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Foster Placement Disruptions Associated With Problem Behavior: Mitigating a Threshold Effect

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Abstract

Objective—Placement disruptions have adverse effects on foster children. Identifying reliable predictors of placement disruptions might assist in the allocation of services to prevent disruptions. There were two objectives in this study: (a) to replicate a prior finding that the number of daily child problem behaviors at entry into a new foster home predicts subsequent placement disruptions in foster preschoolers and (b) to determine whether this association is mitigated by a treatment foster care intervention.

Method—Problem behavior and placement disruptions were examined in 60 children in regular foster care (age range = 3.10–5.91 years [$M = 4.34$, $SD = 0.83$], 58.3% male, 93.4% Caucasian) and 57 children in a treatment foster care program (age range = 3.01–6.78 years [$M = 4.54$, $SD = 0.86$], 49.1% male, 82.5% Caucasian). Using the Parent Daily Report Checklist, a brief telephone interview, foster caregivers reported problem behavior six times over 3 months. Placement disruptions were tracked over 12 months.

Results—The regular foster care children with 5 or fewer problem behaviors were at low risk for disruption, but their risk increased 10% for each additional behavior ($p = .013$). The intervention appeared to mitigate this “threshold effect”; number of problem behaviors did not predict risk of placement disruption in the treatment foster care group ($p = .63$).

Conclusions—These findings replicate previous evidence linking child problem behavior to placement disruptions and further highlight the need for early preventative interventions.

Keywords

foster care; preschool period; placement disruption; behavior problems

Approximately 95% of foster children experience at least one placement disruption while in out-of-home care (James, 2004), and the adverse effects of these disruptions on psychosocial

functioning are well-documented (Jonson-Reid & Barth, 2000; Leathers, 2002; Ryan & Testa, 2005). Moreover, recent evidence has suggested that such disruptions are also associated with negative effects on brain development (Fisher, Bruce, Abdullaev, Mannering, & Pears, in press). Thus, identifying cost-effective tools for the prediction and prevention of problem behavior related placement disruptions is critical.

Problem behavior is an indicator of risk for future placement disruptions (Fisher, Burraston, & Pears, 2005; James, 2004; Leathers, 2006; Price et al., 2008). For example, James found that, after 6 placement changes, over 60% of any subsequent changes were behavior related. Other researchers have shown that the initial level of externalizing behavior (Newton, Litrownik, & Landsverk, 2000) and the number of problem behaviors (Chamberlain et al., 2006) are the strongest predictors of placement disruptions over a 12-month period.

The Parent Daily Report Checklist (PDR; Chamberlain & Reid, 1987), a brief telephone interview, is a highly practical method for assessing problem behavior in the context of foster care. In a prior study with a sample of 5- to 12-year-old foster children using the PDR, Chamberlain et al. (2006) found a “threshold effect” in the association between problem behavior and subsequent disruptions: Children with scores at or below the sample mean of 6 problem behaviors per day were at low risk for placement disruptions. In contrast, for the children with PDR scores exceeding the sample mean, each additional problem behavior increased the odds of placement disruptions by 25%.

In the present study, we sought to replicate Chamberlain et al.’s (2006) threshold effect findings with a sample of foster preschoolers and to examine whether this effect could be mitigated by a treatment foster care intervention. The study was conducted in the context of a randomized clinical trial to evaluate Multidimensional Treatment Foster Care for Preschoolers (MTFC-P; Fisher, Ellis, & Chamberlain, 1999). This comprehensive family-based intervention employs social learning principles to decrease disruptive behaviors, enhance prosocial behaviors, and mitigate developmental delays among foster preschoolers. The intervention includes training and ongoing support/consultation to foster caregivers, individual and group treatment for children, and aftercare services to promote successful permanent placements. The brief format of this article precludes a detailed description of MTFC-P. For more information, refer to Fisher et al. (1999) or Fisher and Chamberlain (2000).

