

Young Adult International Adoptees' Search for Birth Parents

Wendy Tieman

Erasmus Medical Center and Leiden University

Jan van der Ende and Frank C. Verhulst

Erasmus Medical Center

This study examines international adoptees and factors associated with searching for birth parents. A total of 1,417 international adoptees in The Netherlands, aged 24 to 30 years, were divided into 4 groups: uninterested nonsearchers, interested nonsearchers, searchers, and reunited searchers. In total, 32% of adoptees had searched. Although the majority of searchers were well-adjusted, they had more problems—mainly internalizing problems—than uninterested nonsearchers. These problems, however, were not caused by the search itself. It is concluded that searching is the product of natural curiosity influenced by external factors such as the divorce of adoptive parents and the options for searching.

Keywords: international adoption, searching behavior, problem behavior, psychiatric disorders, adoptive family characteristics

The search of adult adoptees for their biological roots was once seen as an indicator of an unsuccessful adoption. Nowadays, however, such a search is more often viewed as a normative developmental task (Müller & Perry, 2001a; Wrobel, Grotevant, & McRoy, 2004) that may stem from social pressure to search for one's birth parents (March, 1995).

A person's decision to search may be affected by external life changes, such as the death of an adoptive parent or the birth of a child, but it may also be an internal process that starts in childhood: a natural curiosity to know more about one's origins (Schechter & Bertocci, 1990). Thus, searching may be part of adoptive-identity development (Brodzinsky, Schechter, & Henig, 1992; Grotevant, 1997).

Adoptees themselves have described many other motives for searching, including identity issues and the desire for complete autobiographical and medical information (Andersen, 1989; Howe, Feast, & Coster, 2000; Sachdev, 1992). In addition, international adoptees usually note cultural and ethnic differences between themselves and their parents and friends (Juffer, 2006; Lee, Grotevant, Hellerstedt, Gunnar, & the Minnesota International Adoption Project Team, 2006) and may become interested in their roots.

Wendy Tieman, Department of Child and Adolescent Psychiatry, Sophia Children's Hospital, Erasmus Medical Center, and Centre for Child and Family Studies, Leiden University, The Netherlands; Jan van der Ende and Frank C. Verhulst, Department of Child and Adolescent Psychiatry, Sophia Children's Hospital, Erasmus Medical Center, The Netherlands.

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Correspondence concerning this article should be addressed to Jan van der Ende, Department of Child and Adolescent Psychiatry, Sophia Children's Hospital, Erasmus Medical Center, P.O. Box 2060, 3000 CB Rotterdam, The Netherlands. E-mail: jan.vanderende@erasmusmc.nl

On the basis of stress and coping theory, Brodzinsky (1987, 1990) introduced a model for adoptive family adjustment, which holds that adoptive families are exposed to extra psychosocial tasks that interact with and complicate regular developmental tasks of family life. For instance, in childhood, adoptive parents have to cope with the anxiety and uncertainty involved in telling a child that he or she is adopted; similarly, a child has to master the meaning of adoption. In adolescence and young adulthood, adoptees have to cope with confusion, uncertainty, and a sense of incompleteness regarding their origins. In addition, the process of grief becomes more complex and abstract than in childhood; they grieve not only the loss of birth parents and origins, but also the loss of part of themselves.

The extent to which these losses are experienced as stressful and the way adoptees cope with them vary from person to person. Searching for birth parents thus may be a problem-focused strategy for coping with these losses, that is, a plan to solve a problem.

Because many adoptees have only limited access to records, it is hard to establish how many of them decide to search for their birth parents. For this reason, estimates often underreport the number of adoptees who would like to do so (Selman, 1999). Conversely, because research samples often include only those who are interested and willing to participate in adoption research, adoptees' interest in their biological origins may sometimes be overstated. Researchers who have taken these difficulties into account have estimated that the percentage of adoptees who search for their birth parents is between 40 to 50% (Müller & Perry, 2001a; Selman, 1999).

Several studies among domestic adoptees have examined demographic differences between searchers and nonsearchers (e.g., Humphrey & Humphrey, 1989; Sobol & Cardiff, 1983). In a literature review, Müller and Perry (2001a) concluded that women were more likely to search than men. Most searchers were between 25 and 35 years of age, and,

in most studies, the socioeconomic status (SES) of searchers was representative of all adoptees (Müller & Perry, 2001a).

