

Nurturing Parenting Program (NPP) Outcomes Report

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Abstract

The Nurturing Parenting Program (NPP) was implemented by a child welfare community-based care lead agency in Florida - Kids Central, Inc. (KCI) in alignment with the goals of the Families First Prevention Services Act (FFPSA) of 2018 that emphasized the importance of evidence-based interventions. NPP is a family-centered curriculum designed to improve the skills of parents and to provide resources to families and communities. The program consists of home-based sessions focusing on families who have already experienced or at higher risk for child maltreatment. The current evaluation study examined the effect of NPP on child safety, permanency, and parental wellbeing. A longitudinal quasi-experimental design with a two-group comparison using propensity score matching was used. The sample consisted of 986 parents/guardians who received the NPP intervention, and 984 child welfare involved parents/guardians who did not participate in the NPP, but otherwise were like the NPP participants. Findings based on two fiscal cohorts – FY2017-18 and 2018-19 indicated that compared to a group of similar parents receiving child welfare services, parents who received NPP services were less likely to have new allegations of child maltreatment within six and twelve months after completing the NPP program. There was a significant negative association between participation in NPP and recurrence of verified (i.e., substantiated) maltreatment: the rates of verified maltreatment were significantly smaller for the parents/guardians in the NPP group compared to the parents/guardians in the comparison group. No significant differences were found when the rates of permanency and reunification were examined. The proportion of children of parents/guardians who participated in NPP who achieved permanency within 12 months was like that of their counterparts. However, when the proportions of children in the NPP group and the comparison group who were removed and placed in out-of-home care were assessed, findings indicated that there was a significantly smaller proportion of removed children in the NPP group compared to the proportion of removed children in the comparison group. Overall, this study provides new data about the effectiveness of the NPP intervention and shows that families benefit across a range of various child welfare outcomes including the reduction of risk for repeat child maltreatment and further involvement in the child welfare system.

Introduction

In February 2018, the Families First Prevention Services Act (FFPSA) was passed into law. The main goals of FFPSA are to enhance support services for families so their children remain at home, minimize the need for placement in congregate care, and build the capacity of communities to assist children and families at risk. Under this Act, states can use federal funding for evidence-based programs that provide parent skill-building and mental health and substance abuse services to prevent out-of-home care placements and expedite permanency in the case of child removal (Human Resources Subcommittee Staff, 2016; National Council on State Legislatures, 2022).

As research has indicated, a great majority of factors contributing to placement in out-of-home care were related to parents' behavior, such as neglect (62 percent), parental substance use (36 percent), caregiver inability to cope (14 percent), and physical abuse (10 percent) (USDHHS, 2019). Therefore, implementation of interventions that aim to improve parenting skills is in great public interest as they increase child safety and reduce the risk for child maltreatment (e.g., National Academies of Science, Engineering and Medicine, 2016; Rodriguez, Baumann, & Schwartz, 2011). For example, Multidimensional Treatment Foster Care for Preschoolers (MTFC-P) program (Fisher, Kim, & Pears, 2009) and the Incredible Years® (Webster-Stratton & Reid, 2010) have evidence that they improve child-rearing skills for parents involved with child welfare. In addition, Parent-Child Interaction Therapy (PCIT) has been validated as effective with both biological and foster families in the child welfare system (Chaffin et al., 2004; Timmer, Urquiza, & Zebell, 2006).

Florida has elected several programs for implementation aimed at prevention of child abuse and neglect and recurrence of maltreatment (Florida Department of Children and Families, 2021). The state would like to consider adding other interventions if those interventions are able to be reimbursed by FFPSA. One of those interventions is the Nurturing Parenting Program (NPP) implemented by Kids Central, Inc. (KCI), the community-based care lead agency for Florida's circuit 5 region. Although NPP has been evaluated several times (Greeno et al., 2021), many studies did not include substantial details about the evaluation or did not use a rigorous quasi-experimental or randomized control study design. For example, Gross, Bhagwat and Cole (2022, page 3) highlighted some of the major NPP evaluation studies that have been conducted:

- Brock and colleagues (2013) studied the school-age children program and Greeno and colleagues (2021) examined both age-specific versions. Each study found that caregivers exhibited better parenting attitudes and knowledge after the program than

before it, including greater empathy and increased knowledge of positive discipline techniques (Brock et al. 2013; Greeno et al. 2021).

