

Can Gay and Lesbian Parents Promote Healthy Development in High-Risk Children Adopted From Foster Care?

Justin A. Lavner, Jill Waterman, and Letitia Anne Peplau
University of California, Los Angeles

Adoption is known to promote cognitive and emotional development in children from foster care, but policy debates remain regarding whether children adopted by gay and lesbian parents can achieve these positive outcomes. This study compared the cognitive development and behavior problems at 2, 12, and 24 months postplacement of 82 high-risk children adopted from foster care in heterosexual and gay or lesbian households. On average, children in both household types showed significant gains in cognitive development and maintained similar levels of behavior problems over time, despite gay and lesbian parents raising children with higher levels of biological and environmental risks prior to adoptive placement. Results demonstrated that high-risk children show similar patterns of development over time in heterosexual and gay and lesbian adoptive households.

In the United States, more than 400,000 children are in the child welfare system, with 107,000 of these children awaiting adoption (U.S. Department of Health and Human Services, 2011). Most of these children enter foster care after experiencing abuse and neglect, and many have significant mental and physical health needs as a result; estimates suggest that the prevalence of psychological disorders in this population ranges from 29% to 96%, and that at least half have an identified health problem (for review, see Simms, Dubowitz, & Szilagyi, 2000). Being adopted can confer tremendous benefits to these children. Meta-analyses indicate that adopted children have higher IQs than their siblings or peers who were not adopted, suggesting that stable adoptive homes can provide a cognitively enriching environment that allows children to overcome their previous adverse circumstances (van IJzendoorn, Juffer, & Klein Poelhuis, 2005). Adoption is also associated with better psychological outcomes (adjustment, emotional security) than long-term foster care (e.g., Triseliotis, 2002). The federal government has thus sought to encourage adoption from foster care through policy initiatives over the past several decades, but the supply of adoptive

families has not met more than 40% of the need (Hansen, 2007).

Although the need for stable, adoptive homes remains high, the issue of whether gay men and lesbians should be allowed to adopt remains a topic of debate (Lamb, 1999; for reviews, see Brodzinsky & Pertman, 2012; Patterson, 2009). Approximately 2 million lesbian, gay, and bisexual individuals are interested in adopting (Gates, Badgett, Macomber, & Chambers, 2007), but they often face legal challenges and a lack of support from the child welfare system (cf. Downs & James, 2006), in part because questions remain regarding whether they can promote the same positive outcomes in their children as heterosexual parents. Despite a growing body of work comparing child adjustment in same- and different-sex families, most of this research has focused on lesbian mothers and their biological children (Biblarz & Savci, 2010). As such, it cannot speak directly to these policy questions regarding children's outcomes in gay and lesbian adoptive households. There is an especially acute need for data on high-risk children adopted from foster care, as policy debates center on these public adoptions. Also needed are longitudinal data that can examine development and growth over time. The current study addressed these gaps, with the goals of extending previous research on adoptive children in heterosexual and gay and lesbian families, enhancing theoretical understandings of children's development in these families, and informing policy debates regarding adoption by gays and lesbians.

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Correspondence concerning this article should be addressed to Justin A. Lavner, UCLA Department of Psychology, Box 951563, Los Angeles, CA 90095-1563. Electronic mail may be sent to jlavner@ucla.edu.

Review of Research

Over the past two decades, research comparing child adjustment in same- and different-sex families has generally indicated few differences. As noted earlier, much of this research has

focused on children of lesbian mothers (often born through donor insemination) and indicates that children at all stages of development (school-aged through adolescents) from these households are similar to their peers raised in heterosexual households with regard to their psychological well-being (self-esteem, anxiety, depression), behavioral problems, and peer relationships (see Biblarz & Savci, 2010, for review). Longitudinal research on children raised by lesbian mothers (and conceived through donor insemination) indicates positive outcomes as well. Young children were uniformly positive when asked to describe what was special about having a lesbian mother (Gartrell, Deck, Rodas, Peyser, & Banks, 2005). As adolescents, these same children rated their quality of life comparably to children raised in heterosexual families (van Gelderen, Bos, Gartrell, Hermanns, & Perrin, 2012) and were characterized as having higher school, social, and total competence and less problematic behavior compared with normative samples (Gartrell & Bos, 2010). These findings challenge long-standing theoretical debates regarding the necessity of children having both a mother and a father by indicating that children seem to fare well in the context of nonheterosexual homes (see Biblarz & Stacey, 2010, for extended discussion).

Much less is known, however, about children in adoptive households. The limited research suggests many similarities among adoptive families, regardless of the parents' sexual orientation. Comparisons among 0–11-year-old adopted children from gay or lesbian and heterosexual households showed no differences in child behavior problems (Leung, Erich, & Kanenberg, 2005), and parent sexual orientation was not a significant predictor of adolescents' attachment to their parents in a study of gay, lesbian, and heterosexual adoptive parents and their 11-year-olds through 19-year-olds (Erich, Kanenberg, Case, Allen, & Bogdanos, 2009). A recent study of young children (mean age = 3) adopted as infants from private adoption agencies again found no differences in children's internalizing or externalizing problems or in children's gender-role development, using parents' and teachers' reports (Farr, Forssell, & Patterson, 2010). Other research among preschool and school-aged Chinese girls adopted as infants by single-mother, lesbian-couple, and heterosexual-couple households also showed many similarities with regard to children's behavioral adjustment several years postadoption (Tan & Baggerly, 2009).

