



# **Families First Outcome Evaluation**

Recidivism Outcomes for Youth in the Families First  
Program

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## Abstract

This study examined recidivism outcomes for the Families First program provided by Utah Youth Village between 2007 and 2012 using court database records. Youth in the program were matched to a comparison sample of court-supervised youth in the same time period using a propensity score matched pair design. The outcome analysis found that youth enrolled in Families First had significantly fewer misdemeanor and felony charges than the comparison group 12 months after the start (54% less) and end of the program (55% less). There were mixed findings for reductions in status and technical offenses. Our findings suggest that the Families First model can be an effective intervention strategy for reducing recidivism in juveniles.

## Background

Juvenile recidivism rates continue to be high in the United States, and range between 12% to 55% depending on factors such as state of residence and method of measurement (Snyder & Sickmund, 2006). Consequently, there has been increased efforts to reduce juvenile recidivism through intervention programs focusing on individual and contextual factors (Bushway, Piquero, Broidy, Cauffman, & Mazerolle, 2011; National Institute of Justice, 2011; Stojkovic, Klofas, & Kalinich, 2010). Although individual based interventions (e.g. individual therapy, skills trainings, vocational rehabilitation) have been effective in improving the wellbeing of at-risk juveniles, these interventions fail to address environmental factors such as family and home life that contribute to juvenile recidivism. For example, poor family relationships and unstable family structures can contribute to juvenile engagement in violent behavior (Grunwald et al., 2010), and ongoing juvenile neglect is associated with increased likelihood of recidivism (Ryan et al., 2013).

Given the importance of family and home life to juveniles entering the justice system and recidivism, researchers have made efforts to integrate family-based interventions into recidivism treatment programs.

Meta-analytic findings from 35 studies indicate that programs integrating family members into treatment result in decreased recidivism compared to individual based treatment programs (Latimer 2001). Efforts to extend upon family treatments have involved implementing in-home interventions that address home factors that contribute to maladaptive behaviors. These services typically involve professionals or paraprofessionals visiting juveniles and families in their homes, and implementing interventions based on the needs of juveniles and families. There is evidence that in-home interventions are not only associated with improved outcomes for children, but are also more cost effective and less disruptive to juveniles and families through minimization of foster care placements (Office of the Legislative Auditor General, 2011). While professional therapists can be effective in reducing recidivism among juveniles through in-home visits (Timmons-Mitchell et al., 2006), services offered by professional therapists are often expensive and consequently more difficult to implement on a larger, systemic scale.

Paraprofessionals are cost-effective alternatives to providing in-home interventions for juveniles and families. In fact, research on paraprofessionals indicate that paraprofessionals achieve similar

outcomes as professionals in mental health settings. For example, Montgomery et al. (2010) found that paraprofessionals were able to provide cognitive-behavioral therapy and reduce symptoms of anxiety and depression among clients at similar levels as professionals. Furthermore, Katz et al. (2011) found that paraprofessionals can be effective in working with low-income mothers to improve health and outcomes of infants. Similarly, Gray et al. (2011) found that in-home behavioral interventions using paraprofessionals can be effective in reducing suicidality among at-risk youth. Overall, the above findings indicate that paraprofessionals can be effective in improving a wide range of outcomes through in-home interventions. However, there has been limited research examining how in-home interventions using paraprofessionals can be used to address recidivism among juveniles. Consequently, the current study provides an overview of the Families First intervention program, and outcomes of juveniles and families from a five year period.

### **Families First**

Utah Youth Village's Families First program is an intensive in-home intervention that focuses on improving home life and relationships within families using a skills-based approach. Families First is broadly based on the Teaching Family Model (Fixsen et al., 2001) and the Risk, Need, and Responsivity (Bonta & Andrews, 2010) Model, which emphasizes development of therapeutic relationships with caregivers, and tailoring interventions based on the

risks, needs, and individual/environmental factors of juveniles and their families. Families First considers development of communication skills, implementation of bonding activities between family members, positive reinforcement, consistent feedback and supervision, and stable household structures as important to reducing risk of recidivism among juveniles. The Families First program broadly involves a paraprofessional spending, on average, 48-52 hours of total face to face time with a family in their home or other typical family settings over a typical range of six to twelve weeks. Families First interventions progress through six phases. The paraprofessional typically spends 6-10 face to face hours per week with a family in the first four phases. The last two phases are more focused on generalizing the skills learned by the family and weaning the family from the paraprofessional. Based on assessment results and family self-reported needs, specialists implement interventions with juveniles and families that target conflicts between parents and juveniles, and maladaptive social skills that contributed to juveniles entering the juvenile court system.

