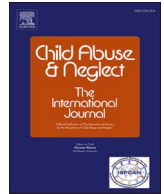




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National training and development curriculum training program impact on placement, permanency, and stability

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ABSTRACT

Background: Resource parent trainings are an important factor in caregiver readiness and retention, which can improve placement stability and permanency achievement for children and youth, especially those who are marginalized.

Objective: Resource parents need access to evidence-based training programs attentive to caring for children and youth from a variety of diverse backgrounds. This study evaluates placement, permanency, and stability outcomes of children whose resource parents were trained in one such program: the National Training and Development Curriculum (NTDC).

Participants and setting: Participants include adults who completed a resource parent training program ($N = 3822$) and children in their care ($N = 2565$) in the U.S. states of Florida, Georgia, Illinois, and Missouri.

Methods: This quasi-experimental study involved statistical testing of caregivers and children using AFCARS data. Propensity-score matching was used to control for differences in the child permanency analysis.

Results: With a better understanding of the realities of fostering, NTDC participants were slightly less likely to foster after training ($OR = 0.6$; $p < .001$), self-selecting out before taking a child into the home. Those who did foster were more likely to foster a child who is a teen ($OR = 1.4$; $p = .004$), Asian/Asian American ($OR = 3.8$; $p = .02$), Black/African American ($OR = 1.6$; $p < .001$), or Hispanic/Latinx ($OR = 1.7$; $p = .002$). Children of NTDC caregivers entered legal adoptions ($OR = 2.0$; $p = .003$) and guardianships ($OR = 2.9$; $p = .03$) at higher rates than children of comparison caregivers, while rates of reunification ($OR = 1.3$; $p = .11$) were not statistically different.

Conclusions: Evidence points to the effectiveness of NTDC in preparing resource parents to provide care for a diverse range of children by age, race, and ethnicity, and for those children to achieve permanency.

1. Introduction

Ensuring proper access to high quality resource (i.e., foster, adoptive, and kinship) parent training programs is vital for supporting

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prospective and current caregivers of children in need. Proper training has been found to predict resource parents' well-being (Whenan et al., 2009) as it them with the tools to improve their sense of self-efficacy in their role as caregivers (Gibbons et al., 2019; Whenan et al., 2009). Unfortunately, resource parents have often reported receiving inadequate training (Cuddeback & Orme, 2002; Hanlon et al., 2021) and lack of training has been found as one of the primary reasons for quitting resource parenting (Hanlon et al., 2021). In fact, resource parents have been found to want more training pertaining to many aspects of being a caregiver (Cooley & Petren, 2011; Murray et al., 2011). Studies have indicated the need for trauma-informed (Akin et al., 2017; Beyerlein & Bloch, 2014), relationally-oriented (Ball et al., 2021; Freundlich et al., 2006; Salazar et al., 2018), and culturally responsive (Chow & Austin, 2008; Stafanson, 2019) care in child welfare settings, including a systematic review (Patterson et al., 2018) indicating that resource parent training programs might focus on these areas as core curricular elements.

In recent years, there have been considerable efforts to address this need for high quality resource parent training programs. A recent systematic review of resource parent training found that despite some promising results in terms of training effectiveness among resource parents, findings were often inconsistent and not well replicated (Cooley et al., 2019). The implications of this and other systematic resource parent training program reviews (Dorsey et al., 2008; Hanlon et al., 2021) are that more evidenced-based resource parent training is needed to ensure caregivers are better equipped to undertake this necessary and extremely challenging role.

The current study seeks to address this gap in the literature and evaluate the effectiveness of a trauma-informed, relationally-oriented, and culturally responsive resource parent training program – the National Training and Development Curriculum (NTDC) – through analysis of state administrative data records. In particular, this study uses data from the United States Children's Bureau's Adoption and Foster Care Analysis and Reporting System (AFCARS) of children placed in family-based settings with resource parents in four states (i.e., Florida, Georgia, Illinois, and Missouri) who completed either the NTDC training program (i.e., the intervention group) or a service-as-usual resource parent training program (i.e., the comparison group). This study compares the statistical significance of any differences between the intervention and comparison groups during the time period from August 2020 to September 2022 in the areas of: (1) the likelihood of becoming a resource parent after completing training; (2) the likelihood of resource parents to foster a diverse range of children; (3) the likelihood of children to end up with various permanency outcomes; and (4) the likelihood of children to have placement stability. The rest of this section will provide background on why these outcomes are important to consider when evaluating the effectiveness of a resource parent training program. Following that background, the remaining sections of the study will describe the NTDC curriculum, summarize the purpose of the study, provide an overview of the methodology and results, discuss the significance of the findings, and provide implications for policy and practice.

1.1. Caregiver readiness to foster children of diverse backgrounds

Resource parents often lack adequate training and support to care for children and youth with particularly challenging or unique needs (Cooley et al., 2017; Hebert & Kulkin, 2018; Tullberg et al., 2019). Children and youth of marginalized backgrounds are overrepresented and face significantly more barriers in the child welfare system (Child Welfare Information Gateway, 2019a; Children's Bureau, 2020), especially in terms of achieving permanency and placement stability (Clement, 2008; Day, Haggerty, et al., 2018; U.S. Government Accountability Office, 2007; LaBrenz et al., 2022; Patterson et al., 2018; Rip et al., 2020; Summersett-Ringgold et al., 2018). One of the major barriers is having culturally competent placements for young people of color (Day, Willis, et al., 2018). Youth in foster care have faced challenges related to maintaining a strong sense of racial identity (Barn, 2010; Schmidt et al., 2015; Stafanson, 2019), while culturally sensitive environments have been found to provide a nurturing and protective foundation that children can draw upon in times of distress (Chipungu & Bent-Goodley, 2004). Given that transracial placement is prevalent in foster care (Hansen & Simon, 2004; Kalisher et al., 2020) and that transracial placements often negatively impact youth's racial identity, especially among youth of color (Degener et al., 2022), it is crucial that resource parents acquire adequate skills and knowledge to provide a culturally competent environment for young people in foster care.