Despite the promise of these findings, they are not without their limitations. First, the Leung et al. (2005) and Erich et al. (2009) studies included significant variability in the type of adoption (public or private, domestic or international) and thereby speak only indirectly to issues relating to public adoption in the United States. Farr et al.'s (2010) research only included children adopted as infants from private agencies, who are known to be a much lower risk population than children adopted at older ages through the social welfare system (Daly & Sobol, 1994). Second, and more important, all of the existing or available studies on adopted children were cross-sectional, thereby limiting our understanding of children's development over time. Most of the children had been placed for several years at the time they were studied, offering little insight into whether gay and lesbian parents promoted positive development at similar rates to heterosexual parents over the course of the adoptive placement.

The Current Study

The current study addressed these limitations by examining children's development over time using three waves of data from a sample of children undergoing public adoptions in Los Angeles County. Extending previous research, we examined children's internalizing and externalizing behavior problems at 2, 12, and 24 months postplacement. We compared mean levels at each time point among children with heterosexual and gay or lesbian adoptive parents, along with differences in the pattern of change over time. We also examined children's cognitive development over time and are, to our knowledge, the first to do so. Thus, we directly tested whether gay and lesbian adoptive parents could (a) maintain similar levels of children's behavior problems over time and (b) foster similar growth in children's cognitive development compared with heterosexual adoptive parents. On the basis of prior research rejecting the theoretical claim that children need both a mother and a father (Biblarz & Stacey, 2010) and suggesting instead that there are very few differences between children raised by heterosexual and gay or lesbian parents (Biblarz & Savci, 2010), we predicted that children would show similar cognitive and behavioral development over time regardless of their parents' sexual orientation.

We also examined background differences in the children placed with gay or lesbian parents and heterosexual parents. Children adopted from public agencies often enter their new adoptive homes having already experienced a host of biological and environment risk factors such as prenatal substance exposure, prematurity, history of abuse or neglect (or both), and multiple placements, which can impact their psychological well-being over time (e.g., Simmel, 2007). As such, it is important to ensure that any differences between children raised by gay or lesbian parents and heterosexual parents are not the result of differences in background risk (e.g., children with higher levels of risk being placed with gay and lesbian parents). To our knowledge, we were the first to address this question, although there is some evidence that gay and lesbian parents often adopt children with one or more special needs (e.g., emotional problems, educational difficulties, behavioral problems, physical problems, sibling group; Brodzinsky, 2011). We also examined the relative percentage of gay or lesbian and heterosexual parents who completed a transracial adoption in which the child's ethnicity was different from both of the parents' ethnicities. Results of a recent survey of gay and lesbian adoptive parents indicated that 60% completed transracial adoptions (Brodzinsky, 2011), and preliminary evidence suggests that gay and lesbian parents may be more likely to complete transracial adoptions than heterosexual parents (Farr et al., 2010). On the basis of these findings, we predicted that compared with heterosexual parents, gay and lesbian parents would (a) adopt children with higher levels of background risk and (b) be more likely to complete transracial adoptions.

Method

Participants

All participants were part of a larger study on child and parent adjustment over the transition to adoptive placement. These participants were recruited from UCLA TIES for Adoption, a

program that aims to facilitate the successful adoption of high-risk children transitioning from foster care to adoptive placement. Eighty-two families (60 heterosexual, 15 gay, and 7 lesbian, self-identified on a demographic questionnaire) who enrolled in this program between 1996 and 2001 (the time of initial data collection) were asked to participate in this longitudinal study. Demographic characteristics of the sample are presented in Table 1. The children were from varied backgrounds, with most being children of color. Transracial adoptions, where the child's ethnicity did not match the ethnicity of either adoptive parent, occurred for 51% of the children. The majority of the adoptive parents (68%) were married or living with a domestic partner. Children were an average of about 4 years of age at placement. Based on toxicology screens at birth and social worker and court reports, 89% of the sample had documented prenatal substance exposure, consistent with the idea that children from public adoptions have special risks (Daly & Sobol, 1994). There were some missing data over the course of the study, but data were available from most families at each time point (heterosexual households: 93%, 82%, and 70% of total at Times 1–3, respectively; gay or lesbian households: 95%, 91%, and 82% of total at Times 1–3, respectively), so we report on all available data. None of the study variables predicted which families had missing data.

Procedure

The Adoptions Division of the Los Angeles County Department of Child and Family Services (DCFS) requires potential adoptive parents to attend a series of educational seminars prior to being assigned a child. Roughly 85% of these seminar groups

incorporated announcements about TIES for Adoption, which offered three additional educational meetings. Those attending the three meetings were offered additional comprehensive services, including multidisciplinary preplacement consultation, parent and child counseling services, support groups, and medical, educational, and psychiatric consultation. The research study was mentioned at the third session of the educational meetings, and families who subsequently had children placed with them and requested services from TIES for Adoption were asked whether they would like to participate in the study. Children needed to be under age 9 at time of placement to participate.

