

---

## RESEARCH ARTICLES

---

# A Comparative Study of Child Welfare Adoptions with Other Types of Adopted Children and Birth Children

Jeanne A. Howard, PhD  
Susan Livingston Smith, MSSW, LCSW  
Scott D. Ryan, PhD

**ABSTRACT.** Through parent surveys, the level of adjustment in home, school, health, mental health, and community of children from three types of adoptive and from birth families was compared. The sample groups include: child welfare adoptions (1340), domestic infant adoptions (481), international adoptions (89), and birth families (175). On most measures, particularly in relation to school functioning, adopted children were rated by their parents as having more problems than children from birth families. Children adopted from the child welfare system

---

Jeanne A. Howard, Susan Livingston Smith and Scott D. Ryan are affiliated with the Center for Adoption Studies, Illinois State University.

Address correspondence to: Jeanne A. Howard, PhD, Center for Adoption Studies, Illinois State University, Box 4650, Normal, IL 61790-4650 (E-mail: [jhoward@ilstu.edu](mailto:jhoward@ilstu.edu)).

The authors would like to thank Dr. Quintin Sullivan of University of Wisconsin-Oshkosh for his considerable assistance with data analysis on the Behavior Problem Index.

Adoption Quarterly, Vol. 7(3) 2004  
<http://www.haworthpress.com/web/AQ>  
© 2004 by The Haworth Press, Inc. All rights reserved.  
Digital Object Identifier: 10.1300/J145v07n03\_01

had significantly higher rates of problems than other types of adopted children. Using the Behavior Problem Index (BPI) as a measure of behavior problems, child welfare adopted children were rated as having a mean of 11.9 problems as compared to 6.2 for birth children and 9.1 and 9.4 respectively for domestic infant and internationally adopted children. Logistic regression analysis demonstrates the odds ratio present for an elevated BPI score for children from each family form. Children adopted from the child welfare system are 3.4 times as likely and internationally adopted children are 2.4 times as likely to be in the upper quartile of the BPI as children in birth families. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2004 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS.** Child Welfare Adoption, infant adoption, international adoption

This study seeks to expand current knowledge about children adopted from the child welfare system by comparing their level of adjustment in major life domains to children living in birth families and in other types of adoptive families. The benefits of adoption to children have been studied, as have the challenges faced by some adopted children over the course of their childhood and youth. However, in most studies “adoption” is a broad term, referring to children surrendered by parents in early infancy, as well as children adopted from outside the country as infants or young children, children adopted at a broad range of ages from the public child welfare system, and, in some studies, children adopted by a step-parent. Thus, when we talk about how well adopted children and their families fare after adoption, we are often speaking of very different families, at least in terms of the way they were formed and the histories children bring to them. This study seeks to disentangle adoption types in order to begin to examine the similarities and differences in children’s adjustment across three types of adoptive families. In addition, it compares the categories of adopted children with children in families formed through birth.

### ***REVIEW OF RESEARCH ON ADOPTION OUTCOMES***

The benefits of adoption for children have been substantiated by two longitudinal studies published in the 1980s (Bohman & Sigvardsson,

1980; Hodges & Tizard, 1989). In these studies, children in foster and residential care as well as children restored to their biological mothers showed more problem behaviors than the adopted children. In addition, a recent study of adoption outcomes as compared to long-term fostering reaffirms the advantages of adoption, in particular the higher levels of emotional security, sense of belonging, and general well-being expressed by those growing up as adopted compared with those fostered long term (Triseliotis, 2002).

An American study of 881 adopted adolescents who had been placed prior to 18 months of age also found positive outcomes related to identity, attachment, child mental health, and family functioning. However, 25% of respondents were experiencing problems in mental health, and 16% reported not feeling attached to either parent (Benson, Sharma, & Roehlkepartain, 1994).

Despite these generally positive findings, for several decades most studies related to adoption outcomes have reported a higher rate of behavioral and emotional problems among adopted children than among non-adopted children. These differences often do not seem to emerge until children are of school age, and there is some indication that the differences subside in young adulthood (Brodzinsky, Radice, Huffman, & Merkler, 1987; Feigelman, 1997; Ventegodt, 1999). For comprehensive reviews of this body of research, see Wierzbicki (1993) and Brodzinsky (1993). The majority of these studies have been either epidemiological studies demonstrating the overrepresentation of adoptees among mental health or special education populations or clinical studies reporting the symptomatology of adopted and non-adopted children in clinical populations.

Epidemiological studies report that while approximately 2% of the child population are non-related adoptees, these children make up 5-10% of children served by outpatient mental health clinics and 10-15% of children in inpatient treatment settings (Jerome, 1986; Kotsopoulos et al., 1988; McRoy, Grotevant, & Zurcher, 1988; Piersma, 1987; Rogeness, Hoppe, Macedo, Fischer, & Harris, 1988). Adopted children also are overrepresented in special education populations, comprising 5-7% of different types of special education classes (Brodzinsky & Steiger, 1991).

Although a higher rate of problems in adoptees has been substantiated by this body of research, some explanations for their overrepresentation in clinical populations have been put forward in recent studies. Some studies lend evidence to a lower threshold for referral among adopted adolescents (Warren, 1992; Miller, Fan, Grotevant, Christensen, Coyl, &

Van Dulmen, 2000b). Also, adoptive families in clinical populations are more likely to consider placement of the child as a solution to problems, even though they have greater psychosocial resources than biological clinical families (Cohen, Coyne, & Duval, 1993). Finally, almost all of the clinical studies that have compared adopted and non-adopted children in mental health settings have reported higher rates of problems among adopted children, primarily externalizing behaviors, personality disorders, ADHD, or substance abuse (Dalby, Fox, & Haslam, 1982; Deutsch et al., 1982; Dickson, Heffron, & Parker, 1990; Fullerton, Goodrich, & Berman, 1986; Kotsopoulos et al., 1988; Weiss, 1985).

### *Studies of Adopted Children in Non-Clinical Populations*

Studies comparing adopted to non-adopted children in non-clinical settings have become more common in recent years. However, it is important to note that the majority of adoptees examined in these studies were placed as infants. Many of these studies have shown smaller differences between adopted and non-adopted children than did the clinical studies. In addition, at least two studies have reported that adoption does not appear to have a negative impact on identity formation among adolescents (Benson, Sharma, & Roehlkepartain, 1994; Stein & Hoopes, 1985). Generally, however, this body of literature does indicate a higher risk for a range of problems among adopted children, particularly during adolescence and among males.

For example, a series of studies by Brodzinsky and his colleagues evaluated children ages 6-12. Parents and teachers rated adopted children as evidencing more school-related problems than their non-adopted peers. Overall, Brodzinsky and colleagues reported that 36% of adoptees exceeded the normal range in one or more behavioral areas as compared to 14% of the non-adopted children (Brodzinsky et al., 1987; Brodzinsky, Schechter, Braff, & Singer, 1984).

The Colorado Adoption Project, a longitudinal study primarily concerned with issues of genetic and environmental influences on behavior, did not find significant differences between adopted and non-adopted children in infancy and toddlerhood. However, data gathered when children were 4-7 years old indicated that adopted boys were more likely to be classified as at risk for conduct disorder (Coon, Carey, Carley, & Fulker, 1992).

Several other studies contrasting adopted and non-adopted children in the general population are noteworthy. The Ontario Child Health

Study (Lipman, Offord, Boyle, & Racine, 1993) reported that adopted children did not do significantly worse than non-adopted peers in relation to school performance or substance use, but adopted boys demonstrated a higher risk of psychiatric disorders. In addition, Zill (1994) has used data from the National Longitudinal Survey of Youth (NLSY) gathered in 1981 and 1988 to compare adopted children with three other groups: those living with unmarried mothers, those living with grandparents but apart from biological parents, and those living with both birth parents. Parents reported higher numbers of behavior problems and lower academic accomplishment among adopted children than birth children living with both parents. Despite socioeconomic advantages, adopted children had a higher frequency of emotional/behavior problems, learning disabilities, and developmental delays than children in other groups—36% of adopted children had one of these conditions, as compared with 15% of children reared by both birth parents and 23-25% of children raised by grandparents or unmarried mothers.

