronger collaborative relationship between the FTDC and the treatment providers in this site. Strong collaboration between treatment providers and the child welfare system has been cited as an important feature of a successful system for best meeting the needs of families involved with both systems (Green, Rockhill, & Burrus, in press; Young et al., 1998). Furthermore, this study was unable to collect information about the quality or appropriateness of treatment services for these parents, two features of treatment that are likely to relate importantly to treatment success (USDHHS, 1999). Future studies that can include a closer look at the treatment services provided to FTDC families are needed.

The current study design relied primarily on assessing differences in case outcomes pre- versus post-FTDC implementation. Because of this, it is

plausible that changes attributed to the FTDC are instead due to other changes in the child welfare or treatment systems that may have occurred around the time of FTDC implementation. Mitigating this explanation somewhat is the fact that the study timeframes for each site were different; thus, no single historical event is likely to be responsible for the cross-site findings, although local historical events may have occurred. However, it is important to note that in one site, Site A, the pre-FTDC comparison group was drawn from the period prior to the implementation of the ASFA (1997). Especially in terms of the time to permanency outcome, large changes in this site due to ASFA implementation could be at least partly responsible for the overall positive finding on this outcome. To assess the plausibility of this interpretation, we ran the analyses comparing FTDC and comparison group outcomes for time to permanency and reunification without data from Site A. Although the results were in the same direction (FTDC = 352 days to permanent placement, comparison = 390 days), the positive effect of the FTDC on time to permanency no longer reached significance, $F(1, 216) = 2.62, p = .11$. Reunification outcomes, however, remained similar and statistically significant (FTDC = 63%, comparison = 45%), $F(1, 255) = 7.33, p < .01$. Thus, the effect of the FTDC on how quickly children are placed in a permanent living arrangement may have been somewhat inflated due to sampling timeframes in Site A. In fact, in the overall sample, time to permanency was negatively related to the likelihood of reunification, suggesting that making the decision to reunify for these parents does require sufficient time for judges to determine that recovery is stable.

Future studies of FTDCs also should consider assessing child well-being. A commonly stated goal of FTDC programs is to improve child outcomes, including providing better services for children and promoting more positive parent-child attachments during the child's placement. However, collecting adequate data on child well-being through administrative data sources was simply not possible for the four sites involved in this study and is likely to be a challenge to future studies. Direct assessment of children and parents, although providing the best way to assess these kinds of outcomes, is expensive and not easily conducted; however, such data would be extremely valuable in informing the FTDC literature.

Finally, the question of what happens to parents and children after their participation in FTDC ends will be a critical area for further research. In the present study, recidivism was a fairly infrequent occurrence (fewer than 12% of the 451 cases had a subsequent CPS

report filed). However, given the findings suggesting that FTDC parents with a more uneven pattern of treatment success also had higher levels of both reunification and recidivism, the stability of placements after the end of the FTDC program must be studied if the efficacy of the model is to be thoroughly tested. Research that can better document the criteria used in making permanency decisions also may be useful in better understanding child welfare recidivism. There is little research that can guide judicial and other decision makers in terms of what characteristics of families' situations are the best predictors of subsequent safety and stability. However, it is also true that the generally long periods of time for child welfare cases to reach closure, and for adequate periods of time to pass to assess recidivism, pose a challenge in terms of designing research to study these critical questions.

NOTES

1. One additional comparison case was included in one site.
2. "Other" was composed of Asian/Pacific Islanders, Native Americans/American Indians, and multicultural parents.
3. These are cases that began in 2000 or 2001, and these cases did not reach the 5-year point by the end of data collection in 2005.
4. Correlations indicated that neither education nor employment level were significantly related to any of the outcome measures.
5. Data on self-help (e.g., Alcoholics Anonymous, Narcotics Anonymous, etc.) utilization was not available. The other types of treatment were omitted from this analysis based on the opinions of child welfare and substance abuse treatment professionals at each site, who agreed that detoxification, assessment, crisis services, and certain housing/aftercare services did not have the same therapeutic properties as other forms of outpatient and residential treatment.
6. Note that available treatment data was derived primarily from data sets from publicly funded treatment facilities. Although most parents in the family treatment drug courts (FTDCs) did not enter privately funded treatment, it is possible that some treatment episodes were not included here because the family was receiving privately funded treatment services.
7. As noted previously, education level and employment status were not included as a covariate in subsequent analyses because 30% of the cases were missing this information. In the model predicting subsequent out-of-home placements, we also controlled for the amount of time parents had to recidivate by calculating the number of days from the end of their child welfare case to the end of their 5-year data collection window.
8. In each of the models, we also explored whether the drug court and comparison groups had different alcohol

and drug (A&D) treatment and child welfare outcomes at each site (i.e., FTDC vs. Comparison \times Site interaction), but none of these interactions were significant.

9. We also looked at time to treatment using a Cox proportional hazards model to include the parents who had not yet accessed A&D treatment within our study window (i.e., censored cases). The overall results were the same as the traditional regression model reported here.

10. We ran the same hierarchical logistic regression only for parents who had at least one child returned to their care (and who therefore had an increased chance of recidivism) and the results were the same, $\chi^2(1) = 0.01$, *ns*, *n* = 193.

11. When predicting subsequent substantiated maltreatment reports, we also controlled for time to recidivate by calculating the number of days from the end of the child welfare case to the end of their 5-year data collection window.

12. The overall model accounted for a significant amount of variance (39%) in the likelihood of having at least one child reunified, $\chi^2(24) = 114.65$, *p* < .01.

13. The overall model accounted for a significant amount of variance (28%) in the likelihood of having at least one subsequent substantiated Child Protective Services (CPS) report, $\chi^2(25) = 55.50$, *p* < .01.

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