In addition to supporting children and youth of diverse racial and cultural identities, resource parents should be prepared to care for children and youth with complex mental health needs. Youth who have spent time in foster care experience a high rate of mental health issues (Burns et al., 2004; Dubois-Comtois, Bussi eres, et al., 2021; Dubois-Comtois, St-Onge, et al., 2021; Leslie et al., 2005; Oswald et al., 2010; Polihronakis, 2008) especially due to exposure to complex trauma (Dorsey et al., 2012; Greeson et al., 2011; Papovich, 2020). However, resource parents who have been trained to address the mental and behavioral health issues of children in their care have been shown to moderate these effects (Solomon et al., 2017). Additionally, caregiver self-reported readiness has been found to have a strong effect on foster youth's emotional and mental health post-adoption (Simmel, 2007). Therefore, it is important that resource parents feel equipped to care for foster youth with mental health issues due to trauma exposure.

Resource parents also need to be prepared to care for adolescents. Older foster youth often experience complex trauma (Cook et al., 2005; Salazar et al., 2013), and thus have even greater need for stable placement. Lack of stable and permanent placement have been found to be strongly associated with negative outcomes among adolescents in the foster care system (Courtney et al., 2001; Perry, 2006; Stott, 2012). One of the biggest challenges in achieving permanency for adolescents is a lack of prospective resource parents interested in fostering or adopting older youth (Charles & Nelson, 2000; Day, Willis, et al., 2018; U.S. Department of Health and Human Services, 2005). The primary reason for this could be due to inadequate training that leaves resource parents feeling unprepared to care for this population with higher needs. In fact, resource parents who decided to quit fostering frequently reported receiving less training on fostering teenagers compared to continuing resource parents (Rhodes et al., 2001). Greater support for resource parents to care for children and youth with complex needs can improve the experiences of those children and youth while also improving rates of resource parent retention (Hanlon et al., 2021).

1.2. Child permanency outcomes

Concepts related to permanency have been found to be of particular concern to people who have spent time in foster care (Fowler, Day, & Zachry, 2023), with a variety of poor outcomes in important areas (e.g., education, employment, housing, health) associated with not achieving legal permanency (Courtney, 2009; Fowler, Zachry, & McDonald, 2023; Lindner & Hanlon, 2023; Rosenberg & Kim, 2018). Children and youth are considered to achieve legal permanency when reunified with their families of origin or placed in an alternative, permanent home when reunification is not possible (Child Welfare Information Gateway, 2019a). In fiscal year 2021, nearly half of youth (47 %) exiting care were reunified with their parents or primary caregivers, 25 % were adopted, 12 % entered legal guardianships, and 9 % were emancipated (U.S. Department of Health and Human Services, 2022b). In particular, for older youth and youth who have spent more time in out-of-home care, the likelihood of establishing legal permanency prior to reaching adulthood decreases (Child Welfare Information Gateway, 2019b; Rolock et al., 2019; Rubin et al., 2007; U.S. Department of Health and Human Services, 2015).

For those who do achieve permanency, children and youth spent an average of 21.9 months (about 2 years) in foster care in 2021 prior to establishing permanency (U.S. Department of Health and Human Services, 2022a). While achieving timely permanency can improve outcomes for children and youth, it is important not to solely focus on legal permanency and rush legally permanent placements, as doing so can increase rates of reentry into foster care (Font & Palmer, 2022). Seeking legal permanency should be balanced and considered in conjunction with child placement stability to ensure that youth feel secure in a relationship before it becomes legally solidified (Stott & Gustavsson, 2010).

1.3. Child placement stability

One of the most important, yet challenging, components necessary to achieving permanency is placement stability (minimizing the number of placement changes throughout time in foster care). It has been documented that the longer youth are in foster care, the more placements they are likely to experience; once youth have been part of the foster system for some time, anywhere from 22 % to 70 % experience a placement disruption each year (Blakey et al., 2012). The trauma and distress of placement instability can translate into significant mental, physical, and behavioral health challenges (Dubois-Comtois, Bussières, et al., 2021; Dubois-Comtois, St-Onge, et al., 2021). Placement instability increases the likelihood of experiencing difficulties in school (Clemens et al., 2018), engaging in harmful and risky behaviors, and challenges developing secure attachments (Mishra et al., 2020).

Alternatively, achieving placement stability can serve as a protective factor for youth (Dubois-Comtois, Bussières, et al., 2021; Dubois-Comtois, St-Onge, et al., 2021; Rubin et al., 2007; Simmel, 2007). Characteristics that have been associated with placement stability include kinship care, co-placement with siblings, and strong parenting skills (Hawk et al., 2020; Konijn et al., 2019; Wojciak et al., 2018). As resource parents often play a primary role in supporting the daily lives of children in the foster care system and can impact children's placement stability and permanency, pre-service and in-service trainings may be helpful for those who are able to access them. However, there is a lack of evidence that these trainings are effective in increasing placement stability and permanency for children and youth in foster care (Vanderwill et al., 2020).