Based on Chamberlain et al.’s (2006) findings, we expected to find a specific number of problem behaviors reported by caregivers on the PDR below which there would be low risk for placement disruptions and above which there would be increasing risk for placement disruptions with each additional behavior. However, given that higher rates of problem behavior are developmentally normative for preschoolers (Campbell, 2002), we hypothesized a higher threshold in the number of problem behaviors that was tolerable to caregivers. In addition, we expected that, for children receiving the MTFC-P intervention, higher rates of problem behavior would not be associated with increased risk for disruption.

Method

Participants

There were 117 foster preschoolers in this study: 60 in the regular foster care (RFC) group and 57 in the treatment foster care (TFC) group. Of the 117 participants, 19 RFC children (12 males) and 7 TFC children (3 males) withdrew from the study during the assessment period, and 18 RFC children (8 males) and 17 TFC children (6 males) experienced no placement disruptions.¹ These children were treated as censored in the hazard analyses. Retention rates for the RFC group were 81.7% ($n = 49$) at 3 months, 76.7% ($n = 46$) at 6

months, 70.0% ($n = 42$) at 9 months, and 65.0% ($n = 39$) at 12 months postbaseline. Retention rates for the TFC group were 94.7% ($n = 54$) at 3 months, 89.5% ($n = 51$) at 6 and 9 months, and 86.0% ($n = 49$) at 12 months postbaseline. The retention rates tended to be higher for the TFC group at 3 months, $\chi^2(1) = 4.74, p = .03$, 6 months, $\chi^2(1) = 3.38, p = .07$, 9 months, $\chi^2(1) = 6.80, p = .01$, and 12 months, $\chi^2(1) = 6.89, p = .01$. There were no systematic differences in demographic characteristics or baseline PDR scores between the children who remained in or withdrew from the study.² However, there were more siblings in the TFC group ($n = 21$) than in the RFC group ($n = 14$).

The flow of the children through the randomized trial is shown in Figure 1. All 3- to 6-year-old foster children who were entering care for the first time, reentering care, or moving between foster homes were recruited through the local county branch of the state child welfare system.³ The eligible children ($n = 137$) were randomly assigned to the RFC ($n = 73$) or TFC ($n = 64$) group prior to recruitment into the study.⁴ The refusal rate following randomization was not significantly different between groups, $\chi^2(1) = 0.01, p = .92$, suggesting a lack of selection bias. All research staff involved in the data collection and coding were blind to the study conditions.

The demographic characteristics of the sample at baseline are provided in Table 1. There were no differences between the RFC and TFC groups on baseline mean child age, $t(115) = 1.24, p = .22$, gender, $\chi^2(1) = 0.99, p = .32$, ethnicity, $\chi^2(5) = 6.74, p = .24$, placement type, $\chi^2(2) = 1.68, p = .43$, or PDR scores, $t(112) = 1.58, p = .12$. The study was approved by the appropriate internal review boards, and informed consent was obtained from the caregivers and caseworkers. The foster caregivers were free to withdraw from the study at any time independent of group status. The families were compensated for their participation.

Procedure

Between 3 and 5 weeks after entering care (baseline), the foster caregivers were asked to complete a demographic interview. They were then asked to complete PDR telephone interviews about child problem behavior during the previous 24 h for 2 consecutive days, once monthly for the first 3 months that the child was in their home. The PDR interviews were administered by a staff member on the 2nd and 3rd days of each month. Placement records were obtained every 6 months from the local county branch of the state child welfare system. The staff members who provided these records were blind to the study conditions. If a child experienced a placement disruption prior to the end of the first 3 months, PDR ratings were obtained from the next foster caregivers whenever possible. Any TFC child who experienced a placement disruption prior to the end of the study received MTFC-P services in their new foster placements.

It was not possible to conduct intent-to-treat analyses due to the coincidence of attrition with placement change. Although every attempt was made to collect data from the full sample, no participant who withdrew from the intervention agreed to participate in further data collection.

¹The children who did and did not experience a placement disruption did not differ on baseline mean age, $t(115) = 0.87, p = .39$, ethnicity, $\chi^2(5) = 3.82, p = .58$, placement type, $\chi^2(2) = 0.53, p = .77$, or PDR score, $t(112) = 0.71, p = .48$. Girls were less likely than boys to experience a placement disruption, $\chi^2(1) = 4.36, p = .04$, independent of condition.