- Some evidence also suggests that program participation is associated with reduced child maltreatment. Greeno and colleagues (2021) also found that among 34 caregivers in a mid-Atlantic state, 29 percent were subject to a child maltreatment investigation and 21 percent were subject to a substantiated investigation in the year before the program; these numbers dropped to just 15 percent and 3 percent in the year after, respectively.
- Using a larger sample of more than 500 caregivers in Louisiana, Maher and colleagues (2011) found that higher program attendance in the infants, toddlers, and preschoolers program was associated with a reduced likelihood of being reported for child maltreatment. However, because these studies lacked a comparison group, it is possible that the changes in outcomes were not attributable to the program.
- Two studies have used experimental or quasi-experimental designs (QEDs) to evaluate Nurturing Parenting Programs, and both found favorable impacts. A randomized controlled trial in Cook County, Illinois, found that families who were offered the infants, toddlers, and preschoolers program after a child was removed from their home spent less time in foster care and had higher rates of family reunification and kinship guardianship (Illinois Department of Children and Family Services 2018). Likewise, an earlier QED study compared families in Florida that participated in (1) the infants, toddlers, and preschoolers program, (2) the school-age children program, and (3) other parent education programs that were not Nurturing Parenting Programs (Weikert et al. 2007). The study found that parents who completed either of the Nurturing Parenting Programs had statistically significantly higher scores on parenting attitudes and practices than the comparison group.

In addition, a study recently completed in Arizona found that children whose families completed NPP were significantly less likely than the comparison group to experience an investigation or substantiated investigation immediately after the program ended. These children were also statistically less likely to experience a removal up to 12 months after the end of the program (Gross et al., 2022).

Purpose of this Evaluation

The State of Florida, Department of Children and Families (DCF) in partnership with KCI, and Casey Family Programs, are committed to ensuring children and families involved in the child welfare system receive effective evidence-based practices. An evaluation of the KCI NPP

model in Florida aims to further address the research gap. Using sound methodology, the purpose of the current study is to assess the impact of the NPP on child welfare and parent outcomes. The focus of this evaluation is to examine outcomes for parents who participated in the NPP intervention between 2017-2019 and compare their outcomes with their counterparts who received services as usual. More specifically, this study aims to (1) assess the impact of NPP on child and parent outcomes; (2) provide a description of the NPP practice as it is being carried out in this region; and (3) examine if the program meets the rating standards outlined by the Title IV-E Prevention Services Clearinghouse (Wilson et al., 2019).

Program Description

The Nurturing Parenting Programs consist of several different models designed for specific populations of focus, ages, and intended outcomes. The versions of the program being carried out by KCI are focused on parents and their children with special needs and health challenges, parents and adolescents, and nurturing skills for families with children ranging in age from prenatal to young adult. The KCI NPP program is intended for families involved in the child welfare system who are receiving in-home services on either a voluntary or court-ordered basis. The one-to-one, individual parenting lessons are home-based and designed to be used as primary, secondary, and tertiary prevention and intervention for high-risk parents and parents experiencing child maltreatment (Bavolek, 2006, 2011a, 2022b; Family Development Resources, Inc., 2022). The lessons are typically provided in one and a half hour weekly sessions in the home for 12-20 weeks. Lessons are grounded in five parenting constructs – expectations of children, developing empathy, appropriate discipline, appropriate family roles, and empowering children. Sessions involve activities and discussion that are designed to help parents (1) set appropriate expectations, (2) empathize with their children, (3) reduce their use of harmful punishments, (4) develop positive parent-child roles, and (5) foster suitable levels of child independence. NPP parent educators completed an initial 3-day pre-service training and additional trainings and supports were available by the program developers, but not required (CEBC, 2021).

For this evaluation the NPP staff used the in-home, one-parent (family) at a time model. They worked with families that are intact (child living with the family), and as stated, those families could have been voluntary or court-ordered. In the event the child was placed out-of-home at the time the NPP was to be offered, the agency either provided or transitioned the family to a different program (such as Parenting Journey) to support reunification efforts. As mentioned above, NPP does not currently meet criteria to receive a rating by the Title IV-E

Prevention Services Clearinghouse but could be re-rated by the Clearinghouse because of the Arizona study and this study.