2. National training and development curriculum for foster and adoptive parents

2.1. Overview

The National Training and Development Curriculum for Foster and Adoptive Parents (NTDC) was designed to prepare current and prospective resource parents to gain the confidence and skills required to properly provide for children and youth in their care. NTDC was developed and evaluated within the context of a five-year cooperative agreement to create an evidence-based resource parent training program. Funded by the United States Children's Bureau, the project was led by Spaulding for Children in partnership with multiple nationally reputable organizations. NTDC was created with the intention of increasing permanency and placement stability for children and their resource families. Through the NTDC program, families were provided with a trauma-informed training curriculum that allowed current and prospective resource parents to understand their own caregiving capacities, build caregiving knowledge and skills, and access trainings at any time to further their own development as caregivers.

To design the curriculum, select themes, and develop related competencies, the curriculum developers undertook a rigorous research process including solicitation of feedback from people with lived experience (Day, Haggerty, et al., 2018), a consensus-building and rating Delphi process (Patterson et al., 2018), and a systematic literature review (Vanderwill et al., 2020). The NTDC program was designed based on these findings for several target audiences: foster, kinship, and adoption families navigating through the U.S. child welfare system, intercountry adoption processes, or private domestic adoption processes. After initial development of the curriculum, usability tests of the curriculum components were conducted with resource parents to get feedback on which curriculum elements were particularly helpful and which needed improvement (Salazar et al., 2020). The results of these usability tests were used to revise the NTDC program in preparation for evaluation. In terms of evaluation, the NTDC was studied in seven (six states and one tribal nation) child welfare system-focused pilot sites (note that AFCARS data was only able to be accessed for four of the sites – Florida, Georgia, Illinois, and Missouri – so the current study focuses on that subset of sites). In each site, a set of resource parents continued to receive training services-as-usual for that particular site. The set of resource parents receiving services-as-usual in each site were combined into one comparison group, with analyses including the site as a control variable to account for differences in services provided within these comparison trainings. Evaluation of the NTDC program has shown measurable increases in resource parent

knowledge and skills among participants after completing the curriculum and training components (Fowler, Day, Lin, et al., 2023; Salazar et al., 2023).

2.2. Curriculum components

There are three curriculum components that make up the NTDC program: self-assessment, Classroom-Based Training, and Right-Time Training. The NTDC website (ntdcportal.org) can be used to freely access all NTDC program materials, including those culturally adapted for American Indian and Alaska Native families.

2.3. Self-assessment

The first component of the NTDC curriculum is the self-assessment, which is an instrument with 58 items that resource parents can complete independently before the training. It is meant to assist potential resource parents with identifying their current knowledge, values, capacities, attitudes, characteristics, and competencies as they relate to proper care of a child. The results can help potential resource parents to recognize and prepare for possible caregiving issues that might be relevant to them. In addition to taking the self-assessment at baseline, participants can also complete the assessment again after finishing the Classroom-Based Training to reflect on their own areas of growth and areas that require further attention.

2.4. Classroom-based training

The second component of the NTDC curriculum is the Classroom-Based Training, which is a set of activity-based, interactive training modules that engage participants in learning about topics relevant to effective caregiving. The Classroom-Based Training was specifically designed to inform resource parents of their roles and responsibilities along with attitudes, skills, and knowledge needed to provide proper care for children who have experienced separation, loss, grief, and trauma. Based on Bloom's taxonomy of educational objectives (Bloom, 1956), the 19 general training modules (e.g., Trauma Informed Parenting, Cultural Humility, Child Development) each include activities to engage participants via interactive learning methods including partner and small group work, role-playing, and simulations. Of the 19 general modules, two are designed to be asynchronous and online while the rest are designed to be conducted synchronously with the help of a facilitator. Due to the onset of the COVID-19 pandemic, these synchronous sessions were primarily conducted virtually using Zoom or Microsoft Teams during the study. In addition to the 19 general modules, there are two modules specific for kinship caregivers and two modules specific for families who adopt via intercountry and/or private domestic. Each of these additional modules are designed to be conducted synchronously with the help of a facilitator, and they were also primarily conducted virtually during the study.

2.5. Right-time training

The third component of the NTDC curriculum is the Right-Time Training, which is a set of as-needed training modules that resource parents can access to continue learning and developing skills related to challenges experienced while children and youth are in their care. There are 15 modules (e.g., Family Dynamics, Education, Responding to Children in Crisis) available for resource parents online. These modules can be used independently by resource parents, with case managers during home visits, and/or with support groups. Each module is roughly one-hour in length and includes interviews, articles, and videos with youth, experts, and parents.

3. Purpose

The purpose for this study is to fill a gap in the literature (Dorsey et al., 2008; Hanlon et al., 2021) related evaluating the effectiveness of resource parent training programs. A lack of empirical resource parent training studies has limited the field's understanding of how to ensure that resource parents are receiving the training necessary to properly support the needs of the children in their care (Cooley et al., 2019). As Cooley et al. (2019) point out, the empirical studies that have been conducted demonstrate mixed effectiveness and none evaluate child outcomes. To address this gap, the current study empirically evaluates the effectiveness of the NTDC resource parent training program through statistical testing of state administrative AFCARS data. Based on a systematic research review, NTDC is a preservice and in-service resource parent training program designed to be trauma-informed, relationally-oriented, and culturally responsive in order to meet the needs of resource parents caring for children with complex needs. To understand the effectiveness of this training for both resource parents and children, the study evaluates the likelihood of prospective caregivers who complete the training to become resource parents, the likelihood of resource parents to foster a diverse set of children, the likelihood of children achieve permanency, and the likelihood of children to maintain placement stability. The research questions that guided this work are as follows:

How does completion of the NTDC resource parent training program compared to an alternative resource parent training program impact the likelihood of...