Zill's analysis also contrasted adolescents adopted in their first year with those placed after age 1 and attributed a large measure of the greater risk among adoptees to disruptions in care and maltreatment, rather than "being adopted" per se. Indeed, children adopted as infants were rated as having fewer problems on the items measured than both later adopted children and non-adopted children living with their single parents (Zill, 1994). In addition, Feigelman (1997) used the NLSY archival data to compare the functioning of 101 young adult adoptees raised in intact 2-parent families to 6,258 young adults raised in intact birth families. For this group of adoptees, 84% had been placed for adoption by age 2. During adolescence, the adoptees had higher incidence of delinquency, youth crime, and substance abuse than teens from birth families as well as a three times greater incidence of running away. However, during adulthood the adoptees appeared much like those raised in intact birth families on most measures.

Feigelman's study suggests that the difference in functioning between adopted and birth children may have a developmental component that diminishes over time. However, there is no description in these studies based on the NLSY data as to the *types* of adoptions among children sampled—only a distinction between early and late placed children.

In their comparison of 4,682 adopted adolescents to a matched comparison group of non-adopted adolescents, Sharma, McGue, and Benson, (1996a) found significant differences between the groups on 10 of 12 scales measuring emotional and behavioral adjustment and family functioning. Adopted adolescents had consistently lower levels of adjust-

ment related to drug use (both legal and illegal), negative emotionality, anti-social behavior, optimism, school adjustment, parental nurturance, and parental involvement. However, adopted teens also demonstrated significantly higher scores on pro-social behavior. Sharma et al. also examined the data based on age at adoption (1996b), contrasting children placed in four age categories. Their results confirm that as age at adoption increases, so too do behavioral and emotional problems. Children adopted as infants were rated as similar to the comparison group on all measures except prosocial behavior, where adoptees were rated more favorably than non-adoptees. There were few differences between the two middle groups, but both differed significantly from the controls. The group differing most from the controls was those adopted above age 10, where adopted children rated lower than controls on 10 of the 12 factors examined.

The most recent comparison of adopted and nonadopted youth in a large, nationally representative sample contrasted over 1500 adopted adolescents with over 85,000 non-adopted adolescents on 17 outcome measures (Miller, Fan, Christensen, Grotevant, & van Dulmen, 2000a). On almost all measures, adopted adolescents reported more problems, with the largest effect sizes on skipping school, having been drunk, smoking and drinking, emotional distress, and lying to parents. Differences between the two groups also were greatest among youth in early and late adolescence rather than in middle adolescence.

As noted earlier, a common problem in the literature is the use of the term "adopted" to describe a heterogeneous group. As Haugaard (1998) has noted, studies examining differences between adopted and non-adopted children's development frequently do not distinguish adoption by type. His comprehensive review of adoption research finds conflicting results about whether adoption is a risk factor for later adjustment problems. Haugaard urges further research that considers the characteristics that children bring to adoption, the degree to which referral bias leads to an overrepresentation of children in the clinical population, and a more careful examination of process variables that influence a child's ongoing adjustment to "being adopted."

### *Explaining the Differences*

In summary, it is important to note that despite the higher rates of some problems among adopted children, the significant majority of adopted children have positive adjustments. The usefulness of this body of research is not in validating the level of problems among some

adopted children but in seeking an understanding of the causes of problems, where present, so that interventions to support more positive adjustments may be provided. A variety of theories have been advanced over the years to explain the higher rates of problems among adoptees. Two recent articles present explanatory models and research evidence supporting them (Ingersoll, 1997; Peters, Atkins, & McKay, 1999).

The factor which is most clearly linked with adoption outcomes theoretically and through research evidence is damaging experiences prior to adoptive placement. Several studies have demonstrated the effect of early negative environmental factors on later functioning of adoptees. The most extensive research in this area has been conducted by Verhulst and his associates in the Netherlands and compares behavior problems in international adoptees to those in groups of non-adopted youth, as measured by the Achenbach Child Behavior Checklist (Verhulst, Althaus, Versluis-den Bieman, 1990; Verhulst, Althaus, Versluis-den Bieman, 1992; Verhulst, Versluis-den Bieman, van der Ende, Berden, Sanders-Wondstra, 1990; Verhulst & Versluis-den Bieman, 1995). They reported that the prevalence of problem behaviors in adoptees was higher for boys than for girls and most pronounced among 12-15 year olds. Adopted children's behavior problem scores increased during early adolescence, unlike the scores of their peers in the general population. Their 1992 study demonstrated that the negative effect linked with age at placement is dependent upon the early adverse experiences of later placed children. They concluded that it was this early neglect, abuse, and number of changes in caretaking environments that increased the risk for later maladjustment. Still, the majority of children who had backgrounds known to be damaging seemed to function well. Overall, 24% of severely neglected and 31% of severely abused children scored in the clinical range (top 10%) on the total problem score of the CBC.

The impact of early adversity independent from age at placement was demonstrated further by Howe's (1997) research in England, comparing adolescent adjustments in infant adoptions, older-child adoptions with satisfactory care as babies, and older-child adoptions with early adverse care. About 25% of infant-adopted children had problem behaviors during adolescence compared to 72% of the older-adopted/adverse care group. However, the good start/late adoptions had a lower incidence of problem behaviors than the infant-adopted group. With the infant adoptions, the presence of birth children in the family increased the likelihood of problems and the presence of other adopted children in the family decreased the likelihood of problems.

Recent outcome studies of internationally adopted children have demonstrated a high level of subjective success as measured by parental satisfaction despite significant levels of problems among the children (Groothues, Beckett, & O'Connor, 2001; Goodman & Kim, 2000).

Similarly, the body of research on child welfare adoptions consistently demonstrates a high level of parent satisfaction despite high levels of behavioral and emotional problems among the children. Such studies also substantiate the negative impact of multiple moves in care and maltreatment experiences on children (Nelson, 1985; Groze, 1996; Rosenthal & Groze, 1992, 1994; Smith & Howard, 1994; Smith & Howard, 1999). Some studies of child welfare adoptions have found more positive outcomes associated with specific demographic variables, generally reporting fewer problems among minority, lower income, single parent, and relative adopters (Barth & Berry, 1988; Howard & Smith, 2003; Rosenthal & Groze, 1992). Other factors which have been substantiated as predictors of negative outcomes in child welfare adoptions are: inadequate preparation of parents and incomplete sharing of child background information (Nelson, 1985); prenatal substance exposure (Barth & Brooks, 2001; Howard & Smith, 2003); the child's being isolated or unable to give and receive affection (Howard & Smith, 2003; Nelson, 1985); active rejection by birth parents (Rushton, Dance, & Quinton, 2000), and the degree of sensitivity or responsiveness of the adoptive parent, particularly as this style shapes parent-child attachment (Quinton, Rushton, Dance, & Mayes, 1998).

### *Studies Comparing Outcomes in Different Types of Adoptions*

There are few studies that explore differences in outcomes among different types of adoptions. For the most part, research studies on adoption outcomes have not specified the type of adoptions among the population studied other than by age at placement or, at times, by agency auspices (public/private). Most adopted samples in the United States were primarily infant adoptions occurring outside the child welfare system. Some studies have focused only on international or special needs adoptions.