Müller and Perry (2001a) gave several explanations for why women appear to have a greater interest in searching for their birth parents. A woman's experience of pregnancy and childbirth may intensify her desire to search in three ways: by heightening her awareness of the continuity of life through generations, by activating thoughts of her own birth and birth mother, and by increasing the importance of knowing her medical history. It is also suggested that different socialization processes may lead men to define themselves more in terms of their occupation, and women more in terms of social relationships.

Several empirical studies have examined factors associated with domestic adoptees' decision to search for their birth parents (e.g., Aumend & Barrett, 1984; Sobol & Cardiff, 1983). Although most searchers appear to be psychologically well-adjusted and to have good relationships with their adoptive parents, they have lower self-esteem than nonsearchers, and also a higher number of identity problems, a more negative experience of adoption, more chronic stress, and a less positive relationship with their adoptive parents (for an overview, see Müller and Perry, 2001a).

Most research on adoptees' search for birth parents has focused on domestic adoptees; there has been much less focus on international adoptees (e.g., Irhammar & Cederblad, 2000), for whom searching may be more complex. For one, the possibility of performing a search varies according to the country of origin. According to the Hague Convention on International Adoption, an adopted child shall be ensured access to information concerning the identity of his or her parents, but only insofar as this is permitted by the law of that state (Hague Convention on Protection of Children and Co-operation in Respect of Intercountry Adoption, 1993). Thus in India, for example—where unmarried mothers are totally stigmatized, and usually need to keep their pregnancy secret from their family—a sealed-record system preserves a birth mother's right to confidentiality, allowing agencies to give only nonidentifying information to the adoptee (Damodaran & Mehta, 2000).

Another factor affecting the complexity of search for international adoptees is that language differences, cultural differences, and long distances can all make it difficult to communicate with birth parents. Ethical issues and questions may also arise: For example, if extreme poverty or cultural factors made it difficult for the birth parents to take care of their children, was adoption justified (Van IJzendoorn & Juffer, 2006)? A final factor is that adoptive parents in some countries might deliberately choose an international to adoption so as to avoid the issue of birth-parent reunions (which is not the case in The Netherlands, as there are nearly no domestic adoptions.) For all these reasons, it is unknown whether results pertaining to domestic adoptees also apply to international adoptees.

Samples in most studies include only those who are interested and willing to participate in research about adoption (e.g., Cubito & Obramski Brandon, 2000; Sobol & Cardiff, 1983). As these samples are highly selective, they

may yield unrepresentative results. Similarly, samples in research on adoptees' searching often include searchers alone (e.g., Humphrey & Humphrey, 1989; Kowal & Schilling, 1985; Lichtenstein, 1996; Müller, Gibbs, & Gupta Ariely, 2002), thereby making it impossible to examine any differences between searchers and nonsearchers. Another limitation of many recent studies is the small sample size and cross-sectional design (e.g., Humphrey & Humphrey, 1989; Kowal & Schilling, 1985; Lichtenstein, 1996; Smith & Brodzinsky, 2002; Wrobel et al., 2004).

To overcome these limitations, this study examined a large cohort of international adoptees from childhood on, some of whom eventually searched for birth parents and some of whom did not. It examined many factors that were suggested by existing theory and previous experimental work to be associated with searching. To test whether searching is indeed an internal process that starts in childhood; the stability of search interest from adolescence into adulthood was examined. It was also tested whether external life changes (such as the divorce of adoptive parents) were associated with searching. And, to explore whether searching is an indicator of poor psychological well-being, the association between searching, problem behavior, psychiatric disorders, and social functioning was also examined.

Overall, the study aimed to establish not only the number of adoptees interested in their biological origins (including the number of those actively searching), but also the factors associated with young adult international adoptees' search for their birth parents.

Method

Participants

The present study is part of a longitudinal study that started in The Netherlands in 1986 (Time 1). The original target sample consisted of all children ($n = 3,519$) who were born outside The Netherlands between January 1, 1972 and December 31, 1975, and who were legally adopted by nonrelatives in The Netherlands. Children were selected from the central adoption registry of the Dutch Ministry of Justice. Of the 3,309 parents reached, 2,148 participated in the study (64.9%). Children were aged 10 to 15 years at the time. After the first measurement, the sample was approached again in 1989/1990 (Time 2). For details on the initial sampling procedure, see Verhulst, Althaus, and Versluis-den Bieman (1990).