²There were no baseline differences between the children who remained in or withdrew from the study on mean age, $t(115) = 0.93, p = .36$, gender, $\chi^2(1) = 0.003, p = .95$, ethnicity, $\chi^2(5) = 2.95, p = .71$, placement type, $\chi^2(2) = 0.31, p = .94$, or PDR score, $t(112) = 1.13, p = .26$.

³The plan for randomization was developed via a collaborative partnership with child welfare system leaders to reduce uncertainty among eligible foster caregivers regarding the conditions of their participation.

⁴To be eligible for the study, the current placement had to be expected to last for 3 or more months.

Measures

Placement disruptions—Between baseline and 12 months postbaseline, we recorded placement disruptions (including “no event”) and withdrawals from the study for each child. The reasons for disruption were provided in the placement records obtained from the child welfare system and did not need to be coded. We defined a placement disruption as exiting the current placement for a negative reason (i.e., removal deemed in the best interest of the child or requested by the caregiver). We did not include nonnegative reasons for placement disruptions (i.e., changing circumstances in the home unrelated to child behavior, clinical transitions, permanent foster placements, adoptions, and biological family reunifications). The duration of each foster placement was recorded as the dependent variable.

Child problem behavior—We administered the PDR once monthly on 2 consecutive days for 3 months (six observations) to determine whether any of 52 problem behaviors occurred within the previous 24 h. The PDR records the occurrence but not the frequency of specific behaviors. The reliability and concurrent validity of the PDR have been demonstrated in previous studies (Chamberlain, Moreland, & Reid, 1992; Chamberlain & Reid, 1991). In addition to the original 30 PDR items used by Chamberlain et al. (2006), we included 22 items to target behavior problems relevant to preschoolers (see Appendix). The score for each child was the mean number of behaviors reported per day divided by 6 (i.e., the number of assessments).

Results

Descriptive statistics on placement disruptions and PDR scores for the RFC and TFC groups are provided in Table 2. We computed the mean of up to six PDR calls to predict placement disruptions. The percentage of PDR calls completed did not differ by condition, $\chi^2(4) = 4.99, p = .29$, and the majority of the foster caregivers completed four or more PDR calls (RFC = 91.7%; TFC = 100%).⁵ The children who experienced a placement disruption did not differ by group on mean PDR scores, $t(17) = .20, p = .85$, mean time to disruption, $t(17) = .42, p = .68$, or number of placement disruptions, $t(17) = .76, p = .46$.

Time started at baseline and stopped at placement disruption, study withdrawal, or final assessment, whichever occurred first. Placement disruption was the event of interest, and study withdrawal and no event were considered censored observations. Nonnegative placement changes that took place before a placement disruption or censoring were ignored. We used the Cox proportional hazards model to evaluate the effects of PDR on the time to placement disruption. Standard errors were corrected for sibling clusters using a robust sandwich style estimator (Therneau & Grambsch, 2000).

We plotted Martingale residuals to check the functional form of the PDR–placement disruption relation by group. In the RFC group, the PDR slope was flat below but increased linearly above 5 behaviors. There was no such threshold effect in the TFC group. When we plotted the Kaplan-Meier survival curves by group, baseline hazards appeared to differ by group. Thus, we stratified the Cox model and fit separate baseline hazards for each group along with a piecewise linear fit with no relation when the PDR was 0–5 and with an interaction term that allowed the linear slope for the RFC group to differ from the TFC group above 5 behaviors.

⁵The mean percentage of PDR calls completed was 88.3% for the RFC group and 92.7% for the TFC group. In the RFC group, 70% ($n = 42$) completed 6 calls, 5% ($n = 3$) completed 5 calls, 16.7% ($n = 10$) completed 4 calls, 1.7% ($n = 1$) completed 3 calls, and 6.7% ($n = 4$) completed 2 calls. In the TFC group, 75.4% ($n = 43$) completed 6 calls, 5.3% ($n = 3$) completed 5 calls, and 19.3% ($n = 11$) completed 4 calls.