### **Specialist qualifications**

Families First specialists are typically individuals with bachelor degrees who undergo a rigorous training process in the Teaching Family Model and with the Families First phases curriculum, including parenting and family skills protocol. The specialists-in-training first receive classroom training on policies, procedures, and teaching models for several weeks while

they shadow specialists during their home visits. After they complete their classroom training, specialists-in-training observe a supervisor from the beginning to end of treatment. Halfway through these observations, specialists-in-training are assigned their first juvenile and family, and are accompanied by their supervisor in at least half of the visits. Specialists-in-training attend weekly supervision and staff meetings as they are working with their families. After a year of training, specialists-in-training must pass a formal evaluation and become nationally certified through a process involving the Teaching-Family Association to independently work with juveniles and their families. The Teaching-Family Association is recognized as a national accreditation organization by the Secretary of HHS for purposes of the Family First Prevention Services Act for QRTP purposes.

### **Referral Process to Families First**

Juveniles and their families are first referred to Families First through the juvenile court system, and undergo a risk and treatment needs assessment using the Protective Risk Assessment tool (Dewitt & Lizon, 2008) in order to ascertain whether Families First is appropriate for their needs and concerns. Treatment readiness and personal responsiveness information are also collected using the Jesness Inventory-Revised (Jesness & Wedge, 1984), the Motivation for Youth's Treatment Scale, (Breda & Riemer, 2012) and the Youth Outcome Questionnaire (Burlingame, Wells Lambert & Cox, 2004); these

measures assess the juvenile's emotional wellbeing, social adjustment, and motivation to engage in treatment. Moderate and high risk juveniles and their families may then be enrolled in the program. Data from assessments are used to inform juvenile social skills to target throughout the program, and address needs that contributed to the juvenile entering the justice court system.

### **Treatment Phases of Families First**

During initial intensive in-home visits, specialists focus on building rapport with juveniles and family members, and collaboratively set treatment goals based on their needs. Based on treatment goals, specialists implement a variety of interventions (e.g. crisis intervention, supportive counseling, on-demand teaching/coaching) in subsequent visits that build parent-child relationships, and foster positive familial interactions. These interventions typically center on building skills among juveniles and family members that improve parent-child relationships, as well as juvenile domains of school, use of free time, general interpersonal relationships, fostering positive living environments, skills, and attitudes and behaviors. In addition to the above domains, specialists also focus on teaching juveniles how to resist peer pressure, develop consequential thinking skills, improve impulse control, and express feelings in more adaptive ways (Dewitt & Lizon, 2008). Specialists assign activities and skills to practice after each visit. At the start of each visit, specialists check in on the wellbeing and stability of the family, and follow-up on

previous assignments and progress in juvenile and family skill use. Based on progress in skill use, specialists will introduce new skills or build upon skills that were previously taught.

Families First specialists primarily use behavioral interventions to teach skills and facilitate positive relationships between family members. Specialists focus on developing more adaptive habitual reactions and responses among juveniles using positive reinforcement so that home interactions and environments are rewarding for not only juveniles, but also family members. After teaching skills to juveniles and family members, specialists use everyday home-interactions from visits as opportunities to practice and demonstrate targeted skills (Peterson, Shadoin,& Kohrt, 1996). Addressing family dynamics during visits allows specialists to immediately intervene and provide feedback when maladaptive interactions unfold between family members and juveniles (Fixsen et al., 2001). Specialists collaboratively work with juveniles and family members to shape and modify automatic maladaptive reactions in these moments to reactions that are more healthy, warm, and accountable. In addition to positive reinforcement of adaptive interactions, specialists may use modeling, role-playing, cued practice, and other interventions to demonstrate skills in-vivo, and provide juveniles and families with more opportunities to develop skills. Interventions are individualized, and tailored to the needs of juveniles and families. In addition, specialists will also implement relationship building and bonding activities with family

members to foster positive relationships between family members. Specialists are expected to be reasonably available for crisis consultation to families night and day, seven days a week. If a specialist goes on vacation, his/her supervisor will be available to crisis calls from the family.

### **Purpose of the Study**

While Families First has had promising initial outcomes (Lewis, 2005; Hess et al., 2012), more research is needed on the efficacy of Families First over a longer time span. Consequently, the purpose of the current study was to examine treatment outcomes of juveniles and families enrolled in the Families First program from 2007 to 2012. We compared commission of new felonies, misdemeanors, and technical and status offenses of juveniles enrolled in the program from start to completion at 6 and 12 months follow-up with similar youth from the juvenile court system during the same time period.