Methods

Evaluation Questions

1. What is the proportion of child maltreatment re-reports within six months of the initial report and within six months of the NPP completion during a specific fiscal year for the individuals who received NPP intervention and those who were in the comparison group?
2. What is the proportion of child maltreatment re-reports within 12 months of the initial report and within 12 months of the NPP completion during a specific fiscal year for the individuals who received NPP intervention and those who were in the comparison group?
3. What is the number and proportion of children that experienced verified maltreatment within six months of a child's first report of child maltreatment and within six months of NPP completion if maltreatment was verified?
4. What is the number and proportion of children that experienced verified maltreatment within 12 months of a child's first report of child maltreatment and within 12 months of NPP completion if maltreatment was verified?
5. What is the number and proportion of children who achieved permanency, including reunification within 12 months of NPP completion, compared to those whose parents did not receive NPP intervention?
6. What is the number and proportion of children who were reunified within 12 months of NPP completion compared to those whose parents did not receive NPP intervention?

Population of Focus/Sample

A clearly identified population was selected for this study. The proposed study focused on families receiving services by KCI located in Citrus, Hernando, Marion, Lake, and Sumter Counties. These families were involved with the child welfare services after a child protection investigation (CPI) was completed. More specifically, participants in NPP are the parents who were identified as alleged perpetrators on at least one CPI report between 2017-2019, who did not participate in any special evidence-based services during this time, and who were located in the geographic areas served by KCI.

Evaluation Design

The analysis examined outcomes among child welfare-involved parents who were referred to the NPP and those who received services as usual. A longitudinal quasi-experimental design with a two-group comparison using propensity score matching was used in this evaluation study. The two groups included the intervention group (i.e., NPP) and the comparison group (i.e., child welfare involved parents who did not receive the NPP intervention). The propensity score matching was used to control for initial differences across multiple background characteristics and baseline variables (Rosenbaum & Rubin, 1984). The propensity score technique is used to achieve group equivalence when participants are initially assigned to different conditions, as well as in observational studies when individuals cannot be randomly assigned to different conditions. Propensity score matching was utilized for several reasons: (a) randomization was not possible because intervention was implemented for all qualified individuals, (b) participants in the NPP intervention substantially differ from other child welfare involved parents on a number of characteristics, and (c) the need to have an equivalent comparison group to adequately assess examined outcomes.

The propensity score was calculated using logistic regression to obtain the predicted probability of being in the intervention group (Rosenbaum & Rubin, 1984). As a result, each caregiver in the database had an estimated probability of being in the intervention group (i.e., NPP). All available caregiver demographic characteristics, domestic violence history, caregiver substance abuse issues, county where maltreatment occurred, and the type of maltreatment were included in the calculation of propensity score. After the propensity score was calculated, cases were matched using the nearest neighbor technique, in which the propensity score in the comparison group closest to the propensity score in the intervention group (i.e., NPP) was selected (Dehejia & Wahba, 2002). After matching was completed, the intervention and the comparison groups were checked for balance on all parent characteristics included in the calculation of the propensity score. No significant differences between groups were found when the groups were examined on each of the covariates (i.e., caregiver characteristics) included in the propensity score. Study participants were followed up for at least 12 months or until June 30, 2021 in case the event did not occur (i.e., censored observations). A one-year follow-up period begins on the date of the NPP completion (intervention group) or on the date of the initial CPS report (comparison group). Two successive cohorts were examined, including cases investigated during state fiscal years 2017-18 and 2018-19.

Data Sources

The two primary sources of data were the Nurturing Parenting Program (NPP) database, and the Florida Safe Families Network (FSFN). The data related to the NPP database included: participants' NPP start and end dates; demographic characteristics, number of children, and the completion status. Data related to child maltreatment reports, parent and child demographic information, results of child protective investigations, dates of children's entry into out-of-home care, reasons for discharge, and caregiver protective capacity were obtained from FSFN.

Predictor Variables

The predictor variables or covariates included the parent's demographic characteristics and participation in the NPP program. A description of each one follows:

Participation in the NPP program. Participation in the NPP program was defined as person's completion of the program with the successful discharge. Therefore, if a person was enrolled in the NPP program but did not successfully complete the treatment or disengaged from treatment, these participants were dropped from the analyses.

