

Analyses Comparing Children Randomized to the Foster Care Group and Care as Usual Group at Baseline from the Bucharest Early Intervention Project

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Background

Initiated in 2001, the Bucharest Early Intervention Project (BEIP) is the only randomized controlled trial (RCT) of foster care as an alternative to institutional care (Zeanah et al., 2003). Following randomization to foster care (foster care group, FCG) or to care as usual (care as usual group, CAUG) at the mean age of 22, children were assessed across multiple domains of functioning at baseline and at ages 30, 42, and 54 months (at which point the trial concluded and support of the foster care network was transferred to the Romanian authorities) (Nelson et al., 2014). Follow-up assessments were conducted at ages 8, 12, and 16-18 years. The ethical dimensions of this study have been widely discussed by the BEIP team and others (Miller, 2009; Millum & Emanuel, 2007; Nelson et al., 2014; Zeanah et al., 2012). Here, we report descriptive statistics and mean differences on key characteristics for children in the FCG and CAUG at the baseline assessment. Because of the randomized design, we anticipated no systematic differences between groups on baseline characteristics.

Method

Study Design and Participants

One-hundred and eighty-seven children residing in six institutional settings in Bucharest, Romania who were between 6-31 months were initially screened for participation. Fifty-one of these children were excluded from the study due to medical conditions severely compromising development (e.g., genetic syndromes, signs of fetal alcohol syndrome, and microcephaly). Thus, the final sample included 136 children (51% female) who had been abandoned at or shortly after birth and placed in institutions. Half of these children were randomized to the foster care intervention (FCG), and half were randomized to care as usual (CAUG), which meant that they remained in institutional care. Notably, over the years following random assignment, many children experienced placement changes (e.g., many CAUG children received family placements; some FCG children experienced placement disruptions; and some children in each group returned to biological families). All decisions regarding placements after randomization were made by child protection authorities and no child was retained in institutional care because of the study.

Procedures

Because foster care was extremely limited in Bucharest when the study began, the investigators, in collaboration with Romanian officials, created a foster care network (Smyke et al., 2009; Zeanah et al., 2003). After advertising and subsequent screening, 56 foster families were selected to care for the 68 children randomized to the FCG. Children's legal guardians provided signed informed consent. Given the nature of the study, masking of group assignments to children, their caregivers, and study investigators was not possible, though coders of observed behaviors were masked with regard to groups.

Measures

Physical growth. As previously described (Smyke et al., 2007), at the baseline assessment, research staff measured children's physical growth, including their height (cm), weight (kg), and head circumference (cm). Physical growth data were missing from 16 participants (10 CAUG, 6 FCG).

Cognitive functioning. As previously described (Nelson et al., 2007; Smyke et al., 2007), at the baseline assessment participants completed the Bayley Scales of Infant Development II (BSID-II; Bayley, 1993) to assess their cognitive functioning. The Mental Development Index (MDI), a scaled score, ranged from 50 to 150. Children who obtained scaled

scores <50 were assigned a numeric MDI score of 49. Raw scores were then assigned an extrapolated age equivalent score to facilitate analyses when scaled scores <50 were obtained (Lindsey & Brouwers, 1999). Finally, Developmental Quotients (DQ) were computed for each child (i.e., [age equivalent score/chronological age] × 100). BSID-II data were missing from 12 participants (6 CAUG, 6 FCG).

Statistical Analysis

Analyses were conducted in R version 4.1.1 (R Core Team, 2021). We used Welch’s *t*-tests to examine whether children in the CAUG and FCG differed at baseline on the basis of age, DQ, height, weight, and head circumference. We used the “effectsize” package (Ben-Shachar et al., 2020) to compute Cohen’s *d* effect sizes for mean differences between the groups.

Results

Descriptive statistics for each group are presented in Table 1. Children in the CAUG and the FCG did not significantly differ at baseline on the basis of age, DQ, height, weight, or head circumference. All effect sizes for mean differences between the two groups were <|.20|.

Table 1. Baseline characteristics. CAUG = care as usual group. FCG = foster care group. Age is age at initiation of baseline assessments.

	Available <i>N</i>	Mean [SD] Range		Welch’s <i>t</i>	<i>p</i>	Cohen’s <i>d</i> [95% CI]
		CAUG	FCG			
Age (months)	136	20.65 [7.36] 6.28-31.39	20.15 [7.35] 5.26-30.84	0.40	.691	0.07 [-0.27, 0.40]
Developmental Quotient (DQ)	124	65.10 [14.61] 49-102	67.56 [16.60] 49-109	-0.88	.381	-0.16 [-0.51, 0.20]
Height (cm)	120	80.06 [7.99] 63.00-92.50	80.59 [6.81] 66.50-91.50	-0.39	.700	-0.07 [-0.43, 0.29]
Weight (kg)	120	10.33 [2.21] 5.54-14.52	10.27 [1.91] 6.26-14.23	0.17	.867	0.03 [-0.33, 0.39]
Head circumference (cm)	120	45.98 [2.48] 40.60-50.50	46.43 [2.26] 40.60-50.80	-1.04	.303	-0.19 [-0.55, 0.17]

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