The only research that could be found which offers some basis for comparison of outcomes among different types of adoptions is the California Long-Range Adoption Study by Barth, Brooks and their associates. Data were collected in 1989, 1993, and 1997 and identified the children by type of adoption (independent, private agency, public agency, international). Most data reported to date present findings in terms of adopted children vs. the general population. The authors found that



adopted children had more behavioral and emotional problems than non-adopted children. For example, the rate of ADHD among school-aged children in the general population is 3-5% and the rate among the adopted children was 21%. For Oppositional Defiant Disorder, the rate in the general population of children is 6-10% compared to 21% among the adoptees in this study. Overall, 29% of the adopted children were classified as ADHD, ODD, or both.

The authors did find that public agency adoptions made up 39% of the total sample and 62% of those with externalizing conditions. In reality, the percentage of child welfare wards among those with externalizing conditions is likely to be higher, since some of the children placed through private agencies were also state wards (Simmel, Brooks, Barth, & Hinshaw, 2001). Also, adoptions from public agencies contained a much higher percentage of drug-exposed children than did independent or private agency adoptions (Barth, 1991).

In summary, the level of problems would be expected to be higher in adopted children who have experienced early maltreatment and multiple moves in care (the case for many child welfare and some international adoptions) than in children placed in early infancy without these experiences. The extent of these differences and their impact is not known, nor do we know the level of parental satisfaction with adoptions of different types.

### ***Goal of This Study***

The purpose of the present study is to compare the adjustment of children in different types of adoptive families (domestic infant adoptions, international adoptions, and child welfare adoptions), as well as comparing these children to non-adopted children. This study is an extension of an examination of post adoption functioning of families receiving Adoption Assistance in Illinois (Howard & Smith, 2003). The survey was modified to collect parallel data from birth families as well as other types of adoptive families.

## ***METHOD***

### ***Data Collection***

Because research indicates that child problems escalate with age and are more likely to be identified once a child enters school, the focus of

the study was restricted to children of school age. Since surveys were lengthy (9-13 pages long depending on the group), to avoid survey fatigue, adoptive families were asked to fill out the survey on their oldest adopted child of school age. The survey was constructed to assess children's adjustment and functioning at home, in school, and in their communities as well as their health and mental health. A number of questions were included that had been used in previous longitudinal studies, including the California Long-Range Adoption Study (Barth & Brooks, 2001) and Rosenthal and Groze's longitudinal study of special needs adoptive families (1992; 1994). Adoption-specific items were eliminated from the birth family survey as were questions related to the pre-placement maltreatment history of the child.

#### *Child Welfare Sample*

For child welfare adoptive families, a sample was drawn from those receiving Adoption Assistance in Illinois with adopted children 6 years of age or older. The Illinois Department of Children and Family Services identified 19,739 children, ages 6 and older, in 11,354 homes whose families received Adoption Assistance. A sample of 3,993 families was randomly selected from this group. Surveys were mailed by the Department to protect the confidentiality of families. In addition, survey data were anonymous. The initial mailing and follow-up post cards to all families in the sample yielded a return of 1343 completed surveys, of which 1340 were useable. Some surveys were not deliverable. The overall return rate was 34% return.

#### *Birth Family Sample*

The researchers developed a sampling strategy for birth families to make the sample as comparable as possible to the Adoption Assistance families, which was the primary population of interest. For each Illinois family in the Adoption Assistance sample, a neighbor on the same street was selected for the birth family sample. A variety of strategies were used to increase return from these families. For example, surveys were hand addressed, were stamped rather than metered, and included a pencil. Postcards were included, to be returned if the recipient did not have a child 6-18 living in their household. Many barriers were encountered.<sup>1</sup> In total, there were 198 returned birth family surveys, of which 175 were appropriate for inclusion (foster and adopted children or children outside the age parameters were excluded.)

Although the final number of birth family surveys was small, it was similar to the sample of Adoption Assistance families in age and family residence, although differing in racial composition and income. Adoption Assistance families were more likely to be African-American, to have lower incomes, and more likely to be single-headed households.

#### *Samples of Domestic Infant and International Adoptive Families*

There is no database of non-child welfare adoptive families, thus different strategies were used to gain a sample of families who adopted infants. Adoptive Families Today, a large support organization for adoptive families in the Chicago area, agreed to participate in the study and to mail surveys to the families on their mailing list. This organization was chosen because it had a large membership and was composed of families adopting primarily through sources other than the child welfare system. Surveys in stamped envelopes were sent to this organization, which mailed them to the approximately 1350 people on their mailing list. Responses from those sent surveys revealed there were some families on the mailing list who had not yet adopted but were pursuing adoption, as well as some professionals. Also, 361 families returned cards indicating that their children were too young for the study. Altogether, 194 completed surveys were returned from this mailing. Because Adoptive Families Today does not tabulate the percent of newsletter recipients who are adoptive parents, we cannot report a return rate for this group.

In order to reach adoptive families across the state, as well as to increase the sample size, nine private agencies with a history of placing infants for adoption were contacted and asked to mail surveys to families on their rolls with adopted children currently 6-18. These agencies identified 1,293 families with children from 6-18. Over one hundred surveys were undeliverable. Ultimately, 421 surveys were received from this group, a return rate of 35% for these families.

Both the Adoptive Families Today and the agency generated groups contained families who had adopted infants in the U.S. and families who adopted from abroad. These groups were considered separately. The final numbers for each of the groups were 1,340 for Adoption Assistance families, 481 for domestic infant adoptions, 89 international adoptions, and 175 birth families. Of the domestic infant adoptions, 57 (12%) reported they adopted the child without the assistance of an agency.

### ***Data Analysis***

Using various demographic variables, as well as the previously validated Behavior Problem Index (BPI), which had an  $\alpha = .94$  for the full sample, the extent of difference between the four groups of children was first examined through bivariate analyses. We performed these analyses to detect any hypothesized differences between the four groups using the Pearson chi-square test or ANOVAs. We then made pairwise comparisons to determine the extent of difference between specific groups by using Tukey HSD tests. Lastly, multivariate analyses were employed via logistic regression to determine the impact of the various forms of entry into the family for the child on current problematic behaviors. In addition, to statistically control for those possibly significant demographic variables that may otherwise influence the findings, key family and child variables are included in the model. The odds ratios for each significant variable is discussed below.

## ***RESULTS***

### ***Description of Study Groups***

A detailed description and analysis of surveys from child welfare families was presented in an earlier publication, *After Adoption: The Needs of Adopted Youth* (Howard & Smith, 2003). Selected data from that study are cited throughout this report to yield a basis for comparison of children in child welfare adoptive families to children in other types of families. For the purposes of this study, “infant” adoption refers to children who were not part of the child welfare system and were placed for adoption domestically before the age of 1. “International” refers to children adopted from other countries at any age of placement. “Child welfare” refers to those children adopted from the child welfare and receiving state Adoption Assistance, regardless of age at the time of adoption.

### ***Demographic Characteristics of Families***

A comparison of the child welfare respondents to the randomly selected sample revealed similarity on some dimensions and differences on others. The mean age of the child and geographic representation of the sample and respondent groups were very similar; however, some-

what fewer African-American families responded than the percentage sampled (Howard & Smith, 2003).

Our primary purpose in sampling birth families was to find families living in the same neighborhoods as the child welfare families so that these two groups would be comparable in environmental influences on child adjustment. The respondent birth families differed from the child welfare families on some attributes, namely race and income. However, birth families were more like child welfare families in terms of residence, race, income and education than were the other groups of adoptive families (see Table 1 on demographic characteristics). For example, 43% of the birth families returning the survey resided in Cook County, compared to 47% of the child welfare families. A review of zipcodes indicates that the groups were very similar in percents urban and rural.