Parental demographic characteristics. Demographic characteristics included gender, age at the time of the child maltreatment report was received, and race/ethnicity. Gender consisted of two categories – male and female. Age was a continuous variable measured at the time of enrollment in the NPP program for NPP participants or at the time when the first maltreatment report was received for the comparison group. Because of small numbers in certain racial groups, the following race/ethnicity categories were used: White, Black, Hispanic and Other.

Maltreatment Type. Four types of verified maltreatment were recorded in this study: (a) physical abuse, (b) sexual abuse, (c) neglect, and (d) threatened harm. Chapter 39 of the Florida Statutes (41) defines abuse as any willful or threatened act that results in any physical, mental, sexual injury, or harm that causes or is likely to cause significant impairment in the child's physical, mental, or emotional health. Neglect is defined as living in an environment or under circumstances, in which the lack of necessary food, clothing, shelter, or medical treatment occurs to the extent that the child is placed in danger of significant impairment to her or his physical, mental, or emotional health. Finally, threatened harm is defined as a behavior that is not accidental and is likely to result in harm to the child, such as domestic violence or parental substance misuse. A dichotomized variable was created to indicate whether the child experienced or did not experience a specific maltreatment type. Only one primary maltreatment type was selected.

Parental History of Substance Abuse Problems. A dichotomized variable was constructed to indicate whether the child's parent(s) had substance abuse problems (1 = yes) or not (0 = no).

Domestic Violence in the Family. A dichotomized variable was constructed to indicate the presence of domestic problems in the family (1 = yes) or not (0 = no).

Completion of NPP Status. Only participants who completed the program were included in the analyses.

Measures (Outcomes)

Several safety and permanency indicators were calculated and examined, including rates of repeated child maltreatment reports, rates of recurrence of verified maltreatment, permanency, and reunification rates. Timeframes for child safety and permanency outcomes were selected and based on the CFSR national data indicators (U.S. DHHS, 2022).

Child maltreatment re-reports within six months. This indicator was based on entry cohorts, that is, all children who were brought in contact with the child welfare system and subsequently investigated for alleged child maltreatment. For the NPP group, child maltreatment re-report was defined as a subsequent investigated child maltreatment report within six months after completion of the NPP program, regardless of the disposition. For the comparison group, child maltreatment re-report was defined as a second investigated child maltreatment report within six months of the initial report regardless of the disposition.

Child maltreatment re-reports within 12 months. This indicator was based on entry cohorts, that is, all parents who were reported and subsequently investigated for alleged child maltreatment. For the NPP group, child maltreatment re-report was defined as a subsequent investigated child maltreatment report within 12 months after completion of the NPP program -- regardless of the disposition. For the comparison group, child maltreatment re-report was defined as a second investigated child maltreatment report within 12 months of the initial report regardless of the disposition.

Recurrence of verified child maltreatment within six months. This indicator was based on entry cohorts, that is, all parents who were reported, subsequently investigated for alleged child maltreatment, and as a result of the child protection investigation, child maltreatment was found verified. For the NPP group, recurrence of maltreatment was defined as a subsequent verified child maltreatment report within six months after completion of the NPP program. For the comparison group, recurrence of maltreatment was defined as a second incident of verified maltreatment within six months of a child's first verified maltreatment incident. Only children with "verified" maltreatment (i.e., when the protective investigation resulted in a verified finding of

abuse, neglect, or threatened harm) were included in the analysis. The first and second episodes of maltreatment were selected based on the dates the reports of child maltreatment were received.

Recurrence of verified child maltreatment within 12 months. This indicator was based on entry cohorts, that is, all parents who were reported, subsequently investigated for alleged child maltreatment, and as a result of the child protection investigation, child maltreatment was found verified. For the NPP group, recurrence of maltreatment was defined as a subsequent verified child maltreatment report within 12 months after completion of the NPP program. For the comparison group, recurrence of maltreatment was defined as a second incident of verified maltreatment within 12 months of a child's first verified maltreatment incident. Only children with "verified" maltreatment (i.e., when the protective investigation resulted in a verified finding of abuse, neglect, or threatened harm) were included in the analysis. The first and second episodes of maltreatment were selected based on the dates the reports of child maltreatment were received.