The Department of Children and Family Services granted permission to review the child's adoption records. Approximately 2 months after placement (Time 1), parents completed questionnaires and came with their child for in-person interviews and testing. They returned approximately 12 months after adoptive placement (Time 2) and again 1 year later (24 months postplacement; Time 3). At each time point, children received age-appropriate cognitive assessments, and the primary parent (the parent designated as spending the most time with the child) completed questionnaires regarding the child's behavior problems. Background risk was assessed at Time 1.

Measures

Background risk. Information was gathered from birth records, court reports, and DCFS records regarding a number of biological and environmental risk factors. Biological risk factors included prenatal substance exposure, birth complications, prematurity (35 weeks or less gestation), and low birth weight (< 2500 g or about 5 pounds). Environmental risk factors included older age at adoptive placement (placed at 4 years or older), multiple placements (more than three prior placements), abuse or neglect, number of siblings (more than three), and whether the child had ever lived with his or her biological mother (riskier if yes, because this would usually indicate that the child had lived for at least some time in a drug-abusing environment). A cumulative risk index was created for each child by summing across the factors (e.g., Carta et al., 2001; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987), with 1 point assigned to each and a maximum possible score of 9 ($M = 3.90$, $SD = 1.57$).

Cognitive development. Cognitive development was measured at 2, 12, and 24 months after adoptive placement. Each child was administered an age-appropriate test of cognitive development (described later) at each assessment by a Ph.D. student in clinical psychology or a licensed clinical psychologist.

Bayley Scales of Infant Development-II. This widely used instrument (Bayley, 1993) for assessing children's development was used for children between the ages of 1 and 42 months. The Bayley-II consists of three separate scales: the Mental Scale, the Motor Scale, and the Behavior Rating Scale (BRS). Only the Mental and Motor Scales were administered in the current study, and the Mental Scale was used as the overall

Table 1. Descriptive Statistics

	Child ($N = 82$)	Primary adoptive parent ($N = 70$)
Age (at Time 1)		
Mean	4.3 years	41.1 years
Range	4 months–8.4 years	30 years–56 years
Gender, %		
Female	46	77
Male	54	23
Ethnicity, %		
Caucasian	17	69
African American	26	14
Latino/a	35	9
Biracial	16	7
Asian	1	1
Other/unknown	6	0
Number of previous placements		
Mean (SD)	3.2 (2.4)	—
Range	0–15	—
Age at placement		
Mean (SD)	3.9 years (2.2 years)	—
Range	0 months – 8.1 years	—
Parent's education, %		
Less than college	—	36
College	—	30
More than college	—	34
Live with a partner	—	68

measure of cognitive development. This scale measures early problem solving, memory, and language development. Raw scores are converted to standard scores that are normed with a mean of 100 and a standard deviation of 15. Accordingly, scores between 85 and 114 are considered to be within normal limits. The Bayley-II Mental Scale has acceptable concurrent validity, and the Bayley Scales are seen as the best available measure for the assessment of infants (Sattler, 2001).

Kaufman Assessment Battery for Children. The Kaufman Assessment Battery for Children (K-ABC; Kaufman & Kaufman, 1983) assesses cognitive ability in children aged 3–18. The K-ABC consists of two subscales of intelligence: Sequential Processing (requiring the child to solve problems in a stepwise manner) and Simultaneous Processing (requiring the integration of many stimuli at once to solve problems; Kaufman, O’Neal, Avant, & Long, 1987). These subscales are combined into the Mental Processing Composite, which is considered a measure of total intelligence (Kaufman et al., 1987). Accordingly, we used the Mental Processing Composite as an overall measure of cognitive development in our study. Like the Bayley-II, it is normed with a mean of 100 and standard deviation of 15. The K-ABC was administered to only four children early in the study and was replaced with the Stanford-Binet Intelligence Scale IV for subsequent participants.

Stanford-Binet Intelligence Scale IV. The Stanford-Binet Intelligence Scale (SBIS-IV; Thorndike, Hagan, & Sattler, 1986) of cognitive ability has a mean of 100 and standard deviation of 16 and can be given to children age 2 and above. The instrument generates scores in four domains (Verbal Reasoning, Abstract/Visual Reasoning, Quantitative, and Short-term Memory) as well as a Composite IQ score. In the current study, the Composite IQ score was used as the primary measure of cognitive skills. Reliabilities of the Composite score range from .95 to .99, and strong correlations have been noted between this test and the Wechsler intelligence tests (Sattler, 2001). All children over 42 months (except the four mentioned earlier who received the K-ABC) received the Stanford-Binet assessment as the measure of cognitive ability.

The proportion of children administered each test changed over time as children became too old for the Bayley assessment. At Time 1 (2 months postplacement), 36% of children were administered the Bayley, 6% of children were administered the Kaufman, and 59% of children were administered the Stanford-Binet. These percentages were 33%, 4%, and 63%, respectively, at Time 2 (12 months postplacements), and 25%, 3%, and 71%, respectively, at Time 3 (24 months postplacement).