There was considerable difference by sample group on several demographic variables. Child welfare adoptive families were more likely to be single parents (40%) as compared to other groups and their incomes were significantly lower than other types of families. The education and income level of the birth families is somewhat higher than the child welfare adoptive families, although not nearly as high as the other adoptive families studied. For example, 73-75% of the infant and international

TABLE 1. Demographic Characteristics of Respondent Groups

Variable	Birth n = 175	Infant n = 481	Int'l. n = 89	Child Welfare n = 1340
Parent+ Caucasian	71%	95%	98%	46%
Child Caucasian	72%	85%	21%	34%
Child of different race from both parents++	0%	8%	75%	10%
Child is male	53%	57%	39%	51%
Single parent	22%	6%	20%	41%
Family income^				
35,000 or less	17%	3%	2%	56%^
65,000 or more	44%	75%	73%	14%
Parent completed college	51%	72%	84%	28%
Parent's age (mean)	40.7	46.4	46.7	49.5
Child's age (mean)	13.2	12.5	10.9	12.1

+responding parent was mother in large majority of all groups

++excludes children identified as being of more than one race or ethnicity

^ income excluding adoption subsidy

adoption groups reported annual incomes above \$65,000. Excluding subsidy, only 14% of child welfare families reported incomes this high, compared to 43% of birth families.

Another difference was in the number of parents adopting across race or ethnicity. While 10% or fewer of child welfare and domestic infant adoptions were Caucasian parents adopting minority children, over 3/4 of internationally adopted children adopted by Caucasian parents were Asian (53%) or Hispanic (27%). In one sense, of course, all children adopted from another country are adopted across ethnicity.

### *Comparisons of Early Histories of Adopted Children*

The maltreatment experienced by many children who become part of the child welfare system places them at increased risk for a variety of difficulties later. Children in the other adoptive families generally were reported to have had a more positive early life. Overall, the early histories of infant adoptees are relatively free of adverse conditions, with the exception of known prenatal alcohol/drug exposure for 12%. Neglect, physical abuse or sexual abuse, multiple foster placements, and previous adoptions are reported in less than 1% of infant adoptions. All of these children were placed very young (100% at 6 months or younger) and 99.6% of their adoptions were finalized at age 1 or younger.

International adoptees had somewhat more in common in terms of early life experiences with child welfare adopted children than did other types of families (see Table 2). Although internationally adopted children were still quite young at first removal (mean = .7 years), their early life experiences were more likely to include adverse experiences than those children adopted domestically at young ages. As would be expected, child welfare adoptees were older at removal (mean = 2.5 years), adoptive placement (mean = 3.6 years), and especially finalization (mean = 6.8 years) than international adoptees. Mean ages for internationally adopted children were 1.5 years at adoptive placement and 1.9 years at finalization.

Child welfare adoptees had a much greater incidence of identified early adverse experiences than did international adoptees in the study. On questions about early adverse experiences, parents were asked to respond as "yes," "no," or "don't know." As might be expected, a higher percentage of parents did not know the early history of children adopted internationally, particularly in relation to prenatal substance exposure for which 44% answered "don't know." (For child welfare adoptees, the highest percentage of parental uncertainty related to sexual abuse, with 25% of parents responding "don't know").

TABLE 2. Early Adverse Experiences

Experience	International n = 89	Child Welfare n = 1340
Physical abuse	7%	33%
Sexual abuse	2%	17%
Serious neglect	22%	63%
2 or more foster homes	10%	37%
Psych./residential before placement	3%	9%
Another adoptive placement	1%	14%
Back/forth-birth family/foster care	6%	18%
Prenatal substance exposure	5%	60%

### *Special Needs of Adopted and Birth Children*

Specific disabilities or special needs are more commonly reported by parents of child welfare adoptees than by parents of other adopted children or birth children. Table 3 gives the reported frequencies of specific special conditions of the children. Some special needs, such as learning disabilities and chronic medical problems, are much more common among all groups of adopted children than among birth children. The mean number of special needs reported per child is highest for child welfare adoptees, but all adoption groups report more special needs than do birth families.

### *Child Functioning in Life Domains*

Parents were asked to rate their child's functioning in the home, in school, and in the community, as well as their child's health and mental health, compared to other children of the same age. Across family types, the significant majority of parents reported their children were doing satisfactorily to well. Comparison by type, however, reveals a consistent pattern. Birth children are rated more highly than adopted children and child welfare adoptees have the most difficulty.

#### *Children's Functioning at Home*

Parents reported on their children's abilities to get along at home. Across groups most children were rated positively on a number of di-

TABLE 3. Special Needs of Children as Reported by Parents

Condition	Birth n = 175	Infant n = 481	Int'l n = 89	CW n = 1340	Group contrasts <sup>+</sup>	$\chi^2$
Physical handicap	2%	4%	3%	7%	a,b	10.53*
Mental retardation	1%	2%	2%	8%	a,b	35.86***
Chronic medical problem	6%	12%	11%	18%	a,b,d	20.71***
Learning disability	6%	26%	27%	47%	a,b,c,d,e	146.60***
Emotional disturbance	5%	17%	21%	35%	a,b,c,d,e	108.92***
Behavior problems	8%	25%	24%	51%	a,b,c,d,e	183.25***
Developmental delays	4%	13%	24%	32%	a,b,d,e,f	105.33***

\*  $p < .05$  (df = 3); \*\* $p < .01$  (df = 3); \*\*\* $p < .001$  (df = 3)

+ a = Significant difference between child welfare and birth groups

b = Significant difference between child welfare and infant adoption groups

c = Significant difference between child welfare and international adoption groups

d = Significant difference between infant adoption and birth groups

e = Significant difference between international adoption and birth groups

f = Significant difference between international adoption and infant adoption groups

mensions, from making good decisions to getting along with others. However, the pattern of differences described above was evident. Table 4 reports the percentages of children who were reported as having difficulty managing aspects of home life and self care, as indicated by a rating of poorly or not at all on these abilities. There were significant differences on all variables between child welfare and birth children.

Parents also rated their overall difficulty in raising their child. Only 1% of birth parents rated their children as very difficult to raise, compared to 9% of infant, 6% of international, and 12% of child welfare parents ( $\chi^2 = 25.34$ , df = 3,  $p < .001$ ). All adopted groups were rated as being more difficult to raise than birth children. In addition, most children were rated as having a positive impact on the family, although birth, infant, and international adoptive parents were more likely to rate home adjustment as "excellent" (66%-68%) compared to 44% for child welfare adopters ( $\chi^2 = 104.43$ , df = 3,  $p < .001$ ). Few parents of any type rated adjustment at home as "poor" (2% of birth and infant parents, no international parents, and 4% of child welfare parents.) On this measure, child welfare adopted children were rated significantly lower (.001) than all other groups, and other adopted children did not differ significantly from birth children or each other.

Most parents reported feeling close to their children, a variable which did not differ significantly by type of family. Eighty-three percent of child



TABLE 4. Child's Inability to Function at Home Compared to Others of Same Age by Family Type (Percent given low ratings)

Ability	Birth n = 175	Infant n = 481	Intern'l n = 89	CW n = 1340	Group contrasts <sup>+</sup>	$\chi^2$
Care for self	0%	4%	2%	8%	a,b,c,d,e	28.95***
Follow instructions	3%	11%	17%	22%	a,b,d,e	61.00***
Make good decisions	7%	14%	18%	29%	a,b,c,d,e	73.49***
Keep self safe	2%	6%	9%	18%	a,b,c,d,e	62.63***
Handle anger/frustration	15%	25%	28%	38%	a,b,d,e	46.29***
Get along with children	2%	6%	9%	13%	a,b,d,e	35.80***
Give & receive affection	4%	5%	5%	11%	a,b	27.01***

\*\*\*p < .001 (df = 3)

+ a = Significant difference between child welfare and birth groups

b = Significant difference between child welfare and infant adoption groups

c = Significant difference between child welfare and international adoption groups

d = Significant difference between infant adoption and birth groups

e = Significant difference between international adoption and birth groups

f = Significant difference between international adoption and infant adoption groups

welfare adopters reported they were very close to their child, compared to 87% of birth, 87% of international and 90% of infant adoptive parents.