The hazard of disruption predicted from baseline PDR for both groups is shown in Figure 2. For the RFC group, the piecewise linear fit for PDR above 5 behaviors was significant, $b = .091$, $\exp(b) = 1.10$, $z = 2.48$, $p = .013$. The piecewise linear fit suggests that the hazard of placement disruption is the same for children with PDR scores of 0–5 and increases 10% for each additional behavior. Thus, an RFC child with a baseline PDR score of 16 has a hazard of disruption that is about 2.7 times that of a child with a baseline PDR score of 5.

For the TFC group, the piecewise linear fit for PDR above 5 behaviors was not significant, $b = .019$, $\exp(b) = 1.02$, $z = 0.476$, $p = .63$, suggesting that the hazard of disruption is the same for these children regardless of PDR score. Although the piecewise linear fit was significant for the RFC group but not for the TFC group, the interaction term was not significant, $b = -0.072$, $z = -1.34$, $p = .18$. Based on the Schoenfeld residual plots, the proportional hazards assumption was reasonable.

Discussion

Our results add to a growing body of evidence linking child problem behavior to risk for placement disruptions and provide further evidence that interventions mitigate this risk (Chamberlain et al., 2006; Fisher et al., 2005; James, 2004; Newton et al., 2000; Price et al., 2008). We found that foster caregiver reports of child problem behavior during the first 3 months in a new placement predicted placement disruptions over 12 months for the RFC group but not for the TFC group. Paralleling Chamberlain et al.'s (2006) findings, risk of disruption among the RFC group was low for children with 5 or fewer problem behaviors but increased linearly by 10% for each behavior above this threshold. Interestingly, and contrary to our hypothesis, this threshold was lower in preschoolers compared to Chamberlain et al.'s (2006) school-aged sample. In contrast, PDR scores did not predict placement disruptions in the TFC group. Thus, the present study replicates previous findings that training foster caregivers in effective methods of behavior management reduces child problem behaviors and prevents placement disruptions (Chamberlain et al., 1992; Fisher et al., 2005).

It is important to note that our findings show a temporal rather than a causal association between problem behavior and placement instability; indeed, the association is likely bidirectional and reciprocal. Alternatively, the predictive validity of the PDR might be limited to contexts in which the child welfare system is not providing additional foster caregiver support. Ascertaining for whom interventions would be most efficacious is of critical importance to allocating services to foster families. We focused on problem behavior–related placement disruptions given prior evidence that child problem behavior predicts risk for placement instability (James, 2004), which in turn predicts negative outcomes (Jonson-Reid & Barth, 2000).

Several factors should be taken into account when interpreting and generalizing our findings. First, we focused on the predictive utility of child problem behavior and did not include other factors that can contribute to the risk for placement disruptions (James, 2004; Rubin, O'Reilly, Luan, & Localio, 2007). Second, it will be important to replicate these findings with children in kinship care, to track placement disruptions over longer periods, and to replicate these findings with more ethnically diverse populations. Third, MTFC-P was offered to children regardless of whether they met clinical criteria for problem behavior; further research is needed to examine whether the mitigation of placement disruption risk would replicate in clinical foster samples. Fourth, placement disruptions were assessed after 3 months of PDR administration; future studies should examine whether placement disruption risk can be reliably achieved in a shorter timeframe. Fifth, there were significant differences in retention rates across the two study conditions. Sixth, there were a number of

sibling groups in the sample, and there were more siblings in the TFC than the RFC condition. Seventh, PDR and placement disruptions both involve caregivers; as such, there might be issues with shared variance in these measures. Despite these limitations, converging evidence from this study and previous work suggests that measuring problem behavior via the PDR represents a pragmatic and expedient approach for assessing risk for placement disruptions.