Child behavior problems. Behavioral outcomes at each time point were obtained using either the Child Behavior Checklist (CBCL) for Ages 2–3 (Achenbach, 1991a) or the CBCL for Ages 4–18 (Achenbach, 1991b). These versions of the widely used CBCL include 99 items that are designed to assess the competencies and problems of preschool and school-aged children. Parents are asked to rate how well each item applies to their child now or within the past 2 months, with each item scored as 0 (*not true*), 1 (*somewhat/sometimes true*), and 2 (*very often/often true*). The internalizing behavior subscale assesses children’s anxious or

depressed behaviors, withdrawn behaviors, and somatic complaints, and the externalizing behavior subscale assesses children’s aggressive and delinquent behaviors (Achenbach, 1991b). Raw scores were converted to standardized *T* scores, in which higher *T* scores represent more behavior problems. A *T* score > 63 is considered within the clinical range (Achenbach, 1991b). Parent reports on the CBCL are significantly correlated with teacher reports (e.g., $r = .41$; Kolko & Kazdin, 1993), and prior studies of gay and lesbian parents and their children have indicated identical results regardless of whether parent or teacher or observer reports of behavior problems were used (e.g., Chan, Raboy, & Patterson, 1998; Farr et al., 2010).

Results

To examine differences in children’s development over time by household type, we first compared mean levels for cognitive development, internalizing problems, and externalizing problems at 2, 12, and 24 months postplacement. See Table 2 for group means, *t* scores, and effect size *r* estimates.¹ In general, children’s scores on cognitive development were in the low average range at the first assessment (means = 89.55 and 85.57 for children from heterosexual and gay or lesbian households, respectively) and in the average range by the third assessment (means = 96.83 and 94.28 for children from heterosexual and gay or lesbian households, respectively). Internalizing problems were well within normal limits (below the clinical cutoff of 63) at each time point. Externalizing problems were elevated (mean *T* scores ranged from 52.53 to 59.44), although the mean level was also below the clinically significant cutoff.

Few differences were found between children from heterosexual and gay- or lesbian-headed households (see Table 2).² Of the nine comparisons, only one result was significant ($p < .05$): Children in gay- or lesbian-headed households had significantly fewer internalizing problems at the first assessment (2 months postplacement; effect size $r = .29$). We also examined differences in the percent of children with clinically significant behavior problems (i.e., *T* score > 63). Across all time points, approximately 15% of children had clinically significant internalizing problems, and 32% of children had clinically significant externalizing problems, consistent with the high-risk nature of the sample (in nonclinical samples, only about 10% of children would be expected to fall in the clinical range for internalizing and externalizing problems; Achenbach, 1991a, 1991b). Again, there were no differences in the rate of clinically significant internalizing or externalizing problems between children from the two household types at any of the three time points (all $ps > .10$).

We then examined whether there were differences in the rate of change over time using growth curve analytic techniques (Raudenbush & Bryk, 2001) and the HLM 7.0 computer program (Raudenbush, Bryk, & Congdon, 2010). Growth curve

¹There were no significant differences between boys and girls for any of the variables of interest (all $ps > .05$).

²There were no significant differences between children from gay versus lesbian households for any of the variables of interest (all $ps > .05$), so we collapsed across the two nonheterosexual household types to maximize power and facilitate comparisons with heterosexual households.

Table 2. Children's Cognitive Development, Internalizing Problems, and Externalizing Problems Over Time

	Household type				<i>t</i>	Cohen's <i>r</i>
	Heterosexual (<i>n</i> = 60)		Gay/lesbian (<i>n</i> = 22)			
	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)		
Cognitive development						
Two months	49	89.55 (14.73)	21	85.57 (16.43)	1.01	.13
Twelve months	47	97.32 (13.37)	20	91.20 (14.37)	1.68 ⁺	.22
Twenty-four months	41	96.83 (13.90)	18	94.28 (12.27)	0.67	.10
Internalizing problems						
Two months	45	55.27 (10.00)	19	49.89 (7.47)	2.10*	.29
Twelve months	37	52.35 (12.52)	17	48.71 (9.96)	1.06	.16
Twenty-four months	34	50.38 (10.58)	18	50.56 (11.81)	-0.05	-.01
Externalizing problems						
Two months	45	59.44 (10.51)	19	56.68 (10.17)	0.97	.13
Twelve months	37	58.30 (12.61)	17	52.53 (12.67)	1.56	.22
Twenty-four months	34	54.79 (11.74)	18	57.28 (10.64)	-0.76	-.11

Note. ⁺*p* < .10. **p* < .05.

analytic techniques allow for a two-level process in data analysis. Level 1 allows for the estimation of within-subject trajectories of change (growth curve) for a variable, described by two parameters: an intercept (initial level of the variable) and a slope (rate of change over time). Level 2 allows for the examination of between-subjects differences in these parameters using individual-level predictors.

To test whether the ways in which children's development changed over time differed by household type, we used these equations:

$$\begin{aligned} \text{Level 1: } Y_{it}(\text{Outcome}) &= \pi_{0i} + \pi_{1i}(\text{Time})_{it} + e_{it} \\ \text{Level 2: } \pi_{0i}(\text{Intercept}) &= \beta_{00} + \beta_{01}(\text{Household}) + \mu_{0i} \\ \pi_{1i}(\text{Time}) &= \beta_{10} + \beta_{11}(\text{Household}) + \mu_{1i} \end{aligned}$$

Household type (heterosexual vs. gay or lesbian) was included at Level 2 as a predictor of intercepts and slopes and was coded such that heterosexual households were the reference group (coded as 0) and gay or lesbian households were coded as 1. Time was estimated as the number of months after the first assessment and was uncentered so that the intercept term (β_{00}) could be interpreted as the initial value (2 months postplacement).