Permanency. The number and proportion of all children exiting out-of-home care for permanency reasons within 12 months of the latest removal. This measure is based on an entry cohort, that is, all children who were placed in out-of-home care during a specific fiscal year as indicated by the "removal date" in FSFN. Children were followed for 12 months from the date of removal from home to determine whether they were discharged from out-of-home care as indicated by *Discharge Date* in FSFN and achieved permanency. Permanency is defined as discharge from out-of-home care to a permanent home for the following reasons as indicated in FSFN: (a) reunification, that is, the return of a child who has been removed to the removal parent or other primary caretaker, (b) permanent guardianship (i.e., long-term custody or guardianship) with a relative or non-relative, and (c) adoption finalized, that is, when the Court enters the verbal order finalizing the adoption.

Reunification with Original Caregivers. This measure is based on entry cohort. An entry cohort is defined as all children who were placed in out-of-home care during a given fiscal year and it is based on the date the child was removed from his/her home as indicated by a *Removal Date* in FSFN. Children were followed for 12 months from the date of removal from home to determine whether they were discharged from out-of-home care as indicated by *Discharge Date* in FSFN and achieved reunification, that is, the return of a child who has been removed to the removal parent or other primary caretaker. Reunification is identified based on one of the reasons for discharge as indicated in FSFN.

Data Analysis

Several analytical techniques were used. First, descriptive statistics were used to detect data input errors, outliers, missing data patterns, and to describe the distribution for each measured variable. Second, Cox regression, also known as proportional hazards modeling (Cox, 1972), was used to examine time to exit from out-of-home care, time to child maltreatment re-report, and time to recurrence of maltreatment. Cox regression is a type of event history analysis that is used extensively in outcomes research because of its ability to simultaneously examine both the risk of an event occurring and potential deferential effects related to the timing of that event (Cox, 1972). The major advantage of using Cox proportional hazards modeling in this study is that it utilizes information about parents who experienced an event (e.g., recurrence of maltreatment) and those who did not experience the event of interest or did not have another child maltreatment report (i.e., censored observations). To facilitate model interpretation, odds ratios were used to index the magnitude of the effect of each predictor on time to the event of interest.

Study Findings

There were 986 parents (unduplicated counts) who were enrolled in, received, and completed the NPP program during fiscal years 2017-18 and 2018-19. If two parents of the same child were enrolled in the NPP program, one parent was randomly selected to avoid non-independence of observations. The comparison group was created by matching using propensity score method. Cases for potential matching included all caregivers who were involved in the Florida child welfare system as alleged perpetrators during state fiscal years 2017-18 and 2018-19 ($n = 802,358$). Table 1 presents frequency distributions and the results of statistical comparisons including effect sizes for each variable before matching. As a result of propensity score matching, 984 child welfare involved parents who did not receive NPP services, but otherwise were similar to the NPP participants, were selected for the comparison group. Descriptive statistics were used to examine the obtained sample and compare parent/case characteristics for both groups. As shown in Table 2, more than half of the study sample were females and about half were White. The average age of the participants was approximately 31 years.

The distribution of parent or guardian/case characteristics at the time they were either enrolled in the NPP program or were brought in contact with the child welfare system for the first time during a specific fiscal year are also presented in Table 2. A substantial proportion of the children (49.5 percent in the intervention group and 52 percent in the comparison group) had

parents who were investigated by the child protection system for neglect. Approximately 36 percent of the parents/guardians in each group had a history of domestic violence. Smaller proportions of parents/guardians were investigated for sexual abuse, emotional abuse, or threatened harm.

Table 1

Descriptive Statistics for NPP and Comparison Samples at Baseline Before Propensity Score Matching

Baseline Characteristic*	NPP			Comparison Group			Effect Size	Phi (ϕ)
	<i>n</i>	%	<i>M</i> (<i>SD</i>)	<i>n</i>	%	<i>M</i> (<i>SD</i>)		
Age (in years)	986		31.14* (7.91)	146,433		33.91 (9.51)	0.32**	
Females	615	62.4*		78,596	53.0			0.49
Race								
White	464	47.1*		70,403	69.4			0.63
Black	97	9.8*		29,654	29.2			0.62
Hispanic	2	0.2*		7,340	1.0			0.1
Multiracial	4	0.4		767	0.8			0.1
Other race	31	5.2*		10,046	1.3			0.2
Type of child maltreatment								
Sexual abuse	23	2.3*		44,083	5.5			0.14
Physical abuse	154	15.6*		166,003	20.7			0.14
Neglect	488	49.5*		326,183	40.7			0.20
Emotional abuse	20	2.0*		33,325	4.2			0.37
Domestic violence	370	37.5*		268,407	33.5			0.01
Threatened harm	41	4.2*		15,786	2.0			0.17
Parental substance misuse	465	47.2*		236,430	29.5			0.43
Loss of a caregiver	19	1.9		16,548	2.1			0.001

Note. * $p < .05$.