## Methods

### Participants

We collected court records of all juveniles enrolled in the Families First program provided by Utah Youth Village from 2007-2012, as well as records from a comparison sample of court supervised youth from the State of Utah matched based on baseline characteristics from the same time period. We only analyzed data of youth who were under the age of 17 and were still under the age of 18 one year after the end of treatment.

### Data Sources

We collected all data from the State of Utah court data system. This system tracks all charges, convictions, placements and dispositions for juveniles in the State of Utah. In addition, the system collects demographic information on youth in the system. All start and end dates for both the treatment and comparison groups were collected from this system

### Measures

The primary outcome for this study was commission of new charges in the juvenile justice system. We used charges rather than convictions for several reasons. First, convictions could occur much later in time from when a charge is recorded in the

system and this time delay would introduce an unknown amount of censoring to the dataset. Second, convictions in the juvenile court are based on a myriad of factors including legal representation, socio-economic status, and racial/ethnic minority status. We attempted to account for sources of variation in the outcome data by using new charges as the primary outcome.

We only included charges in the juvenile justice system in the state of Utah in our analysis. This data included charges that were elevated to adult court for a juvenile (i.e. waivers), with the exception of charges that were directly filed in adult court. This latter case is exceptionally rare in the state of Utah, and only includes murder/ aggravated murder charges or charges after the youth is in a secure facility (Utah Sentencing Commission, 2015).

The following outcome variables were used from this dataset:

1. 6 month commission of new felony or misdemeanor offense after program start
2. 12 month commission of new felony or misdemeanor offense after program start
3. 6 month commission of new felony or misdemeanor offense after program end
4. 12 month commission of new felony or misdemeanor offense after program end

5. 6 month commission of status or technical after program start
6. 12 month commission of status or technical from program after program end

To account for the criminal history of the youth and sociocultural factors associated with recidivism, we used both demographic information as well as prior charges in the Utah juvenile court data system to create a matched comparison group. These variables included the raw count of 1) number of misdemeanor charges before the start of the treatment period or court supervision period, 2) number of felony charges before the start of the treatment or court supervision period 3) gender of the youth as recorded in the state court database 4) minority status of the youth as recorded by the state court database. This last variable was simplified to minority 1= any non-majority race/ethnicity selected 0= only race ethnicity category selected was 'White'.

### Study Design

We used a propensity score matched pair design (PMPD) to gather comparison youth from the records of all court supervised youth between 2007 and 2012 (Shadish, Cook & Campbell, 2002). All analyses were performed in R statistics version 3.6.3. The propensity score match model used the 'matchit' package version 3.0.2 to create the comparison sample (Ho, Imai King & Stuart,

2007). The propensity score matching model used the count of previous misdemeanors, felonies, status and technical offenses as well as age, gender and racial-ethnic minority status of youth to match the comparison sample to youths enrolled in the Families First treatment. We used a ratio of 2 matched youth per treatment individual to improve statistical power of the final analyses. We also used the 'optimal' matching algorithm and the logit distance measure. After matching groups, we compared continuous baseline variables using Hedges  $g$  to ensure that both groups were within  $g < .25$ . Any variables where hedges  $g > .05$  were controlled for in the logistic regression.

Recidivism outcomes were analyzed using logistic regression, controlling for prior offenses, age, minority status. We report odds ratios as well as effect sizes using the Cox Index.

Eq 1

$$d_{\text{Cox}} = \omega \left[ \ln \left( \frac{p_i}{1-p_i} \right) - \ln \left( \frac{p_c}{1-p_c} \right) \right] / 1.65$$

Treatment/ Comparison contrasts were analyzed using an indicator variable inserted into the logistic regression equation, with treatment coded as 1 for Families First treatment and 0 for matched comparison group.

Eq 2



$$\ln\left(\frac{P(\text{New Offense})}{1-P(\text{New Offense})}\right) = \beta_0 + \beta_1(\text{Treatment}) + \\ + \beta_2(\text{Number Prior Felonies}) + \beta_3(\text{Prior Mis.}) \\ + \beta_3(\text{Age}) + \beta_4(\text{Min. Stat.}) + \beta_4(\text{Prior Status/Tech})$$

After analyzing the treatment effects using Eq2 we convert the odds ratios ( $B_1$ ) to the Cox effect size (Eq1).

We analyzed the data from both the start and end of the program for the treatment group<sup>1</sup>. For comparison youth under court supervision, we used the start and end dates of their community based supervision.