Between October 1999 and April 2002 (Time 3), 1,885 of the original 2,148 participants were contacted. Exclusions were due to death (15), intellectual disabilities (13), emigration (72), previous requests to be removed from the sample (100), untraceability (59), and uncertainty on whether they had been informed about the fact that they were adopted (4). Of the 1,885 approached adoptees, 1,521 participated in the study, 288 refused to participate, and 76 did not respond. Corrected for adoptees who had emigrated, died, or had intellectual disabilities, the response rate was 74.3% of the Time 1 sample.

A total of 1,417 adoptees filled out the questionnaire. There were more female participants ($n = 794$, 56.0%) than

males ($n = 623$, 44.0%). Adoptees were aged between 24 and 30, with a mean age of 26.24 years ($SD = 1.365$). Parent's socioeconomic status was relatively high (9.0% low, 23.9% middle, and 67.1% high). Adoptees born in Europe were considered to be intraracial adoptees (see also Verhulst & Versluis-den Bieman, 1995); the majority of the adoptees had been adopted transracially (92.0%). For further details on the third measurement, see Tieman, Van der Ende, and Verhulst (2005, 2006).

Young adults with more problems at Time 1 (reflected by problem behavior or special education) were slightly underrepresented in this study (Tieman et al., 2005, 2006). Adolescents' interest in searching (measured at Time 2) did not differ between dropouts and those who participated through Time 3 (completers): 50.3% of study dropouts wanted to find their birth parents, as did 48.1% of completers, $\chi^2(1, N = 1085) = .463, p = .496$. Similarly, 53.9% of dropouts wanted to know who their birth parents were, as did 48.1% of completers, $\chi^2(1, N = 999) = 2.952, p = .086$.

Procedure

This research has been approved by the medical ethics committee of Erasmus University Medical Center and by the review committee appointed by the Dutch Ministry of Justice. There was full compliance with American Psychological Association ethical standards. After the procedure had been fully explained, informed consent was obtained from all participants.

After a letter had been sent explaining the purpose of the follow-up, all participants were contacted by phone to ask them to participate in the study and to make an appointment for a home interview. After the phone call, participants received a questionnaire for completion before the interview.

Adoptees who completed the questionnaire ($N = 1,417$) were divided into four groups: uninterested nonsearchers, interested nonsearchers, searchers, and reunited searchers. Nonsearchers were divided into two groups: those interested in their biological origins, and those who had little or no interest in these origins. The difference between the groups was calculated on the basis of a sum score of responses to questions on their interest in their biological origins (where *yes* = 2, *sometimes* = 1, and *no* = 0). The questions were: (a) "I read adoption papers to get information on my background," (b) "I am curious to know whether I look like my birth parents," (c) "I wonder what it would be like to meet my birth parents," and (d) "I think about what I would like to ask my birth parents." Because the mean sum score was 3.3, all adoptees with a sum score under 3 were scored as "uninterested in biological origin" (uninterested nonsearchers) and those with a sum score of 3 and greater as "interested in biological origin" (interested nonsearchers).

Sibling and relative search were also included in searching (see also Humphrey and Humphrey, 1989). Searchers were defined as those who answered "yes" or "sometimes" to at least one of the following questions: (a) "I collect information about my birth parents," (b) "I have made plans to meet my birth parents," and (c) "I have contact with an organization that tries to find my birth parents." Reunited

searchers were defined as those who stated in the questionnaire that they had met their birth father, mother, sibling or siblings (excluding those who were adopted together with a birth sibling), and/or other biological relatives.

Instruments

Problem behavior. Problem behavior was measured with the Child Behavior Checklist (CBCL; Achenbach, 1991a) at Time 1, the Youth Self-Report (YSR; Achenbach, 1991b) at Time 2, and the Young Adult Self-Report (YASR; Achenbach, 1997) at Time 3. Total (raw) behavioral problem score and the scores for internalizing and externalizing behavior were used, with high scores indicating more problematic behavior (for details, see Achenbach, 1991a; Hofstra, Van der Ende, & Verhulst, 2000).