- 1) ...fostering at least one child or youth?
- 2) ...fostering a child or youth with a diverse background or complex needs?
- 3) ...achieving permanency for children and youth who have been fostered?

4) ...maintaining placement stability for children and youth who have been fostered?

4. Methodology

The University of Washington's IRB reviewed the current study and found it exempt from review. The states that served as sites for this study also reviewed and approved the current study.

4.1. Inclusion criteria

To be included in this quasi-experimental study, resource parent participants needed to complete either the NTDC or a comparison training between August 2020 and September 2022, and consent to participate in the study. Resource parents in the intervention group were required to exclusively complete the NTDC training program, while those in the comparison group were required to exclusively complete a single (non-NTDC) service-as-usual training program. Participants in the intervention group were considered to have completed an appropriate dose of the NTDC curriculum if they completed at least 80 % of the Self-Assessment and Classroom-Based Training components and at least one of the themes in the Right-Time Training component. Participants who did not meet these fidelity standards were excluded from the study. Children of resource parents who met these inclusion criteria and had an AFCARS record between the completion of their resource parent's training and the latest available AFCARS report date of 9/31/2022 were also included in the study.

4.2. Curriculum fidelity

Fidelity to the Classroom-Based Training component of the NTDC curriculum was also monitored by the facilitators during each training module, with considerations to the length of time each module took and what percentage of activities from the module were completed as intended. Fidelity to the intended curriculum was found to be high (Vanderwill et al., 2022), indicating that the Classroom-Based Training component was presented to participants in a consistent manner. The Self-Assessment and Right-Time Training components were not necessary to monitor in this way because of their asynchronous, self-directed nature.

4.3. Measures

A single measure was used to assess the first research question (i.e., How does completion of the NTDC resource parent training program compared to an alternative resource parent training program impact the likelihood of fostering at least one child or youth?). Specifically, resource parents were evaluated on a measure of whether they had "Fostered a child." Participants were considered to have fostered a child if there existed at least one AFCARS record of a child associated with the resource parent. Children were then evaluated based on observed differences in their demographics, and short-term (i.e., from August 2020 to September 2022) permanency and placement stability outcomes controlling for any differences in demographics.

A set of nine demographic measures were used to assess the second research question (i.e., How does completion of the NTDC resource parent training program compared to an alternative resource parent training program impact the likelihood of fostering a child or youth with a diverse background or complex needs?). The demographics considered were all derived from AFCARS data. "Teen" was a binary variable based on whether the child was at least 13 years old on the placement date. "Biological Sex" was a categorical variable with possible responses of "Female" and "Male." The race and ethnicity measures (i.e., "American Indian / Alaskan Native," "Asian / Asian American," "Black / African American," "Hispanic / Latinx," "Native Hawaiian / Other Pacific Islander," and "White") were each binary variables based on whether the child was identified with that race or ethnicity in the AFCARS data. Children could be identified with multiple of these categories. Finally, "Clinical Diagnosis" was a binary measure based on whether the child's AFCARS record indicated that they had been diagnosed with at least one of the following AFCARS measures: "Mental Retardation," "Visually or Hearing Impaired," "Physically Disabled," "Emotionally Disturbed," or "Other Medically Diagnosed Condition Requiring Special Care."

A single measure was used to assess the third research question (i.e., How does completion of the NTDC resource parent training program compared to an alternative resource parent training program impact the likelihood of achieving permanency for children and youth who have been fostered?). This child outcome measure (called "Permanency Outcomes") was derived from the "Discharge Reason" AFCARS variable. Possible responses included: "Reunification," "Adoption," "Emancipation," "Guardianship," "Death of Child," "Living with Other Relatives," "Transfer to Another Agency," "Runaway," or a blank indicating that the child remained in the same foster care placement. The short-term nature of this measure is emphasized here, as ideally this would be considered multiple years after the placements had occurred.

A single measure was used to assess the fourth research question (i.e., How does completion of the NTDC resource parent training program compared to an alternative resource parent training program impact the likelihood of achieving permanency for children and youth who have been fostered?). This child outcome measure (called "Placement Stability") was a binary variable indicating either (1) no state record of a placement end date or the placement ended in reunification, adoption, emancipation, or guardianship, or (2) a state record of a placement end date (for reasons other than reunification, adoption, emancipation, or guardianship) or a record of the death of the child, living with other relatives, or transfer to another agency. Note that only Missouri provided the data required for "Placement Stability" to be measured, so this measure was specific to outcomes in that state.

Additionally, five measures were used as propensity-score matching and control variables in statistical testing for the third and

fourth research questions. The “Age” measure was the age of the child on the placement date as derived from AFCARS data. The “Aggregated Race/Ethnicity” measure was derived from the individual race and ethnicity measures described in the previous paragraph by denoting any child who was identified with at least one of “American Indian / Alaskan Native,” “Asian / Asian American,” “Black / African American,” “Hispanic / Latinx,” and “Native Hawaiian / Other Pacific Islander” as “BIPOC” and otherwise denoting the child as “White (Non-Hispanic).” The “State” measure was based on the designated site of the resource parent and includes possible responses of “Florida,” “Georgia,” “Illinois,” and “Missouri.” The “Biological Sex” and “Clinical Diagnosis” measures described above were also used as matching and control variables for the third and fourth research question.