We ran separate models for each outcome measure: one with cognitive development, another with internalizing problems, and

a third with externalizing problems (Table 3). Consistent with the pattern of mean differences described earlier, the only initial difference between children from heterosexual and gay- or lesbian-headed households was that children in gay- or lesbian-headed households had significantly lower internalizing problems. No differences were found in rates of change over time between children from the two household types (all *ps* > .10): On average, children in both household types showed a significant increase in their cognitive development over time (*p* < .001) and maintained stable levels of internalizing and externalizing problems that were below the clinical cutoff.

Last, we examined differences in children's total background risk. Consistent with our predictions, children in gay and lesbian households had significantly *more* total background risk factors upon placement (*M* = 4.64, *SD* = 1.39) than did children in heterosexual households (*M* = 3.61, *SD* = 1.55), *t*(48) = 2.17, *p* < .05, effect size *r* = 0.33. Gay and lesbian parents were also significantly more likely to adopt a child whose ethnicity was different from their own compared with heterosexual parents, 73% versus 43%, $\chi^2(1, N = 82) = 5.57, p = .02$. Follow-up analyses in which background risk and transracial adoption were included (separately) as controls at Level 2 again indicated that rates of change in cognitive development, internalizing problems, and externalizing problems did not differ by household type (all *ps* > .10).

Table 3. Multilevel Models Comparing Children's Development Among Heterosexual and Gay/Lesbian Households (*N* = 79)

	Cognitive development			Internalizing problems			Externalizing problems		
	Coefficient (<i>SE</i>)	<i>t</i> test	<i>r</i>	Coefficient (<i>SE</i>)	<i>t</i> test	<i>r</i>	Coefficient (<i>SE</i>)	<i>t</i> test	<i>r</i>
Intercept (β_{00})	90.24 (1.90)	—	—	54.19 (1.47)	—	—	58.19 (1.54)	—	—
Household (β_{01})	-4.38 (3.90)	-1.12	.13	-4.73 (2.23)	-2.12*	.24	-2.90 (2.67)	-1.09	.12
Time (β_{10})	0.33 (0.09)	3.59***	.38	-0.12 (0.08)	-1.51	.17	-0.04 (0.06)	-0.70	.08
Household × Time (β_{11})	0.11 (0.15)	0.72	.08	0.14 (0.11)	1.25	.14	0.05 (0.11)	0.43	.05

Note. All intercepts were significant *p* < .001, because the lowest possible score on each measure was greater than zero. Household was coded as 0 = heterosexual, 1 = gay/lesbian. Effect size *r* = sqrt [*t*²/(*t*² + *df*)].
p* < .05. **p* < .001.

Discussion

Adoption has long been seen as beneficial for abused and neglected children's long-term development (e.g., Brodzinsky & Schecter, 1990), but questions remain regarding whether children adopted from foster care by gay and lesbian parents achieve similar positive outcomes to their peers in heterosexual households (Brooks & Goldberg, 2001). Using three assessments of cognitive development, internalizing problems, and externalizing problems from a sample of high-risk children adopted from foster care in Los Angeles County, we found virtually no differences between children from heterosexual and gay and lesbian households in these domains at 2, 12, or 24 months post-placement. Further, regardless of the sexual orientation of their adoptive parents, children exhibited similar patterns of change in these variables over time: On average, children in both household types showed significant gains of approximately 10 IQ points in their cognitive development and maintained stable levels of behavior problems that were not clinically significant. These similarities across household types were especially notable given that the children adopted by gay and lesbian parents had significantly higher levels of background risk and were more likely to be of a different ethnicity than their adoptive parents compared with children in heterosexual households.

Before discussing the implications of these findings, we first acknowledge some methodological limitations. First, as a result of the intensive design, the sample was relatively small, though in line with prior studies comparing heterosexual and gay or lesbian adoptive families (cf. Erich et al., 2009) that provided consistent evidence of similarities in child outcomes regardless of parents' sexual orientation. As with these studies, our sample size provided limited power to detect small effects, although there was adequate power to detect medium and large effects. Second, families in our sample were eligible for support services that may not be available to other adoptive families, which could limit the generalizability of the findings. Third, future studies would benefit from third party reports of children's social-emotional functioning. Nonetheless, the fact that (a) the participants were drawn from a larger study in which they routinely reported clinical concerns, (b) the reported levels of behavior problems (especially externalizing behavior problems) were actually quite high, and (c) comparing children's outcomes by household type was not presented as a question of interest suggests that social desirability is unlikely to have affected parent responses.