Identifying young foster children at risk for problem behavior–related placement disruptions has substantial policy implications. First, identifying such children in preschool could increase the effectiveness of preventative interventions and thereby reduce the financial and psychological costs of placement disruptions. Several researchers have shown that interventions focused on child behavior management and foster caregiver skills reduce problem behavior and promote placement stability (Chamberlain et al., 1992; Fisher et al., 2005; Fisher, Gunnar, Chamberlain, & Reid, 2000; Price et al., 2008; Smith, Stormshak, Chamberlain, & Bridges Whaley, 2001). Second, preventing placement disruptions could contribute to the ultimate goal of foster care: permanent placement. The PDR represents a reliable, cost-effective tool for identifying children at risk for preventable problem behavior–related placement disruptions. The widespread dissemination of such methods, coupled with evidence-based interventions, could improve child welfare outcomes on a national level.

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Figure 1.
CONSORT diagram for the MTFC-P randomized clinical trial.

Figure 2. Placement disruption fitted log hazard plots for the RFC and TFC groups. *Note.* RFC = regular foster care; TFC = treatment foster care; PDR = Parent Daily Report.

Table 1

Baseline Demographic Information

Characteristic	RFC (<i>n</i> = 60)	TFC (<i>n</i> = 57)
Age in years: <i>M</i> (<i>SD</i>)	4.34 (0.83)	4.54 (0.86)
Age range in years	3.10–5.91	3.01–6.78
Males: %	58.3	49.1
Ethnicity: %		
Caucasian	93.4	82.5
Hispanic	3.3	10.5
Native American	3.3	5.3
African American	0.0	1.8
Placement type: %		
Entering foster care for the first time	26.7	19.3
Reentering foster care	18.3	14
Moved to new foster home	55	66.7
PDR score: <i>M</i> (<i>SD</i>)	18.41 (12.85)	22.31 (13.50)

Note. RFC = regular foster care; TFC = treatment foster care; PDR = Parent Daily Report.

Table 2

Descriptive Statistics on Placement Disruptions and PDR Scores

	RFC	TFC
Children who experienced a placement disruption: % (<i>n</i>)	20% (<i>n</i> = 12)	12.3% (<i>n</i> = 7)
Males who experienced a placement disruption: <i>n</i>	<i>n</i> = 8	<i>n</i> = 4
Number of placement disruptions: <i>M</i> (<i>SD</i>)	1.08 (.29)	1.00 (.00)
Time to placement disruption in months: <i>M</i> (<i>SD</i>)	4.45 (2.64)	3.82 (3.93)
Time to placement disruption range in months	1.38–10.58	.92–10.87
PDR score for children who experienced a placement disruption: <i>M</i> (<i>SD</i>)	10.73 (5.28)	10.31 (2.18)
PDR score range for children who experienced a placement disruption	0.50–17.83	7.00–13.67

Note. RFC = regular foster care; TFC = treatment foster care; PDR = Parent Daily Report.

Appendix

Parent Daily Report Telephone Log Items

1	Arguing
2	Baby talk
3	Back talking
4	Bedwetting
5	Biting
6	Boisterous/rowdy
7	Competitive
8	Complaining
9	Cruel to animals
10	Crying
11	Daydreaming
12	Defiance
13	Depression/sadness
14	Destructiveness
15	Fearfulness
16	Fighting
17	Hitting others
18	Hyperactivity
19	Inappropriate sexual behavior
20	Interrupting
21	Irresponsibility
22	Irritability
23	Jealousy
24	Loudness
25	Lying
26	Negativism
27	Nervousness (jittery)
28	Nightmares/night terrors
29	Not minding
30	Pouting
31	Repetitive questions
32	Restraining/holding
33	Runaway
34	School problems
35	Self-destructiveness
36	Sexual talk
37	Short attention span
38	Skipping meals

39	Sluggishness
40	Soiling (BM) floor/other location
41	Soiling (BM) in pants/pajamas
42	Stealing
43	Swearing/other obscenities
44	Tantrums
45	Teasing/provoking
46	Threatening
47	Urinated on floor/other location
48	Waking at night
49	Wetting Pants
50	Whining
51	Worried/anxious
52	Yelling