There also was little difference between family types related to the impact of the child on the marital/partner relationship. Similar percentages in all types reported the child had weakened the relationship. However, birthparents and infant and international adoptive parents were much more likely to report the child strengthened their relationship (71%, 70% and 69% respectively), while this was true for only 43% of two parent child welfare families ( $\chi^2 = 230.23$ ,  $df = 3$ ,  $p < .001$ ).

### *Children's Health and Mental Health*

As was the case for home adjustment, most children were rated positively on items related to health and mental health. Child welfare and international adoptees were similar in terms of chronic medical problems (present for 18% and 16% respectively). This was the case for 12% of infant adoptees and 6% of birth children. However, children's overall health was rated as fair or poor in very few cases: 6% of birth children, 3% of infant, 6% of international, and 8% of child welfare adoptions ( $\chi^2 = 11.47$ ,  $df = 3$ ,  $p < .01$ ).

The same pattern of differences reported earlier held for overall level of adjustment on mental health—birth children were rated higher than adopted children and child welfare children had the most difficulties. On ratings of children's overall mental health, as well as on measures such as the Behavior Problem Index (BPI), which was included in the survey, adoptive parents report more problematic levels of adjustment than birth parents. Parents differed by type in rating their children's mental health as poor or fair. Although this difference is not statistically significant between all groups, child welfare adopted children are more often rated as having poorer mental health than all other groups—birth, 6%; infant adopted, 14%; international, 19%; child welfare, 25% ( $\chi^2 = 50.50$ ,  $df = 3$ ,  $p < .001$ ).

The utilization of mental health or other supportive services by adoptive families was double to triple the rate reported by birth families on different types of services. The percentage of service utilization by each group is reported in Table 5.

Adoptive parents were much more likely than birth parents to report that their child had seen a counselor or doctor specific to their emotional or behavioral problems. This was reported by 18% of birth families, 41% of infant adopters, 45% of international adopters, and 54% of child welfare adopters ( $\chi^2 = 86.74$ ,  $df = 3$ ,  $p < .001$ ).

In addition, a high percentage of adoptees take medication for behavior problems. This was the case for 22% of international, 30% of infant, and 31% of child welfare adoptees. Only 4% of birth children took medication for behavior problems, differing significantly from adopted children on this measure ( $\chi^2 = 59.00$ ,  $df = 3$ ,  $p < .001$ ).

An indication that child welfare adopted children have more difficulty than either their adopted or non-adopted peers, is the difference in incidence of behavior problems on the Behavior Problem Index (BPI). The child welfare adoptees have mean BPI scores nearly twice those of birth children: 11.9 as compared to 6.2. The mean score for infant

TABLE 5. Utilization of Services

Service	Birth n = 175	Infant n = 481	International n = 89	Child welfare n = 1340
Child counseling	20%	38%	41%	44%
Family counseling	13%	35%	42%	32%
Parent support group	6%	29%	52%	21%
Child support group	5%	13%	25%	13%

adoptees is 9.1 and for international adoptees, 9.4. An ANOVA analysis indicates that BPI scores vary significantly among these groups ( $f = 31.82$ ,  $df = 3$ ,  $p < .001$ ). These differences were statistically significant at the .05 level or greater among all group pairs except between international and infant adopted children. In Zill's analysis of NLSY data, the mean BPI scores for youth receiving mental health treatment in the past year ranges from 14.0 to 14.8 depending on age group (Zill, 1990). In this study a much higher percentage of child welfare adoptees had scores of 15 or above. The percentages of children rated at this level are child welfare (39%); international (23%); infant (24%); and birth (8%). A previous analysis of behavior problems among child welfare adoptees found that the most common problems were cheats or tells lies (68%), sudden changes in mood or feelings (67%), difficulty concentrating (64%), impulsivity (62%), excessive arguing (60%), disobedience at home (59%), sullenness, stubbornness or irritability (52%) and over activity (51%) (Howard & Smith, 2003). Such behaviors are symptomatic of children diagnosed with ADHD and/or ODD.

Placement in a mental health facility such as a psychiatric hospital or residential treatment center was rare across the board, but more common among adopted children than birth children. Seven percent of both domestically and foreign adopted children had such placement, and 6% of child welfare children had this experience since adoption. For birth children the figure was 2%. These differences were not statistically significant, however.

### *Children's Functioning at School*

School was the domain in which parents reported the most problems regardless of family type. School often is the place where concerns about children's intellectual abilities emerge, as well as where their social abilities are first assessed. Again, many parents had favorable reports, but the percent of positive ratings was less than in other areas of functioning. As in other areas, children adopted through the child welfare system had the highest level of identified problems. For example, fully 40% of these children received special education services related to their learning problems. This was the case for only 9% of birth children. However, internationally adopted children and infant adopted children also had high rates of special education involvement. Teacher complaints about children's behavior (as reported by parents) also were much higher for adopted children. Specific measures of school adjustment are reported in Table 6.

TABLE 6. Indicators of Problems in School Performance by Family Type

Measure	Birth n = 175	Infant n = 481	Int'l n = 89	CW n = 1340	Group contrasts <sup>a</sup>	$\chi^2$
Special education services <sup>1</sup>	9%	24%	32%	40%	a,b,d,e	81.01***
Teacher complaints/behavior	18%	35%	34%	54%	a,b,c,d,e	110.89***
On meds for behaviors	3%	28%	21%	31%	a,b,c,d,e	225.68***
Repeated 1 or more grades	6%	4%	3%	26%	a,b,c	142.80***
Has been suspended	11%	9%	6%	25%	a,b,c	75.52***
Average grades D's or F's	4%	6%	6%	16%	a,b,c	53.54***
Lowest 2 ratings on school adjustment	10%	20%	23%	32%	a,b,d,e	53.68***

<sup>1</sup>Refers only to services related to academic or behavior problems. Children receiving services for the gifted or English as a Second Language classes were omitted.

\*\*\* < .001 (df = 3)

+ a = Significant difference between child welfare and birth groups  
 b = Significant difference between child welfare and infant adoption groups  
 c = Significant difference between child welfare and international adoption groups  
 d = Significant difference between infant adoption and birth groups  
 e = Significant difference between international adoption and birth groups  
 f = Significant difference between international adoption and infant adoption groups

In terms of overall functioning in school, parents adopting children from the child welfare system were less likely to rate their children's functioning as "excellent" or "good." Nearly 1 in 3 (32%) rated their children fair or poor on this dimension, compared to 20 percent of infant adoptive families, 23% of international, and 10% of birth children. Adoptive parents, particularly those adopting through the child welfare system, were more likely than birth parents to report their child had unmet educational needs. This was the case for 39% of child welfare, 27% of international, 18% of infant, and 15% of birth children ( $\chi^2 = 95.95$ ,  $df = 3$ ,  $p < .001$ ).

### *Children's Functioning in the Community*

Parents also rated their child's functioning in the community—their ability to make friends, succeed in community groups, and the like (see Table 7). The vast majority of children were reported as doing well. Again child welfare adoptive parents reported the highest level of problems, particularly in relation to children making good decisions and fitting in with their peers.

TABLE 7. Low Ratings<sup>1</sup> on Functioning in Neighborhood and Community

Ability	Birth n = 175	Infant n = 481	Int'l n = 89	CW n = 1340	Group contrasts <sup>+</sup>	$\chi^2$
Makes friends w/ age peers	4%	12%	11%	17%	a,b,e	27.37***
Gets along w/ others in neigh.	2%	9%	7%	11%	a,d	14.48**
Chooses acceptable friends	5%	9%	6%	18%	a,b,c	38.64***
Makes good decisions in comm.	6%	13%	11%	26%	a,b,c,d	59.66***
Fits in w/organized groups	5%	17%	14%	19%	a,d,e	19.27***

<sup>1</sup>Rated "not at all" or "poorly"

\*  $p < .05$  (df = 3); \*\* $p < .01$  (df = 3); \*\*\* $p < .001$  (df = 3)

+ a = Significant difference between child welfare and birth groups

b = Significant difference between child welfare and infant adoption groups

c = Significant difference between child welfare and international adoption groups

d = Significant difference between infant adoption and birth groups

e = Significant difference between international adoption and birth groups

f = Significant difference between international adoption and infant adoption groups

In addition, parents rated the extent to which they had concerns about their child getting along in their neighborhood and community. For child welfare adoptees, 22% were reported as having concerns, compared to 14% of internationally adopted children and 16% of infant-adopted children. Only 5% of birth children were so rated ( $\chi^2 = 36.03$ , df = 3,  $p < .001$ ).