Despite these limitations, the present findings provide clear evidence for great similarities between children in heterosexual and gay and lesbian adoptive homes in both their absolute levels of cognitive development and behavior problems and their change in these domains over time. Indeed, this study had several important strengths. First, it assessed child development in families created by public adoptions from foster care, including children of varying ethnicities and with high levels of background risk, and therefore is directly relevant to policy discussions about adoption by gay and lesbian parents. Second, our study included not only detailed reports by parents of children's behavior problems but also standardized assessments of cognitive development obtained by trained professionals, as well as objective data on each child's background risk based on birth records, court reports, and the DCFS. These objective cognitive

and background data have not been included in previous studies of gay and lesbian parents and their adoptive children and are often not possible to obtain in larger nationally representative surveys. Third, our study was longitudinal, thus permitting careful examination of changes in children's cognitive development and behavior problems during the 2-year period following placement. Indeed, we believe this study is the first to examine adoptive children's development over time in heterosexual and gay and lesbian households.

In light of these methodological strengths, perhaps the most important implication of our findings is that, on average, children in both heterosexual and gay and lesbian households achieved significant gains in their cognitive development and maintained stable levels of behavior problems that were not clinically significant in the first 2 years postplacement. In an era when thousands of foster children lack stable, adoptive homes and concerns about the suitability of gay and lesbian adoptive parents limit the pool of potential parents, these data indicate that gay and lesbian parents can promote healthy cognitive and emotional development in this high-risk population in a similar manner to heterosexual parents.

Another noteworthy finding is that gay and lesbian parents were more likely than heterosexual parents to have a child with higher levels of background risk and of a different ethnicity from their own. Consequently, the similar child outcomes found in both types of households occurred despite the greater initial vulnerabilities of children placed with gay or lesbian parents. These findings extend previous research suggesting that gay and lesbian parents are especially likely to adopt transracially and to adopt children with special needs (Brodzinsky, 2011; Farr et al., 2010) and call attention to the multiple sources of diversity often represented in these families. To the extent that children raised by gay and lesbian parents are more likely to have multiple minority identities (e.g., African American, adopted, child of lesbian mothers, having a learning disability), it is important to understand how these multiple identities intersect and interact to affect development over time. These findings also beg the question of why gay and lesbian parents were raising children who had experienced more risk factors. One possibility is that gay and lesbian parents are simply more open to diversity in all forms and thus are willing to take children with higher levels of background risk and who are of a different race. Consistent with this idea, a study of White adults preadoption found that lesbians were more likely than heterosexual men or women to express openness for transracial adoptions, feeling that they were "already different" and lived in communities that would support this diversity (Goldberg, 2009). It is also possible, however, that there were systematic differences in the types of children presented as potential adoptees to gay and lesbian parents. To the extent that social workers view gay and lesbian individuals and couples less favorably than heterosexual couples when making placement decisions (Brooks & Goldberg, 2001; Ryan, Pearlmutter, & Groza, 2004), gay and lesbian prospective parents may have been presented with children with more background risk (Kenyon et al., 2003). Gay and lesbian adoptive parents may also have felt that they needed to express a certain willingness to adopt children with more background risk to be approved for a placement. Future research is needed to further address these issues.

More generally, these findings have several implications for agencies that work with adoptive parents. First, although there has been a substantial shift in statutes allowing gay adoption (Appell, 2011), and the majority of adoption agencies accept applications from gay and lesbian applicants (Brodzinsky, Patterson, & Vaziri, 2002), gay and lesbian prospective parents nonetheless report continued scrutiny and hesitation because of their sexual orientation, and many report being rejected on at least one occasion (Brodzinsky, 2011). The findings reported here support the notion that gay and lesbian prospective parents can provide positive, nurturing environments for adoptive children, even those with very difficult backgrounds, and call for greater openness to gay and lesbian applicants. Our study also suggests important avenues for parent preparation and postadoption support within these agencies. Given the many needs of children being adopted from foster care, agencies must work to prepare families for the many challenges they will encounter. Such preparation is likely lacking in many agencies, however. In one study, only 60% of gay and lesbian adoptive parents reported that they received adequate training to prepare them for their child's and family's needs, and <20% reported receiving training on issues related to sexual orientation (Brodzinsky, 2011). Accordingly, agencies should work on helping prospective parents understand children's complex histories, how these histories are likely to affect day-to-day functioning (e.g., multiple placements may make the child less willing to attach immediately), and how to cope with these challenges. During the preparation stage, adoption workers may also wish to discuss and provide evidence to counter any negative stereotypes regarding the suitability of gay men and lesbians as adoptive parents, given that many gay and lesbian parents have either consciously or unconsciously internalized some of these messages (Berkowitz & Marsiglio, 2007). After the child has been adopted, continued support is needed to help parents adjust to this significant transition. A minority of parents currently receive postadoption training (Brodzinsky, 2011), but such social support is likely to be crucial for buffering parents and their children against stressful life events and promoting well-being (e.g., Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983). Training is particularly needed around race and cultural concerns in the context of transracial adoptions, along with more general struggles around adoptive identity and parenting issues (Brodzinsky, 2011). Throughout the adoption process, it is important for workers to acknowledge applicants' sexual orientation and express a willingness to discuss special issues for gay and lesbian parents, as these issues are rarely discussed but do present concerns for adoptive parents.