4.4. Quantitative analytic method

The statistical software program R was used to calculate descriptive statistics and perform statistical tests. Duplicate AFCARS records were removed from the analysis. Differences between whether participants in the intervention and comparison groups fostered at least one child after training completion were calculated using a chi-squared test and were presented along with descriptive statistics and an odds ratio to understand the size of the effect. For the children who were fostered by resource parents in the intervention and comparison groups, logistic regressions were used with “State” as a control variable for each demographic measure (i.e., “Teen”, “Biological Sex,” each of the individual race and ethnicity measures, and “Clinical Diagnosis”) to examine any differences in the observed frequencies of these demographics between the two groups. Finally, two outcome analyses were performed using logistic regression on analytic samples of children established using propensity-score matching. The first of these outcome analyses was a permanency outcome analysis that included “Age,” “Biological Sex,” “Aggregated Race/Ethnicity,” “Clinical Diagnosis,” and “State” as the matching variables and controls in the regression. The second of these outcome analyses was a placement stability outcome analysis that included “Age,” “Biological Sex,” “Aggregated Race/Ethnicity,” and “Clinical Diagnosis” as the matching variables and controls in the regression. The results of these regressions were reported along with descriptive statistics and odds ratios to understand the size of the effect.

Propensity-score matching (PSM) was used to ensure that any differences in child outcomes between the two groups (i.e., intervention and comparison) were due to group assignment and not underlying demographic differences. The PSM method was used to establish sets of dyads (Rosenbaum & Rubin, 1983; Stuart, 2010) from a propensity score estimation, which predicted the likelihood that each participant would be in the intervention group from the selected set of demographic control variables (Starks & Garrido, 2004). In this study these variables included each of the demographics described in the previous paragraph. Separately for each of the two outcome analyses, a composite score for matching participants between the intervention and comparison groups was computed via a logistic regression with nearest neighbor matching, a ratio of one, and the treatment group as the dependent variable. We reported the Absolute Standard Mean Difference and Variance Ratios of the demographic measures to demonstrate the quality of the PSM matching and baseline equivalence of the two groups. After determining that the analytic sample had baseline equivalence, the logistic regressions were performed as described at the end of the previous paragraph.

5. Results

5.1. Likelihood of becoming a resource parent after training

A total of 2550 participants in the intervention group and 1272 participants in the comparison group successfully completed resource parent training while meeting the inclusion criteria for the study. Of these participants, 26.7 % (681 participants) from the intervention group and 37.3 % (475 participants) from the comparison group were recorded to have taken a child into their home after training completion. A chi-squared test showed this difference to be statistically significant ($p < .001$), indicating the comparison resource parents were 1.7 times as likely (based on the odds ratio) to foster a child after training completion than intervention resource parents. See Table 1 for more details.

5.2. Likelihood of resource parents to foster a diverse range of children

Participants who fostered children after completion of resource parent training programs have taken in a total of 1554 children in the intervention sites and 1011 children in the comparison sites. Between these two groups, logistic regression showed several statistically significant differences in terms of the demographics of children taken into the home. Specifically, intervention participants were more likely to take teens ($OR = 1.4; p = .004$), Asian / Asian American children ($OR = 3.8; p = .02$), Black / African American

Table 1

Numbers of intervention ($N = 2550$) and comparison ($N = 1272$) participants who have fostered a child since completion of a resource parent training program.

	Intervention ($N = 2550$)		Comparison ($N = 1272$)		p	Chi-Squared Result	Odds Ratio
	n	%	n	%			
Fostered a child	681	26.7	475	37.3	<0.001***	$\chi^2(1, N = 3822) = 45.0$	0.6

*** = $p < .001$.

children ($OR = 1.6; p < .001$), and Hispanic / Latinx children ($OR = 1.7; p = .002$) into their homes than comparison participants. On the other hand, comparison participants were more likely to take White children ($OR = 1.4; p < .001$) as intervention participants into their homes. Other variables that were evaluated but did not have statistically significant differences in observed frequencies between the intervention and comparison groups included the biological sex of the child, American Indian / Alaskan Native children, Native Hawaiian / Other Pacific Islander children, and whether the child had a clinical diagnosis. See Table 2 for more details.

5.3. Baseline equivalence of demographic variables for permanency analysis

Propensity-score matching (PSM) was used to create an analytic sample with baseline equivalence of demographic variables between the intervention and comparison groups so that the effect of the intervention on permanency outcomes could be analyzed. The matching process resulted in an analytic sample of 948 children in the intervention group and 948 children in the comparison group. All the standardized mean differences were under 0.25 and variance ratios of continuous variables were all close to one, indicating that a well-matched sample was made (see Table 3). Thus, the PSM method achieved a balance in the distribution of matching variables between the two groups and the underlying demographics of those groups was determined to be sufficiently similar to proceed with the permanency analysis.

5.4. Likelihood of children to end up with various short-term permanency outcomes

There were 948 children in the intervention group and 948 children in the comparison group in the permanency outcome analytic sample. Between these two groups, logistic regression controlling for age, biological sex, aggregated race/ethnicity, clinical diagnosis, and state showed several statistically significant differences with regards to the children's short-term permanency outcomes. Specifically, intervention children were more likely to have found permanent homes through adoption ($OR = 2.0; p = .003$) and guardianship ($OR = 2.9; p = .03$). The most common permanency outcome observed in both groups was reunification, with 12.1 % of children in the intervention group and 11.1 % of children in the comparison group reunifying with their parents. See Table 4 for more details.