### *Parents' Satisfaction with Adoption*

Surveys developed for adoptive families contained several questions about parents' attitudes related to their adoption experience. The significant majority of all types of respondents were very positive about adoption, and those who were either satisfied or very satisfied topped 90% for each group. Child welfare adopters, however, were less satisfied with their adoption experience overall than were other types of adopters ( $\chi^2 = 36.03$ , df = 6,  $p < .001$ ).

### *Multivariate Findings*

Using the 28-item BPI as the dependent variable, we conducted a logistic regression in which sets of key variables were submitted sequentially. To dichotomize the BPI score, those children with scores in the upper quartile were considered to be in the high range (scores of 18 and above), with those in the lower three quartiles in the low range. It is im-

portant to note that this range is more stringent than the standard clinical range of the BPI, which is 15 and above. This was done to highlight the more extreme cases present in this sample. The first set of independent variables contained parent factors such as whether the respondent was partnered or not,<sup>2</sup> whether the respondent had a reported low or high level of income,<sup>3</sup> and the respondent's age. The second set of variables included contain all those previously entered plus those specific child factors—the child's gender, whether the child is the member of a minority group, and the child's age. Lastly, in addition to those variables above, the specific path of entry into the family was included in the model. This, ultimately, should allow for the statistical control of various demographic differences to discern if differences continue to exist among the four groups' problematic behaviors.

As shown in Table 8, the Model Chi-Square for the first equation is significant, and explains 21% of the variance in the level of behavior problems. A significant relationship was found with two of the three variables: the respondent's level of income, and his/her age. Whether or not the respondent was partnered, although important within the model, was not found to be significant in and of itself. Thus, it can be interpreted that among respondents with a high level of income, his/her child will have a 33% reduced BPI score. The child's BPI score is also reduced 2% for each year of the respondent's age.

A second binary logistic regression model was run utilizing the previous variables plus the child factors listed above. The Model Chi-Square for this equation is also significant, and explains 23% of the BPI variance. The two previous variables (income and age) continued to be significant in this equation. Additionally, a significant relationship was found for the child's gender (male = 0; female = 1) and race/ethnicity (Caucasian = 0; minority = 1). As such, higher income resulted in a 38% drop in BPI score, while the child's BPI score was reduced 1% for each year of respondent age. Also, females were 29% less likely to be in the upper quartile—with minority children 37% less likely to fall into the upper BPI range.

The final logistic regression model was run using all of the previously listed variables plus the method through which the child entered the family. The Model Chi-Square for this equation is significant, and explains 25% of the BPI variance. A significant relationship was found with only three of the four previously significant variables—with income no longer showing significance. The other three remained consistent in their significance and impact. There were three independent variables identifying methods of family entry: infant adoptee (no = 0, yes = 1); in-

TABLE 8. Is the BPI in the Upper Quartile? (Dependent Variable = Yes)

Parent Characteristics (Model Chi-Square = 403.94 (df = 3, p < .001); Cox & Snell R <sup>2</sup> = .21)		
Independent Variables	Wald	Odds Ratio
Partnered (reference - single)	.01	.99
Income (reference - low income)*	9.28	.67
Respondent Parent Age*	62.53	.98
Child Characteristics (Model Chi-Square = 27.79 (df = 3, p < .001); Cox & Snell R <sup>2</sup> = .23)		
Partnered (reference - single)	.63	.89
Income (reference - low income)*	12.49	.62
Respondent Parent Age*	4.88	.99
Child Gender (reference - male)*	9.66	.71
Child Race/Ethnicity (reference - Caucasian)*	15.02	.63
Child Age	1.35	1.02
Entry to Family (Model Chi-Square = 51.29 (df = 3, p < .001); Cox & Snell R <sup>2</sup> = .25)		
Partnered (reference - single)	2.49	.79
Income (reference - low income)	2.11	.81
Respondent Parent Age*	20.98	.97
Child Gender (reference - male)*	13.90	.65
Child Race/Ethnicity (reference - Caucasian)*	31.89	.49
Child Age	.61	1.01
Infant Adoptee (reference - not infant adoptee)	2.02	1.41
International Adoptee (reference - not international adoptee)*	5.60	2.35
Child Welfare Adoption (reference - not child welfare adoptee)*	30.56	3.40

NOTE: \* p < .05

ternational adoptee (no = 0, yes = 1); and child welfare adoptee (no = 0, yes = 1).<sup>4</sup> Whether or not the child was an international or child welfare adoptee was significant. Children adopted internationally are 2.35 as likely and children adopted from the child welfare system are 3.4 times more likely to have a score in the upper quartile than birth children.

## DISCUSSION

This analysis comparing the adjustment of child welfare adopted children with birth children, domestic infant adoptees, and internationally adopted children, underscores the positive experience of adoptive families across adoption types. However, it also demonstrates the greater

challenges confronted by many adoptive families as compared to birth families, whatever the type of adoption. On every measure but one (repeating a grade), adoptive families reported higher percentages of problems than did birth families. While child welfare adoptions reflect the highest level of problems overall, the differences between child welfare adoptees and other adopted children are small on some measures. (In fact, a higher percentage of infant and internationally adopted children are reported as being placed in residential treatment after adoption than the child welfare adopted children.) As might be expected, domestic infant adoptions generally have the lowest incidence of problems among the groups of adopted children, but the level of problems among infant adoptees reflected in this study is considerably higher than might be expected, given that most of these children went to their adoptive homes shortly after birth, without experiencing multiple placements or maltreatment.

There is a much higher level of parent-reported special needs among adopted children than for birth children, with learning disabilities and behavior problems reported for 6 to 8 percent of birth children and 24 to 51% of adopted children. Problems at school and children's mental health are the areas of functioning in which adopted children are reported as having the most problems. For all indicators of school problems, child welfare adopted children are reported at a rate three to eight times that of birth children.

Zill (1990) reports a mean BPI score of 14.8 for children currently receiving mental health treatment among the children in the NLSY national sample. Using this as a benchmark, important differences between adopted and non-adopted children emerge, as do differences among types of adoptions. The percentage of child welfare adopted children receiving a BPI score of 15 or above is 39%, compared to 8% of birth children and 23-24% of other adopted children. In addition, the specific behaviors which are most characteristic of the child welfare adopted children are behaviors which are associated with diagnoses of ADHD and ODD, two externalizing disorders which have been reported at higher levels among adopted children (Simmel, Brooks, Barth, & Hinshaw, 2001). In the Simmel et al. study, children adopted from public agencies were reported with the highest rates of externalizing problems. As noted previously, among children adopted from the child welfare system in this study, the most commonly identified behavior problems are those characteristic of a diagnosis of ADHD or ODD.

A point that has been raised in the literature is the overlapping symptoms of posttraumatic symptomatology with ADHD and ODD (Ford et al.,



2000). There is a high rate of ADHD and ODD among maltreated children. It is likely that children who are accurately diagnosed as ADHD/ODD but have overlapping trauma conditions may not be effectively treated without treatment of the posttraumatic component of their symptoms. Child welfare adopted children in our study were much more likely to be reported as having obsessional thoughts, which is consonant with trauma symptoms. Clinical assessment of trauma symptoms would be very important for accurately diagnosing or treating these children's emotional and behavioral difficulties.