** Cohen d

Table 2

Descriptive Statistics for NPP and Comparison Samples at Baseline After Propensity Score Matching

Baseline Characteristic*	NPP			Comparison Group			Effect Size	Phi (ϕ)
	<i>n</i>	%	<i>M</i> (<i>SD</i>)	<i>n</i>	%	<i>M</i> (<i>SD</i>)		
Age (in years)	986		31.14 (7.91)	984		31.61 (7.05)	0.06**	
Females	615	62.4		624	63.4			0.30
Race								
White	464	47.1		492	50.0			0.03
Black	97	9.8		113	11.5			0.03
Hispanic	2	0.2		21	2.1			0.01
Multiracial	4	0.4		4	0.4			0.001
Other race	31	5.2		64	9.5			0.08
Type of child maltreatment								
Sexual abuse	23	2.3		29	2.9			0.02
Physical abuse	154	15.6		132	13.4			0.03
Neglect	488	49.5		512	52.0			0.02
Emotional abuse	20	2.0		15	1.5			0.02
Domestic violence	370	37.5		350	35.6			0.02
Threatened harm	41	4.2		64	6.5			0.05
Parental substance misuse	465	47.2		476	48.4			0.01
Loss of a caregiver	19	1.9		27	2.7			0.03

Note. *County was included as one of the baseline characteristics but was omitted from this table for purposes of legibility.

* $p < .05$; ** Cohen d

Child maltreatment re-reports within six months. Approximately 11 percent of parents/guardians in the NPP intervention group were reported for alleged child maltreatment for the second time within six months after the completion of the NPP program. For those parents/guardians in the comparison group, approximately 26 percent were reported for alleged child maltreatment for the second time within six months of the initial child maltreatment report (see Table 3). Cox regression analysis was conducted to examine the effect of receiving NPP services on the rates of child maltreatment re-reports within six months of completing the NPP program. The results indicated that there was a statistically significant difference (see Table A.1). Parents/guardians who received the NPP intervention were significantly less likely to have a subsequent child maltreatment report compared to their counterparts in the comparison group. In particular, parents/guardians who received NPP services were over two and a half times (OR

= 0.38 $p < .01$) less likely to be reported a second time within six months after completing the NPP program.

Child maltreatment re-reports within 12 months. Approximately 17 percent of parents/guardians in the NPP intervention group were reported for alleged child maltreatment for the second time within 12 months after the completion of the NPP program. For those parents/guardians in the comparison group, approximately 42 percent were reported for alleged child maltreatment for the second time within 12 months of the initial child maltreatment report (see Table 3). Cox regression analysis was conducted to examine the effect of receiving NPP services on the rates of child maltreatment re-reports within 12 months of completing the NPP program. The results indicated that there is a statistically significant difference (see Table A.2). Parents/guardians who received the NPP intervention were significantly less likely to have a subsequent child maltreatment report compared to their counterparts in the comparison group. In particular, parents/guardians who received NPP services were almost three times (OR = 0.34 $p < .01$) less likely to be reported a second time within 12 months after completing the NPP program.

Table 3

Rates of Child Maltreatment Re-reports within 6 and 12 Months for NPP and Comparison Group Children

Measure	NPP		Comparison Group	
	<i>n</i>	%	<i>n</i>	%
Maltreatment re-reports within 6 months	107	10.9%	260	26.4%
Maltreatment re-reports within 12 months	166	16.8%	414	42.1%

Note. NPP ($n = 986$); Comparison group ($n = 984$).