5.5. Baseline equivalence of demographic variables for placement stability

Propensity-score matching (PSM) was also used to create another analytic sample with baseline equivalence of demographic variables between the intervention and comparison groups so that the effect of the intervention on placement stability could be analyzed. Only Missouri provided data that allowed for this analysis, which is why it was performed separately. The matching process resulted in an analytic sample of 403 children in the intervention group and 403 children in the comparison group. All the standardized mean differences were under 0.25 and variance ratios of continuous variables were all close to one, indicating that a well-matched sample was made (see Table 5). Thus, the PSM method achieved a balance in the distribution of matching variables between the two groups and the underlying demographics of those groups was determined to be sufficiently similar to proceed with the placement stability analysis.

Table 2
Demographics of the children taken into the home in intervention ($N = 1554$) and comparison ($N = 1011$) sites.

	Intervention ($N = 1554$)		Comparison ($N = 1011$)		z	p	Odds Ratio [95 % CI]
	n	%	n	%			
Teen	348	22.4	202	20.0	2.91	0.004**	1.4 [1.1, 1.7]
Biological sex (female)	795	51.2	505	50.0	0.58	0.56	1.1 [0.9, 1.2]
American Indian/Alaskan Native	9	0.6	3	0.3	1.06	0.29	2.1 [0.6, 10.0]
Asian/Asian American	20	1.3	4	0.4	2.37	0.02*	3.8 [1.4, 13.6]
Black/African American	614	39.6	289	28.6	5.06	<0.001***	1.6 [1.4, 2.0]
Hispanic/Latinx	171	11.2	69	7.0	3.18	0.002**	1.7 [1.2, 2.3]
Native Hawaiian/Other Pacific Islander	2	0.1	6	0.6	-1.75	0.08	0.2 [< 0.1, 1.1]
White	993	64.1	695	68.8	-4.41	<0.001***	0.7 [0.5, 0.8]
Clinical Diagnosis	410	26.4	393	38.9	-0.24	0.81	1.0 [0.8, 1.2]

* = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Table 3
Propensity-score matching results for demographic control variables in the permanency outcome analytic sample.

Measure	Levels	Absolute standard mean difference	Variance ratio
Age	Numeric (e.g., 7.4)	0.03	1.06
Biological sex	Female/Male	<0.01	–
Aggregated race/ethnicity	BIPOC/White (Non-Hispanic)	0.03	–
Clinical diagnosis	Yes/No	0.07	–
State	Florida	0.24	–
	Georgia	0.02	–
	Illinois	0.06	–
	Missouri	0.14	–

Table 4
Permanency outcomes of children in the intervention (N = 948) and comparison (N = 948) sites in the PSM sample controlling for demographics.

	Intervention (N = 948)		Comparison (N = 948)		z	p	Odds Ratio [95 % CI]
	n	%	n	%			
Reunification	115	12.1	105	11.1	1.61	0.11	1.3 [0.9, 1.7]
Adoption	54	5.7	29	3.1	2.98	0.003**	2.0 [1.3, 3.3]
Emancipation	18	1.9	11	1.2	1.93	0.05	2.2 [1.0, 4.9]
Guardianship	14	1.5	6	0.6	2.17	0.03*	2.9 [1.2, 8.3]
Death of child	3	0.3	1	0.1	1.10	0.27	3.6 [0.5, 73.0]
Living with other relatives	1	0.1	1	0.1	0.16	0.87	1.3 [< 0.1, 32.1]
Transfer to another agency	1	0.1	0	0	0.04	0.97	> 100 [< 0.1, > 100]

* = p < .05; ** = p < .01.

Table 5
Propensity-score matching results for demographic control variables in the placement stability outcome analytic sample.

Measure	Levels	Absolute standard mean difference	Variance ratio
Age	Numeric (e.g., 7.4)	0.02	1.14
Biological sex	Female/Male	0.02	–
Aggregated race/ethnicity	BIPOC/White (Non-Hispanic)	0.05	–
Clinical diagnosis	Yes/No	0.02	–

5.6. Likelihood of children to have placement stability

There were 403 children in the intervention group and 403 children in the comparison group in the placement stability outcome analytic sample. Between these two groups, logistic regression controlling for age, biological sex, aggregated race/ethnicity, and clinical diagnosis showed no statistically significant difference with regards to the children's placement stability. Specifically, 54.3 % of children in the intervention group and 54.1 % of children in the comparison group had placement stability (i.e., a single on-going placement during the observation period or a placement that ended in reunification, adoption, guardianship, or emancipation). See Table 6 for more details.

Table 6
Placement stability outcome of children in the intervention (N = 403) and comparison (N = 403) sites in the PSM sample controlling for demographics.