In conclusion, the data reported here document that "adoption is a natural intervention with great success" (van IJzendoorn & Juffer, 2005, p. 329), regardless of parents' sexual orientation. High-risk children adopted from foster care show significant gains in cognitive development and stable levels of behavior problems over the first 2 years postplacement in heterosexual and gay and lesbian households. We hope that future research will extend these results by examining children's functioning in multiple domains throughout their development to provide a better understanding of the lives and needs of gay and lesbian parents and their adoptive children.

Keywords: adopted children; gay and lesbian parents; sexual orientation; foster care; externalizing problems; internalizing problems; cognitive development; transracial adoption

References

- Achenbach, T. M. (1991a). *Manual for Child Behavior Checklist/2-3 and 1992 profile*. Burlington: University of Vermont.
- Achenbach, T. M. (1991b). *Manual for Child Behavior Checklist/4-18 and 1991 profile*. Burlington: University of Vermont.
- Appell, A. (2011). Legal issues in lesbian and gay adoption. In D. Brodzinsky & A. Pertman (Eds.), *Adoption by lesbians and gay men: A new dimension in family diversity* (pp. 36–61). New York, NY: Oxford University Press.
- Bayley, N. (1993). *Bayley Scales of Infant Development, second edition: Manual*. San Antonio, TX: Psychological Corp.
- Berkowitz, D., & Marsiglio, W. (2007). Gay men: Negotiating procreative, father, and family identities. *Journal of Marriage and Family, 69*, 366–381. doi: 10.1111/j.1741-3737.2007.00371.x
- Biblarz, T. J., & Savci, E. (2010). Lesbian, gay, bisexual, and transgender families. *Journal of Marriage and Family, 72*, 480–497. doi: 10.1111/j.1741-3737.2010.00714.x
- Biblarz, T. J., & Stacey, J. (2010). How does the gender of parents matter? *Journal of Marriage and Family, 72*, 3–22. doi: 10.1111/j.1741-3737.2009.00678.x
- Brodzinsky, D. M. (2011). *Expanding resources for children III: Research-based best practices in adoption by gays and lesbians*. New York, NY: Evan B. Donaldson Adoption Institute.
- Brodzinsky, D. M., Patterson, C. J., & Vaziri, M. (2002). Adoption agency perspectives on lesbian and gay prospective parents: A national study. *Adoption Quarterly, 5*, 5–23. doi: 10.1300/J145v05n03_02
- Brodzinsky, D. M., & Pertman, A. (Eds.). (2012). *Adoption by lesbians and gay men: A new dimension in family diversity*. New York, NY: Oxford University Press.
- Brodzinsky, D. M., & Schecter, M. D. (Eds.). (1990). *The psychology of adoption*. New York, NY: Oxford University Press.
- Brooks, D., & Goldberg, S. (2001). Gay and lesbian adoptive and foster care placements: Can they meet the needs of waiting children? *Social Work, 46*, 147–157.
- Carta, J. J., Atwater, J. B., Greenwood, C. R., McConnell, S. R., McEvoy, M. A., & Williams, R. (2001). Effects of cumulative prenatal substance exposure and environmental risks on children's developmental trajectories. *Journal of Clinical Child Psychology, 30*, 327–337. doi: 10.1207/S15374424JCCP3003_5
- Chan, R. W., Raboy, B., & Patterson, C. J. (1998). Psychosocial adjustment among children conceived via donor insemination by lesbian and heterosexual mothers. *Child Development, 69*, 443–457. doi: 10.2307/1132177
- Crnic, K. A., Greenberg, M. T., Ragozin, A. S., Robinson, N. M., & Basham, R. B. (1983). Effects of stress and social support on mothers and premature and full-term infants. *Child Development, 54*, 209–217. doi: 10.2307/1129878
- Daly, K. J., & Sobol, M. P. (1994). Public and private adoption: A comparison of service and accessibility. *Family Relations, 43*, 86–93.
- Downs, A. C., & James, S. E. (2006). Gay, lesbian, and bisexual foster parents: Strengths and challenges for the child welfare system. *Child Welfare, 85*, 281–298.
- Erich, S., Kanenberg, H., Case, K., Allen, T., & Bogdanos, T. (2009). An empirical analysis of factors affecting adolescent attachment in adoptive families with homosexual and straight parents. *Children and Youth Services Review, 31*, 398–404. doi: 10.1016/j.childyouth.2008.09.004