In addition to trauma, there are many emotional issues that may be associated with behavior problems in adopted children. Children's struggles with grief and loss, separation, and identity may manifest behaviorally (Smith, Howard, & Monroe, 2000). Adoptive families need access to services that expertly assess and intervene to meet the full range of child and family needs. As shown via the logistic regression model presented, the level of problems among these adopted children, particularly those adopted internationally or through the child welfare system, underscore the need for early intervention and post-adoption services for these families.

Despite the elevated adjustment problems reported among all types of adopted children, over 90% of adoptive parents in all three groups report being satisfied with their adoption experience, and 93-95% of parents would adopt this child again, knowing what they know now. This is indeed an encouraging finding.

This study has several limitations, primarily related to sampling and the representativeness of the respondent groups. This is a complication of much research on adoptive families where the lack of a database of adoptions complicates sampling. Return rates could not be computed for some groups. Further, while a return rate of 34% was achieved from the child welfare Adoption Assistance families, there may be an under-representation of those for whom the form was daunting or who otherwise chose not to participate. The samples were drawn using different methods. For the birth families, we cannot compute a return rate. Also, the sample of internationally adopted children is very small, and it is not known how representative this group is of all international adoptive families. However, the racial/ethnic composition of this group does resemble the breakdown of U.S. inter-country adoptions in the early 90s. For the years 1992 and 1993, 56% of children adopted internationally in the U.S. were from Asian countries, and 22% were from His-

panic nations (Park, 2002). In our sample of internationally adopted children 53% were of Asian race/ethnicity and 27% Hispanic.

Finally, the sample of birth families is small. Although we sought to find birth families in the same neighborhoods as those receiving adoption assistance, we met with limited success. While both the child welfare and birth respondents are comparable in relation to geographic representation, the birth families are less likely to be African American and likely to have a higher education and income level than child welfare adopters. However, on many measures where incidence has been reported among children in the general population, the figures reported in this sample are similar. For example, the mean BPI of birth children in this study is very close to that reported in the NLSY (6.2 vs. 6.4).

It is important to place the findings in this study in the context of these limitations. This comparative study should be thought of as a first step in examining differences in adoptions by type. It also adds to the literature on the differences between families formed through adoption and those formed through birth. Further research on adopted children needs to delineate the types of adoptions in the sample and include comparison to birth families in order to expand our understanding of the needs of adopted children.

## NOTES

1. Surveys could not be delivered to neighbors of families with post office boxes or rural route addresses. Many of the envelopes with pencils were damaged and some returned undelivered. Over a thousand families returned cards indicating they did not have children 6-18, and many other surveys were returned undeliverable.

2. Not Partnered (0) = single, separated, divorced or widowed; Partnered (1) = married or living with partner

3. Low Income (0) = \$0-\$34, 999; High Income (1) = \$35,000+

4. Birth children are identified by zeros in all adoption categories

## REFERENCES

- Barth, R.P., & Brooks, D. (2001). Outcomes for drug-exposed children eight years post-adoption. In R. Barth, D. Brodzinsky, and M. Freundlich (Eds.). *Adoption and prenatal drug exposure: The research, policy and practice challenges* (pp. 23-58). Washington, DC: Child Welfare League of America.
- Benson, P.S., Sharma, A.R., & Roehlkepartain, E.C. (1994). *Growing up adopted: A portrait of adolescents and their families*. Minneapolis, MN: Search Institute.

- Bohman, M., & Sigvardsson, S. (1980). A prospective, longitudinal study of children registered for adoption: A 15-year follow-up. *Acta Psychiatrica Scandinavica*, *61*(4), 339-355.
- Bohman, M., & Sigvardsson, S. (1980). Negative social heritage. *Adoption & Fostering*, *101*(3), 25-31.
- Brodzinsky, D.M. (1993). Long-term outcomes in adoption. *The Future of Children*, *3*(1), 153-166.
- Brodzinsky, D.M., Radice, C., Huffman, L., & Merkler, K. (1987). Prevalence of clinically significant symptomatology in a nonclinical sample of adopted and nonadopted children. *Journal of Clinical Child Psychology*, *16*(4), 350-356.
- Brodzinsky, D.M., Schecter, D.E., Braff, A.M., & Singer, L.M. (1984). Psychological and academic adjustment in adopted children. *Journal of Consulting and Clinical Psychology*, *52*(4), 582-590.
- Cohen, N.J., Coyne, J., & Duvall, J. (1993). Adopted and biological children in the clinic: Family, parental and child characteristics. *Journal of Child Psychology and Psychiatry*, *34*(4), 545-562.
- Coon, H., Carey, G., Corley, R., & Fulker, D.W. (1992). Identifying children in the Colorado adoption project at risk for conduct disorder. *Journal of American Academy of Child and Adolescent Psychiatry*, *31*(3), 503-511.
- Dalby, J.T., Fox, S.L., & Haslam, R.H.A. (1982). Adoption and foster care rates in pediatric disorders. *Developmental and Behavioral Pediatrics*, *3*(2), 61-64.
- Deutsch, C.K., Swanson, J.M., Bruell, J.H., Cantwell, D.P., Weinberg, F., & Baren, M. (1982). Overrepresentation of adoptees in children with the Attention-Deficit Disorder. *Behavioral Genetics*, *12*(2), 231-238.
- Dickson, L.R., Heffron, W.M., & Parker, C. (1990). Children from disrupted and adoptive homes on an inpatient unit. *American Journal of Orthopsychiatry*, *60*, 594-602.
- Feigelman, W. (1997). Adopted adults: Comparisons with persons raised in conventional families. *Marriage & Family Review*, *25* (3/4), 199-223.
- Ford, J.D., Racusin, R., Ellis, C.G., Daviss, W.B., Reiser, J., Fleischer, A., & Thomas, J. (2000). Child maltreatment, other trauma exposure, and posttraumatic symptomatology among children with oppositional defiant and attention deficit hyperactivity disorders. *Child Maltreatment*, *5*, 3, 205-217.
- Fullerton, C.S., Goodrich, W., & Berman, L.B. (1986). Adoption predicts psychiatric treatment resistances in hospitalized adolescents. *Journal of the American Academy of Child Psychiatry*, *25*(4), 542-551.
- Goodman, J.F., & Kim, S.S. (2001). "Outcomes" of adoptions of children from India: A subjective versus normative view of "success." *Adoption Quarterly*, *4* (2), 3-27.
- Groothues, C.L.M., Beckett, C.M., & O'Connor, T.G. (2001). Successful outcomes: A follow-up study of children adopted from Romania into the UK. *Adoption Quarterly*, *5* (1), 5-22.
- Groze, V. (1996). *Successful adoptive families: A longitudinal study of special needs adoption*. Westport, CT: Praeger.
- Hodges, J., & Tizard, B. (1989). IQ and behavioural adjustment of ex-institutional adolescents. *Journal of Child Psychology and Psychiatry*, *30*(1), 53-75.