Recurrence of verified child maltreatment within six months. Approximately 5 percent of parents/guardians in the NPP intervention group experienced recurrence of verified child maltreatment within six months after completion of the NPP intervention. For those parents/guardians in the comparison group, approximately 12 percent experienced recurrence of verified child maltreatment within six months of the initial child incident (see Table 4). When the effect of receiving NPP services on recurrence of verified maltreatment within six months was examined, the results of the Cox regression analysis indicated a statistically significant difference between the groups (see Table A.3). Specifically, participants who received NPP services were over two and a half times less likely (OR = 0.37, $p = < .01$) to experience

recurrence of verified child maltreatment within six months after the completion of the NPP intervention compared to their counterparts who did not receive NPP services.

Recurrence of verified child maltreatment within 12 months. Approximately 8 percent of parents/guardians in the NPP intervention group experienced recurrence of verified child maltreatment within 12 months after completion of the NPP intervention. For those parents/guardians in the comparison group, approximately 18 percent experienced recurrence of verified child maltreatment within 12 months of the initial child incident (see Table 4). When the effect of receiving NPP services on recurrence of verified maltreatment within 12 months was examined, the results of the Cox regression analysis indicated a statistically significant difference between the groups (see Table A.4). Specifically, participants who received NPP services were almost three times less likely (OR = 0.35, $p < .01$) to experience recurrence of verified child maltreatment within 12 months after the completion of the NPP intervention compared to their counterparts who did not receive NPP services.

Table 4

Rates of Verified Child Maltreatment Recurrence Within 6 and 12 Months for NPP and Comparison Group Children

Measure	NPP		Comparison Group	
	<i>n</i>	%	<i>n</i>	%
Child maltreatment recurrence within 6 months	46	4.7%	115	11.7%
Child maltreatment recurrence within 12 months	74	7.5%	181	18.4%

Note. NPP ($n = 986$); Comparison group ($n = 984$).

Permanency. When the proportions of children who achieved permanency in the NPP group and the comparison group were compared, no significant difference was observed. As shown in Table 5, there were 21.7 percent of parents/guardians in the NPP group whose children exited out-of-home care for permanency reasons within 12 months after removal. The proportion of children who achieved permanency within 12 months after initial removal in the comparison group was 24.6 percent (see Table 5). The results of Cox regression analysis indicated no significant difference between the groups (see Table A.5). However, it is important to note that there is a smaller proportion of NPP children who entered out-of-home care (13.9 percent; $n = 138$) after their parents completed the program compared to the proportion of

children in the comparison group (39.5 percent; n = 389). The results of the chi-square analysis indicated that this is a statistically significant difference, $\chi^2(1, N = 527) = 163.90, p < .01$.

Table 5

Proportion of Children Who Achieved Permanency for NPP and Comparison Group of Children within 12 Months

Measure	NPP		Comparison Group	
	<i>n</i>	%	<i>n</i>	%
Exit from out-of-home care for permanency reasons	30	21.7	97	24.6

Note. NPP (*n* = 138); Comparison group (*n* = 389).

Reunification with original caregiver. When the proportions of reunified children between the NPP group and the comparison group were compared, no significant difference was observed. There was 13.1 percent of children who achieved timely reunification whose parents/guardians completed the NPP intervention. There was a slightly higher proportion (16.7 percent) of children who achieved timely reunification whose parents/guardians did not receive such intervention (see Table 6), but the difference was not statistically significant. Results of Cox regression analyses demonstrated that there was no significant effect of NPP services on reunification within 12 months of the latest removal (see Tables A.6).

Table 6

Proportion of Children Who Were Reunified with Their Original Caregivers for NPP and Comparison Group of Children

Measure	NPP		Comparison Group	
	<i>n</i>	%	<i>n</i>	%
Exit from out-of-home care for reunification reason	18	13.1	65	16.7

Note. NPP (*n* = 137); Comparison group (*n* = 389).

Discussion of the Study Analysis

Study limitations. Limitations specific to the study should be noted. First, the study relies on administrative data. Therefore, validity of the records is limited by the quality and consistency of the data entry across case managers. Second, a quasi-experimental design was utilized, and while it allows for controlling a great number of parent/guardian characteristics, in contrast to an

experimental design with random assignment to the intervention and the comparison group, it did not enable control of unobservable characteristics that potentially can affect the outcomes. Finally, the evaluation was conducted in five different counties in Florida. Therefore, findings from this study may not generalize beyond these counties due to the unique characteristics of these counties and the Florida service delivery system ecology