	Intervention (N = 403)		Comparison (N = 403)		z	p	Odds Ratio [95 % CI]
	n	%	n	%			
Placement Stability	219	54.3	218	54.1	0.10	0.92	1.0 [0.8, 1.3]

6. Discussion

The findings in this report indicate that NTDC training implementation is having a largely positive effect. While resource parents in the intervention group were slightly less likely to take a child into their home after completion of training, the children who were taken into the home in the intervention group tended to be more diverse in terms of race/ethnicity and age and more likely to achieve permanency in a short period of time. Although resource parents in the intervention group were slightly less likely ($OR = 0.6$) to take a child into their home after completion of training, this may be explained by more families assessing their skills and needs in relation to the challenging realities of fostering and adopting. There seems to be minimal literature on why prospective resource parents might choose not to foster or adopt after completion of a preservice training. However, many resource parents who quit after taking a child into the home indicate that the stress of supporting youth with complex needs and challenging behaviors is a major factor (Cooley et al., 2015; Geiger et al., 2013; Randle et al., 2017). This rationale would align with the NTDC curriculum, as prospective resource parents completed a self-assessment to measure caregiver readiness and the curriculum stressed the importance of determining if fostering was the right choice for their family at that time. Additionally, children in the intervention group being more diverse and more likely to achieve timely permanency might indicate that the families most interested and capable of taking on complex fostering challenges were the ones who ultimately decided to foster. By avoiding placements with unprepared resource parents, the NTDC training can mitigate placements that are likely to result in premature disruption or long-term foster care along with the resulting exacerbation of trauma for children in such cases (Hanlon et al., 2021). Nevertheless, this is a topic that should be explored in future work to better understand the reasoning of individuals who complete resource parent training programs but choose not to take a child into the home.

Those resource parents who completed the NTDC training and took children into the home were more likely than comparison resource parents to foster children and youth with marginalized identities, including teens ($OR = 1.4$), Asian / Asian American ($OR = 3.8$), Black / African American ($OR = 1.6$), and Hispanic / Latinx ($OR = 1.7$) youth. The increased likelihood of NTDC-trained resource parents to take older foster youth into the home makes sense given the NTDC curriculum's focus on preparing resource parents to meet the unique developmental needs of children from each developmental stage, including the teenage years. The trauma-informed parenting and mental health consideration themes of the NTDC curriculum may also help resource parents feel more prepared to meet the support teens given their higher rates of complex trauma and mental health issues (Cook et al., 2005; Geiger et al., 2014; Salazar et al., 2013). Prior studies have shown that training resource parents on issues developmentally relevant to teens may improve their knowledge and attitudes related to caring for this age group (Day et al., 2022; Feltner et al., 2021). These results build on those findings, indicating resource parent trainings with content developmentally relevant to caring for teens may translate into more resource parents following through to take a teen into their home. Similarly, the higher likelihoods of NTDC-trained resource parents to take Asian / Asian American, Black / African American, and Hispanic / Latinx children into the home might indicate that the training increases resource parent confidence in their ability to parent in a culturally competent way. The cultural humility and parenting in racially and culturally diverse families themes of the NTDC curriculum focus largely on preparing resource parents to honor and incorporate a child's racial/ethnic/cultural identity while also preparing to handle the challenges that come with experiencing racism and cultural prejudice. The higher likelihood of taking Black / African American children into the home after completion of the NTDC training program suggested by these results would be significant given existing evidence of resource parent aversion to adoption and foster care placements of Black / African American children (Khanna & Killian, 2015; Khun et al., 2020). These findings also contribute to a dearth of empirical evidence related to the experiences of Asian / Asian American youth – an underrepresented but perhaps underreported group – in the child welfare system (Huynh-Hohnbaum, 2024).

These results can also be considered in conjunction with the higher rates of permanency and similar rates of placement stability observed between the intervention and comparison groups. Not only did NTDC-trained resource parents take children with a more diverse range of experiences and needs into the home, they provided the children similar levels of stability while guiding the children toward a greater number of permanent homes. In particular, children of resource parents in the intervention group were more likely to achieve permanency via adoption ($OR = 2.0$) or guardianship ($OR = 2.9$). Notably, this did not seem to be at the expense of reunification, as children in the intervention group were neither more or less likely to achieve reunification ($OR = 1.3$; $p = .11$) from a statistical standpoint than those in the comparison group. These child permanency and placement stability results begin to fill the gap described by Cooley et al. (2019) indicating that no resource parent training program literature so far has included an empirical evaluation of child outcome measures. The combination of higher rates of permanency with similar rates of placement stability aligns with calls from prior literature to avoid prizing one of these outcomes at the expense of the other (Stott & Gustavsson, 2010). Also, the observed higher rates of guardianship and adoption without negatively impacting rates of reunification align with calls to boost these less common forms of permanency through age-differentiated and culturally appropriate social work practice (Akin, 2011). Overall, the NTDC training program seems to be effective in properly educating and preparing resource parents for the realities of fostering a diverse set of children, resulting in improvements in legal permanency and similar rates of placement stability for a broader set of children.

6.1. Strengths and limitations

The primary strength of this study was the large sample of resource parents and children from which we were able to draw along with the reliability and validity that comes with using an administrative dataset like AFCARS. These strengths allow us to be confident in the quality and soundness of our statistical results. In addition, the use of propensity-score matching for the child permanency and placement stability parts of the analysis are both a strength and limitation. Propensity-score matching allows us to more closely

reproduce the conditions of a randomized experiment but it also comes with the assumption of “strong ignorability” (Rosenbaum & Rubin, 1983), which means that all confounding variables have been included as control variables in the analysis. While our inclusion of the full range of child demographic variables available to us leads us to believe that we may have met this assumption, we cannot prove that all confounding variables have been included. In particular, we would have preferred to include prospective resource parent demographic variables, but a lack of access to these variables across our sites prevented us from doing so. One of the other limitations of this study is the regional clustering of our sites in the eastern half and primarily southern part of the United States, as a wider geographic range of sites would allow us to be more confident that these results are generalizable to the entire country. Similarly, the lack of any significant findings related to placement stability may have been limited by the smaller sample, as that data was only available for Missouri. Finally, the funding period for this study was not long enough to assess long-term child permanency outcomes. While we measured short-term permanency outcomes, the study would be stronger with a greater observation time.