### Attrition

The main study outcomes related to recidivism are all reported as complete data. As a result there is no attrition in the study sample. All data is analyzed as 'intent to treat' that is, all youth that started the Families First program were considered in the analysis.

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<sup>1</sup> Note- a small percentage of youth received optional follow-up contacts, but this is considered by Utah Youth Village to be a different service from the Families First intervention.. 23% of families had some form of contact after the program which included 11% that had 1-2 phone calls, 10% had 1 in person visit and 1% had 2 visits. As a result, these services were not analyzed as part of the formal start and end dates of the Families First program.

## Results

The treatment population in the Families First program included 101 youth under the age of 17 at the start of the program who started Families First between 2007 and 2012. From this sample, we extracted a comparison population (n=202) from a larger sample of court supervised youth (n=1640) in non-restrictive placements during this time period based on age, gender, minority status, number of prior felonies, misdemeanors and technical/status offenses. There was no significant difference between the treatment and the comparison groups on any of the baseline characteristics (based on t statistics for continuous variables and Chi-squared tests of independence for categorical variables).

**Table 1:** Sample Characteristics

	Group		Pooled SD	Hedges g
	Treatment	Matched Comparison		
n	101	202		
Age mean (SD)	15.62 (1.00)	15.54 (1.11)	1.07	.07
Male n (%)	83 (82.2)	166 (82.2)		
Minority n (%)	54 (53.5)	111 (55.0)		
<u>Prior Offenses Count</u>				
Status mean (SD)	1.28 (1.36)	1.08 (1.16)	1.22	.16
Misdemeanor mean (SD)	5.35 (3.13)	5.05 (3.37)	3.27	.09
Felony mean (SD)	0.84 (1.06)	0.78 (1.11)	1.09	.05

Table 1 summarizes the baseline descriptive characteristics for both the treatment and matched comparison group. We computed the pooled standard deviation using a weighted pooled standard deviation.

All baseline characteristics were added to the logistic regression as covariates to control for any residual differences. In each logistic regression equation, we encoded any number of events in each category as 1, and no events as 0. We also coded the treatment group as 1, and the comparison group as zero. In the results table (table 2) Odds Ratios below 1 indicated a reduction in recidivism for the treatment group. Negative values for Cox's d indicated a reduction in recidivism.

In this study, treated youth showed 54% lower rates of misdemeanor and felony recidivism 6 months after the start of the program, even after controlling for baseline characteristics. Additionally, treated youth showed a 55% reduction in misdemeanor or felony recidivism one year after the start of the program. Both of these effects were statistically significant. The treatment and the control group had similar rates of status and technical offenses 6 and 12 months after the start of the program.

The treatment group also had significantly lower rates of misdemeanor and felony recidivism both at 6 (55%) and 12 months

(55%) after the end of the program. There were no significant differences in status or technical offenses 6 months after the end of the program, but there was a 46% reduction in status and technical recidivism 12 months among youths in Families First after the end of the program.

Table 2 summarizes the treatment effects from each model. The full model parameters can be seen in Appendix A (tables A1 and A2).

## Discussion

In this study we examined recidivism outcomes for youth in the Families First program at Utah Youth Village. Using a rigorous propensity score matched pair design, we found that youth in the Families First program had significantly fewer new misdemeanor and felony charges 6 and 12 months after the start and end of the program. This finding is consistent with other research that has shown that skill based programs involving families are effective interventions for court involved

**Table 2** Treatment Effects for Outcome Variables\*

	Estimate	Std. Error	p	OR	d
<u>From Program Start</u>					
6 Month Misdemeanor or Felony	-.80	.26	<b>.002</b>	.451	-.48
6 Month Status or Technical	-.51	.35	.15	.602	-.31
12 Month Misdemeanor or Felony	-.80	.27	<b>.003</b>	.450	-.48
12 Month Status or Technical	-.51	.29	.07	.598	-.31
<u>From Program End</u>					
6 Month Misdemeanor or Felony	-.80	.27	<b>.003</b>	.447	-.49
6 Month Status or Technical	-.62	.36	.089	.540	-.37
12 Month Misdemeanor or Felony	-.81	.27	<b>.003</b>	.446	-.49
12 Month Status or Technical	-.63	.30	<b>.036</b>	.531	-.38

\*Bolded p values are < .05

youth (Lipsey, 2009). The effect sizes in this study were larger than those typically observed in studies of recidivism. However it should be noted that our analyses only tested whether this effect was different from the comparison group; however, the confidence intervals of these estimates were relatively large. Larger samples are required to obtain more precise estimates of the magnitude of the recidivism reduction.