Conclusions. The results of the evaluation of the NPP program are highly supportive of the NPP intervention and its positive impact on safety and permanency outcomes of children and families involved in the child welfare system. Findings indicated that based on two cohorts (FY2017-18 and 2018-19), families who were enrolled in and completed the NPP program were significantly less likely to have new allegations of maltreatment within six months and 12 months after completing the program compared to a group of similar parents/guardians receiving child welfare services but not receiving NPP intervention. Specifically, parents/guardians who received NPP services were over two and a half times less likely to be reported a second time within six months after completing the NPP program, and almost three times less likely to be reported a second time within 12 months after completing the NPP program than the comparison group. Similar positive results were found concerning verified child maltreatment. NPP participants were significantly less likely to experience recurrence of verified child maltreatment within six months and 12 months after the completion of the NPP intervention compared to families who did not receive NPP services.

Once a child was placed in out-of-home care, NPP did not show more positive effects in terms of children achieving permanency compared to usual services. I.e., there was no statistical difference in the rate of family reunification with the original caregiver within 12 months after removal for NPP participants. However, a significantly smaller proportion of children entered out-of-home care after their parents completed the NPP program compared to children in the comparison group. This suggests that families with a child in out-of-home care do not benefit from this type of program as much as others in terms of increasing the likelihood of family reunification. It is possible that these parents/guardians differ in some systematic way(s) from other caretakers who received NPP and they are more likely to either relapse (i.e., to have another maltreatment incident which continues the out-of-home placement of their child) or require more time to address ongoing issues and get ready for reunification. Research that seeks to identify the specific characteristics of these families with children in care and targeted interventions that potentially can focus on these parents/guardians' needs will be both valuable and practical.

Overall, this study provides strong support for the effectiveness of the NPP program to improve child safety outcomes for families involved in the child welfare system, including preventing children from entering out-of-home care.

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Appendix: Cox Regression Results

Table A.1

Cox Regression Results. The Effect of Nurturing Parenting Program (NPP) on Child Maltreatment Re-Reports Within 6 Months

Risk Factor	Cox Regression Model Parameters				
	β	Wald χ^2 (1)	OR	95% CI	
				LL	UL
NPP	-.97	71.75*	.38	.30	.47

Note. LL = lower limit; UL = upper limit.
* $p < .05$.

Table A.2

Cox Regression Results. The Effect of Nurturing Parenting Program (NPP) on Child Maltreatment Re-Reports Within 12 Months

Risk Factor	Cox Regression Model Parameters				
	β	Wald χ^2 (1)	OR	95% CI	
				LL	UL
NPP	-1.07	134.46*	.34	.29	.41

Note. LL = lower limit; UL = upper limit.
* $p < .05$.

Table A.3

Cox Regression Results. Effect of Nurturing Parenting Program (NPP) on Recurrence of Verified Child Maltreatment Within 6 Months

Risk Factor	Cox Regression Model Parameters				
	β	Wald χ^2 (1)	OR	95% CI	
				LL	UL
NPP	-1.00	33.01*	.37	.26	.52

Note. LL = lower limit; UL = upper limit.
* $p < .05$.

Table A.4

Cox Regression Results. The Effect of Nurturing Parenting Program (NPP) on Recurrence of Verified Child Maltreatment Within 12 Months

Risk Factor	Cox Regression Model Parameters				
	β	Wald χ^2 (1)	OR	95% CI	
				LL	UL
NPP	-1.05	57.42*	.35	.27	.46

Note. LL = lower limit; UL = upper limit.

* $p < .05$.

Table A.5

Cox Regression Results. The Effect of Nurturing Parenting Program (NPP) on Permanency Outcomes Within 12 months of the Latest Removal

Risk Factor	Cox Regression Model Parameters				
	β	Wald χ^2 (1)	OR	95% CI	
				LL	UL
NPP	-.11	.26	.90	.60	1.35

Note. LL = lower limit; UL = upper limit.

* $p < .05$.

Table A.6

Cox Regression Results. The Effect of Nurturing Parenting Program (NPP) on Reunification with Original Caregiver Within 12 months of the Latest Removal

Risk Factor	Cox Regression Model Parameters				
	β	Wald χ^2 (1)	OR	95% CI	
				LL	UL
NPP	-.22	.67	.80	.48	1.35

Note. LL = lower limit; UL = upper limit.

* $p < .05$.