- Hodges, J., & Tizard, B. (1989). Social and family relationships of ex-institutional adolescents. *Journal of Child Psychology and Psychiatry*, 30(1), 77-97.
- Howard, J., & Smith, S.L. (2003). *After adoption: The needs of adopted youth*. Washington, D.C.: Child Welfare League of America.
- Howe, D. (1997). Parent-reported problems in 211 adopted children: Some risk and protective factors. *Journal of Child Psychology and Psychiatry*, 38(4), 401-411.
- Ingersoll, B.D. (1997). Psychiatric disorders among adopted children: A review and commentary. *Adoption Quarterly*, 1(1), 57-73.
- Jerome, L. (1993). A comparison of the demography, clinical profile and treatment of adopted and non-adopted children at a children's mental health centre. *Canadian Journal of Psychiatry*, 38(4), 290-294.
- Kim, W.J., Davenport, C., Joseph, J., Zrull, J., & Woolford, E. (1988). Psychiatric disorder & juvenile delinquency in adopted children and adolescents. *Journal of American Academy of Child and Adolescent Psychiatry*, 27(1), 111-115.
- Kotsopolous, S., Cote, A., Joseph, L., Pentland, N., Chryssoula, S., Sheahan, P., & Oke, L. (1988). Psychiatric disorders in adopted children. *American Journal of Orthopsychiatry*, 58(4), 608-612.
- Lipman, E.L., Offord, D.R., Boyle, M.H., & Racine, Y.A. (1993). Follow-up of psychiatric and educational morbidity among adopted children. *Journal of American Academy of Child and Adolescent Psychiatry*, 32(5), 1007-1012.
- McRoy, R., Grotevant, H., & Zurcher, S. (1988). *Emotional disturbance in adopted adolescents*. New York: Praeger.
- Miller, B.C., Fan, X., Christensen, M., Grotevant, H.D., & van Dulmen, M. (2000a). Comparisons of adopted and nonadopted adolescents in a large, nationally representative sample. *Child Development*, 71(5), 1458-1473.
- Miller, B.C., Fan, X., Grotevant, H.D., Christensen, M., Coyl, D., & VanDulmen, M. (2000b). Adopted adolescents' overrepresentation in mental health counseling: Adoptees' problems or parents' lower threshold for referral? *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 1504-1511.
- Park, K. (2002). *World Almanac and Book of Facts 2002*. New York: World Almanac Books.
- Peters, B.R., Atkins, M.S., & McKay, M.M. (1999). Adopted children's behavior problems: A review of five explanatory models. *Clinical Psychology Review*, 19(3), 297-328.
- Piersma, H.L. (1987). Adopted children and inpatient psychiatric treatment: A retrospective study. *The Psychiatric Hospital*, 18, 153-158.
- Quinton, D., Rushton, A., Dance, C., & Mayes, D. (1998). *Joining new families: A study of adoption and fostering in middle childhood*. Chichester, England: John Wiley & Sons.
- Rogeness, G.A., Hoppe, S.K., Macedo, C.A., Fischer, C., & Harris, W.R. (1988). Psychopathology in hospitalized, adopted children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 628-631.
- Rosenthal, J.A., & Groze, V.K. (1992). *Special-needs adoption: A study of intact families*. New York: Praeger.
- Rosenthal, J.A., & Groze, V.K. (1994). A longitudinal study of special-needs adoption families. *Child Welfare*, 73 (6), 689-706.

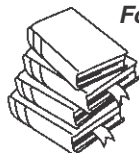
- Rushton, A., Dance, C., & Quinton, D. (2000). Findings from a UK based study of late permanent placements. *Adoption Quarterly*, 3 (3), 57-71.
- Sharma, A. R., McGue, M.K., & Benson, P.L. (1996a). The emotional and behavioral adjustment of United States Adopted Adolescents: Part I: An overview. *Children and Youth Services Review*, 18, 1/2, 83-101.
- Sharma, A.R., McGue, M.K., & Benson, P.L. (1996b). The emotional and behavioral adjustment of United States Adopted Adolescents: Part II. Age at adoption. *Children and Youth Services Review*, 18, 1/2, 101-114.
- Simmel, C., Brooks, D., Barth, R.P., & Hinshaw, S.P. (2001). Externalizing symptomatology among adoptive youth: Prevalence and pre-adoption risk factors. *Journal of Abnormal Child Psychology*, 29 (1), 57-69.
- Smith, S.L., & Howard, J.A. (1994). The impact of previous sexual abuse on children's adjustment in adoptive placement. *Social Work*, 39(5): 491-501.
- Smith, S.L., & Howard, J.A. (1999). *Promoting successful adoptions: Practice with troubled families*. Thousand Oaks, CA: Sage Publications.
- Smith, S.L., Howard, J.A., & Monroe, A. (2000). Issues underlying behavior problems in at-risk adopted children. *Children and Youth Services Review*, 27, 7, 539-562.
- Stein, L.M., & Hoopes, J.L. (1985). *Identity formation in the adopted adolescent*. New York: Child Welfare League of America.
- Triseliotis, J. (2002). Long-term foster care or adoption? The evidence examined. *Child & Family Social Work*, 7 (1): 23-33.
- Ventegodt, S. (1999). A prospective study on quality of life and traumatic events in early life—a 30-year follow-up. *Child: Care, Health and Development*, 25 (3): 213-221.
- Verhulst, F.C., Althaus, M., & Versluis-den Bieman, H.J.M. (1990). Problem behavior in international adoptees: II. Age at placement. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29: 104-111.
- Verhulst, F.C., Althaus, M., & Versluis-den Bieman, H.J.M. (1990). Problem behavior in international adoptees: I. An epidemiological study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29: 94-103.
- Verhulst, F.C., Versluis-den Bieman, H.J.M., van der Ende, J., Berden, G.F.M.G., & Sanders-Wondstra, J.A.R. (1990). Problem behavior in international adoptees: III. Diagnosis of child psychiatric disorder. *Journal of American Academy of Child and Adolescent Psychiatry*, 29: 420-428.
- Verhulst, F.C., Althaus, M., & Versluis-den Bieman, H.J.M. (1992). Damaging backgrounds: Later adjustment of international adoptees. *Journal of American Academy of Child and Adolescent Psychiatry*, 31(3): 518-524.
- Verhulst, F.C., & Versluis-den Bieman, H.J.M. (1995). Developmental course of problem behaviors in adolescent adoptees. *Journal of American Academy of Child and Adolescent Psychiatry*, 34(2): 151-159.
- Warren, S. (1992). Lower threshold for referral for psychiatric treatment for adopted adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31(3): 512-517.
- Weiss, A. (1985). Symptomatology of adopted and nonadopted adolescents in a psychiatric hospital. *Adolescence*, 20: 2077-88.

- Wierzbicki, M. (1993). Psychological adjustment of adoptees: A meta-analysis. *Journal of Clinical Child Psychology*, 22(4): 447-454.
- Zill, N. (1990). *Behavior problems index based on child report*. Washington, D.C.: Child Trends.
- Zill, N. (1994). *Adopted children in the United States: A profile based on a national survey of child health*. Washington, DC: Child Trends.

RECEIVED: 11/05/02

REVISED: 01/30/04

ACCEPTED: 03/01/04



**For FACULTY/PROFESSIONALS with journal subscription recommendation authority for their institutional library . . .**

If you have read a reprint or photocopy of this article, would you like to make sure that your library also subscribes to this journal? If you have the authority to recommend subscriptions to your library, we will send you a free complete (print edition) sample copy for review with your librarian.

1. Fill out the form below and make sure that you type or write out clearly both the name of the journal and your own name and address. Or send your request via e-mail to [dcdelivery@haworthpress.com](mailto:dcdelivery@haworthpress.com) including in the subject line "Sample Copy Request" and the title of this journal.
2. Make sure to include your name and complete postal mailing address as well as your institutional/agency library name in the text of your e-mail.

[Please note: we cannot mail specific journal samples, such as the issue in which a specific article appears. Sample issues are provided with the hope that you might review a possible subscription/e-subscription with your institution's librarian. There is no charge for an institution/campus-wide electronic subscription concurrent with the archival print edition subscription.]

**YES!** Please send me a complimentary sample of this journal:

(please write complete journal title here—do not leave blank)

I will show this journal to our institutional or agency library for a possible subscription.

Institution/Agency Library: \_\_\_\_\_

Name: \_\_\_\_\_

Institution: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Return to: Sample Copy Department, The Haworth Press, Inc.,  
10 Alice Street, Binghamton, NY 13904-1580

Copyright of Adoption Quarterly is the property of Haworth Press and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.