6.2. Implications for policy and practice

Resource parent training programs are a well-recognized component of providing quality care for child welfare system-involved children. Well-trained resource parents can improve placement stability and lead to greater achievement of successful permanency goals for children (reunification, guardianship and adoption) and a reduced reliance on permanency goals that don't lead to a meaningful permanency outcome (long-term foster care, aging out) (Benesh & Cui, 2017). The NTDC training program evaluated in the current study was designed as a strengths-based resource parent preparation and licensure training curriculum aimed at increasing permanency by targeting resource parent knowledge, skills, and competencies around key content areas (Day et al., 2022; Sullivan et al., 2016). Some of these content areas include trauma informed parenting, managing trauma related behaviors, increasing understanding on how resource parenting can serve as a support for birth parents who are working on reunification goals, supporting children's mental health, understanding child and youth developmental needs, cultural humility, and parenting in racially and culturally diverse families. The results of this study provide additional support for the continued need to expand use in social work practice of trauma-informed, relationally-oriented, and culturally-adapted training programs for resource parents, especially as a means of achieving higher rates of permanency for a broader set of children and youth.

The 2008 Fostering Connections to Success and Increasing Adoptions Act (PL 110–351) and Section 50751 of the Family First Prevention Services Act (FFPSA), which was signed into law on February 9, 2018, are two examples of recent legislation that provide guidance to states on how to achieve higher rates of permanency for children and youth. Among other mandates and suggestions, these acts require states to recruit and retain high quality resource parents, increase the number of children and youth placed in resource family homes, and decrease the number of placements of children, including older youth, in congregate care settings. The results of this study indicate that states might be facilitated in meeting these requirements in part by focusing on the content and quality of their pre-service and in-service resource parent training programs. For older youth in care specifically, increasing training and capacity of resource parents willing to provide care in family-based settings can in turn allow states to reduce their reliance on congregate care for children in foster care as required under the FFPSA (Casey Family Programs, 2019). More generally, implementation of evidence-based resource parent training programs like NTDC might be a strategy for states to consider in achieving the important requirements laid out in the Fostering Connections Act and FFPSA.

6.3. Recommendations for future work

The findings from this study indicate multiple avenues of future work that should be explored. Further research should be done to understand the choices of prospective resource parents who complete a resource parent training program but do not choose to take a child into their home. Relatedly, future work might consider whether these individuals obtained licensure after completing the training. Understanding why individuals might choose to not foster or adopt after receiving an evidence-based training might help us understand the implications of that choice and whether there are supports that can be provided to mitigate that attrition. Another line of future research specific to NTDC is evaluating rates of co-parenting and partnering between resource parents and the child's parents/family. One theme in the NTDC curriculum is related to foster care as a means of support to families, with focus on the benefits, challenges, and strategies of maintaining on-going communication and connections between children and their parents. For those resource parents who did maintain such a connection between the child and their parents/family, it would be interesting to evaluate if rates of reunification were impacted. Finally, this study evaluated the child outcomes of permanency and placement stability within a 26-month period. It would be preferable to consider these outcomes over a longer time period.

7. Conclusion

Sufficiently trained and prepared resource parents can provide children with higher quality parenting experiences. NTDC is a free, state of the art, open-access training program that is designed to equip both prospective resource parents as well as those who are already caring for children. It is hoped that the use of NTDC and other similar curricula that show promising evidence for increasing resource parent capacity to care for children with more challenging behaviors, children who come from cultural backgrounds that differ from their resource parents, and teens can lead to more children experiencing placement stability and permanency, and states being able to achieve a greater reliance on less restrictive placements (family based settings) and reduced reliance on congregate care placements.

Ethics approval statement

The University of Washington's IRB reviewed this study and found it exempt from review.

Participant consent statement

Research participants in this study completed an informed consent process.

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In October 2017, Spaulding for Children, in partnership with the University of Washington; Child Trauma Academy; The Center for Adoption Support and Education; the North American Council on Adoptable Children; and National Council For Adoption was awarded a cooperative agreement from the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. Department of Health and Human Services, under grant #90CO1134. The contents of this study are solely the responsibility of the authors and do not necessarily represent the official view of the Children's Bureau. The intent of this five-year cooperative agreement was to develop and evaluate a state-of-the-art training program to prepare foster and adoptive parents to effectively parent children exposed to trauma, separation and loss and to provide these families with ongoing skill development needed to understand and promote healthy child development. At the end of the grant period, states, counties, tribal nations, territories, and private agencies have access to a free, comprehensive curriculum that has been thoroughly evaluated, which can be used to prepare, train, and develop foster and adoptive parents. This process evaluation was conducted as part of this initiative to help inform the development of the curriculum.

CRedit authorship contribution statement

John Fowler: Formal analysis, Methodology, Writing – original draft, Writing – review & editing, Conceptualization, Software. **Angelique Day:** Conceptualization, Funding acquisition, Investigation, Project administration, Supervision, Writing – original draft. **Van Phan:** Writing – original draft. **Jenna Thompson:** Writing – original draft. **Sooyoun Park:** Writing – original draft. **Amy Salazar:** Project administration, Supervision, Writing – original draft.

Declaration of competing interest

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Data availability statement

The data that supports the findings of this study may be available upon request from Dr. Angelique Day. The data is not publicly available due to privacy or ethical restrictions as determined by our state partners who graciously shared their data with us as participants in the study.

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