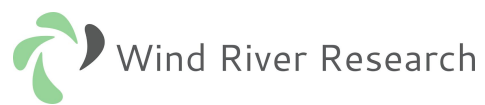
examine these factors to better understand the impact of this treatment.

A limitation of this study is that we did not examine potential mediators involved in treatment effects. Future research should include measures assessing family and youth attitudes and behaviors to help understand mechanisms that contribute to effective treatment. In addition, Families First may also have a broader impact on other outcomes such as school attendance and performance, and general family functioning. Future research should

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## Appendix A

This appendix reports the full model results from the study, summarized in table 2. Only the treatment effects are reported in the main section of the paper.

**Table A1:** Logistic Regression Full Model Results

Model	Predictor	Estimate	Std. Error	p	Odds Ratio
<u>From Program Start</u>					
<b>One Year Misdemeanor or Felony</b>					
	(Intercept)	.51	1.91	.79	1.663
	Treatment	-.80	.27	.003	.450
	Prior Misdemeanors	.15	.05	.003	1.165
	Prior Felonies	-.05	.13	.70	.952
	Prior Status or Technical	-.07	.12	.56	.935
	Age	.01	.12	.95	1.008
	Minority Status	-.23	.26	.38	.794
<b>One Year Status or Technical</b>					
	(Intercept)	1.37	1.91	.47	3.955
	Treatment	-.51	.29	.07	.598
	Prior Misdemeanors	.08	.04	.06	1.086
	Prior Felonies	-.20	.13	.12	.815
	Prior Status or Technical	.05	.11	.64	1.054
	Age	-.13	.12	.30	.880
	Minority Status	-.84	.26	.001	.431
<b>Six Month Misdemeanor or Felony</b>					
	(Intercept)	-.84	1.76	.63	.431
	Treatment	-.80	.26	.002	.451
	Prior Misdemeanors	.13	.04	.002	1.139
	Prior Felonies	-.10	.11	.38	.904
	Prior Status or Technical	-.07	.11	.49	.929
	Age	.04	.11	.73	1.039
	Minority Status	-.09	.24	.70	.913
<b>Six Month Status or Technical</b>					
	(Intercept)	1.33	2.22	.55	3.792
	Treatment	-.51	.35	.15	.602
	Prior Misdemeanors	.16	.05	.002	1.168
	Prior Felonies	-.19	.15	.20	.824
	Prior Status or Technical	.09	.13	.50	1.091
	Age	-.22	.14	.14	.806
	Minority Status	-.37	.32	.23	.688



**Table A2:** Logistic Regression Full Model Results

Model	Predictor	Estimate	Std. Error	p	Odds Ratio
<u>From Program End</u>					
<b>One Year Misdemeanor or Felony</b>					
	(Intercept)	1.01	1.96	.61	2.734
	Treatment	-.81	.27	.003	.446
	Prior Misdemeanors	.15	.05	.003	1.161
	Prior Felonies	-.07	.13	.59	.934
	Prior Status or Technical	-.14	.12	.22	.867
	Age	-.02	.13	.87	.980
	Minority Status	-.23	.27	.39	.795
<b>One Year Status or Technical</b>					
	(Intercept)	1.15	1.95	.56	3.159
	Treatment	-.63	.30	.04	.531
	Prior Misdemeanors	.09	.04	.04	1.095
	Prior Felonies	-.10	.13	.44	.906
	Prior Status or Technical	.01	.12	.92	1.012
	Age	-.13	.13	.32	.882
	Minority Status	-.60	.27	.03	.551
<b>Six Month Misdemeanor or Felony</b>					
	(Intercept)	1.19	1.83	.51	3.286
	Treatment	-.80	.27	.003	.447
	Prior Misdemeanors	.13	.04	.003	1.139
	Prior Felonies	-.21	.12	.08	.811
	Prior Status or Technical	.02	.11	.82	1.025
	Age	-.09	.12	.46	.916
	Minority Status	-.23	.25	.36	.796
<b>Six Month Status or Technical</b>					
	(Intercept)	-.06	2.28	.98	.938
	Treatment	-.62	.36	.09	.540
	Prior Misdemeanors	.12	.05	.02	1.127
	Prior Felonies	-.15	.15	.32	.859
	Prior Status or Technical	.00	.13	.98	.997
	Age	-.10	.15	.50	.905
	Minority Status	-.47	.31	.13	.622