- Farr, R. H., Forssell, S. L., & Patterson, C. J. (2010). Parenting and child development in adoptive families: Does parental sexual orientation matter? *Applied Developmental Science, 14*, 164–178. doi: 10.1080/10888691.2010.500958
- Gartrell, N., & Bos, H. (2010). US National Longitudinal Lesbian Family Study: Psychological adjustment of 17-year-old adolescents. *Pediatrics, 126*, 28–36. doi: 10.1542/peds.2009-3153
- Gartrell, N., Deck, A., Rodas, C., Peyser, H., & Banks, A. (2005). The national lesbian family study: 4. Interviews with the 10-year-old children. *American Journal of Orthopsychiatry, 75*, 518–524.
- Gates, G. J., Badgett, M. V. L., Macomber, J. E., & Chambers, K. (2007). *Adoption and foster care by gay and lesbian parents in the United States*. Los Angeles, CA: UCLA School of Law Williams Institute.
- van Gelderen, L., Bos, H. M. W., Gartrell, N., Hermanns, J., & Perrin, E. C. (2012). Quality of life of adolescents raised from birth by lesbian mothers. *Journal of Developmental & Behavioral Pediatrics, 33*, 1–7.
- Goldberg, A. E. (2009). Lesbian and heterosexual preadoptive couples' openness to transracial adoption. *American Journal of Orthopsychiatry, 79*, 103–117. doi: 10.1037/a0015354
- Hansen, M. E. (2007). Using subsidies to promote the adoption of children from foster care. *Journal of Family and Economic Issues, 28*, 377–393. doi: 10.1007/s10834-007-9067-6
- van IJzendoorn, M. H., & Juffer, F. (2005). Adoption is a successful natural intervention enhancing adopted children's IQ and school performance. *Current Directions in Psychological Science, 14*, 326–330. doi: 10.1111/j.0963-7214.2005.00391.x
- van IJzendoorn, M. H., Juffer, F., & Klein Poelhuis, C. W. (2005). Adoption and cognitive development: A meta-analytic comparison of adopted and nonadopted children's IQ and school performance. *Psychological Bulletin, 131*, 301–316. doi: 10.1037/0033-2909.131.2.301
- Kaufman, A. S., & Kaufman, N. L. (1983). *Kaufman Assessment Battery for Children*. Circle Pines, MN: American Guidance Service.
- Kaufman, A. S., O'Neal, M. R., Avant, A. H., & Long, S. W. (1987). Introduction to the Kaufman Assessment Battery for Children (K-ABC) for pediatric neuroclinicians. *Journal of Child Neurology, 2*, 3–16. doi: 10.1177/088307388700200102
- Kenyon, G. L., Chong, K. A., Enkoff-Sage, M., Hill, C., Mays, C., & Rochelle, L. (2003). Public adoption by gay and lesbian parents in North Carolina: Policy and practice. *Families in Society, 84*, 571–575. doi: 10.1606/1044-3894.138
- Kolko, D. J., & Kazdin, A. E. (1993). Emotional/behavioral problems in clinic and nonclinic children: Correspondence among child, parent and teacher reports. *Journal of Child Psychology and Psychiatry, 34*, 991–1006. doi: 10.1111/j.1469-7610.1993.tb01103.x
- Lamb, M. E. (Ed.). (1999). *Parenting and child development in "non-traditional" families*. Mahwah, NJ: Lawrence Erlbaum.
- Leung, P., Erich, S., & Kanenberg, H. (2005). A comparison of family functioning in gay/lesbian, heterosexual and special needs adoption. *Children and Youth Services Review, 27*, 1031–1044. doi: 10.1016/j.childyouth.2004.12.030
- Patterson, C. J. (2009). Children of lesbian and gay parents: Psychology, law, and policy. *American Psychologist, 64*, 727–736. doi: 10.1037/0003-066X.64.8.727
- Raudenbush, S. W., & Bryk, A. S. (2001). *Hierarchical linear models: Applications and data analysis methods: Advanced quantitative techniques in the social sciences*. Thousand Oaks, CA: Sage.
- Raudenbush, S. W., Bryk, A. S., & Congdon, R. T. (2010). *HLM7: Hierarchical linear and nonlinear modeling* [Computer software]. Lincolnwood, IL: Scientific Software International.
- Ryan, S. D., Pearlmutter, S., & Groza, V. (2004). Coming out of the closet: Opening agencies to gay and lesbian adoptive parents. *Social Work, 49*, 85–95.
- Sameroff, A. J., Seifer, R., Barocas, R., Zax, M., & Greenspan, S. (1987). Intelligence quotient scores of 4-year-old children: Social environmental risk factors. *Pediatrics, 79*, 343–350.
- Sattler, J. M. (2001). *Assessment of children: Cognitive applications* (4th ed.). La Mesa, CA: Sattler.
- Simmel, C. (2007). Risk and protective factors contributing to the longitudinal psychosocial well-being of adopted foster children. *Journal of Emotional and Behavioral Disorders, 15*, 237–249. doi: 10.1177/10634266070150040501
- Simms, M. D., Dubowitz, H., & Szilagyi, M. A. (2000). Health care needs of children in the foster care system. *Pediatrics, 106*, 909–918.
- Tan, T. X., & Baggerly, J. (2009). Behavioral adjustment of adopted Chinese girls in single-mother, lesbian-couple, and heterosexual-couple households. *Adoption Quarterly, 12*, 171–186. doi: 10.1080/10926750903313336
- Thorndike, R. L., Hagan, E. P., & Sattler, J. M. (1986). *Guide for administering and scoring for the fourth edition: Stanford-Binet Intelligence Scale*. Chicago, IL: Riverside.
- Triseliotis, J. (2002). Long-term foster care or adoption? *Child & Family Social Work, 7*, 23–33. doi: 10.1046/j.1365-2206.2002.00224.x
- U.S. Department of Health and Human Services. (2011). *Trends in foster care and adoption, FY2002-FY 2010*. Retrieved from http://www.acf.hhs.gov/programs/cb/stats_research/afcars/trends_june2011.pdf