Psychiatric disorders. At Time 3, diagnoses of mental disorders in the 12 months prior to the interview were obtained by using the computerized version of the Composite International Diagnostic Interview (CIDI; World Health Organization, 1992), and three sections of the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1997). Scores indicated the proportion of participants with a certain diagnosis (for details, see Tieman et al., 2005).

Adoption dynamics. Adoption dynamics were measured using part of the Adoption Dynamics Questionnaire at Time 3 (Benson, Sharma, & Roehlkepartain, 1994). The questionnaire was translated into Dutch and adapted for adults. Because some modifications to the questionnaire had been made, reliability analyses were performed using four scales: positive affect about adoption ($\alpha = .88$; 12 items), preoccupation with own adoption history ($\alpha = .91$; 8 items), parental openness on adoption ($\alpha = .84$; 9 items), and negative experience with own adoption ($\alpha = .69$; 6 items). A higher score on each scale indicated higher positive affect, preoccupation, parental openness, and negative experience.

Early adversity/background. At Time 1, early adversity (neglect, abuse, number of placements) was measured in the adoption questionnaire for the adoptive parents. Variables on early adversity were included only if the adoptive parents were certain about their answers. The response categories for neglect and abuse were: 0 (*none*), 1 (*somewhat*), and 2 (*severe*). For number of placements, the response categories were: 0 (*none*), 1 (*one or two placements*), 2 (*three or four placements*), and 3 (*five or more placements*). Mean scores for these variables were calculated (for further details, see Verhulst, Althaus, & Versluis-den Bieman, 1992).

Age in months at placement was derived from the Time 1 questionnaire. The racial background of the adoptees was based on their country of origin. Adoptees born in Europe were considered intraracial adoptees. Scores indicate the proportion of adoptees that were intraracially adopted.

Characteristics of the adoptive family. The following family characteristics measured at Time 3 were included: presence in the family of the adoptive parents' birth children, divorce of adoptive parents, contact with adoptive

parents in the last 3 months (all coded *yes* = 1, *no* = 0), and adoption motive of adoptive parents (*involuntary childlessness* = 1, *idealistic motives* = 0). All scores indicated the proportion of participants with certain family characteristics (e.g., the proportion of participants with divorced adoptive parents).

Family Similarity Interview (FSI). Separate items were used to assess adoptees' physical, intellectual, and psychological similarity to their adoptive parents at Time 3 (Müller et al., 2002). The adoptee was asked if he/she was similar to the adoptive parent and if he/she felt comfortable with this degree of similarity. Six new variables for "having a problem with dissimilarity" (*yes* = 1, *no* = 0) were computed, including adoptees who felt that they were not (at all) similar to their adoptive parents, and who felt uncomfortable with this degree of dissimilarity. The score therefore indicated the proportion of participants who had a problem with their dissimilarity from their adoptive parents. This classification was based on, but is not identical to, that used by Müller et al. (2002).

Search interest in adolescence. Two questions from the Time 2 questionnaire about the search interests of the adopted adolescent were used, including "Do you want to try to find your birth parents, and/or children's home in your country of origin?" and "Do you want to know who your birth father and/or mother is?" (both coded as *yes* = 1, *no* = 0). Scores indicated the proportion of participants who had search interest in adolescence.

School functioning in childhood. School functioning was assessed at Time 1 with questions on grade repetitions and special education (both coded as *yes* = 1, *no* = 0) on the CBCL (Achenbach, 1991a). Scores indicated the proportion of participants with poor school functioning (i.e., grade repetitions or special education).

Educational and professional level in adulthood. The Time 3 questionnaire yielded information about adoptees' educational and professional level (based on a 7-point scale according to the Dutch Standard Occupational Classification, Centraal Bureau voor de Statistiek, 1992). A higher score indicated a higher level (for more details, see Tieman et al., 2006).

Family status in adulthood. The Time 3 questionnaire was also used to measure adoptees' family status (whether they were married, were in a relationship that had lasted for at least a year, and had birth children; all coded as *yes* = 1, *no* = 0; for more details, see Tieman et al., 2006).

Statistical Analyses

First, search groups were compared on the basis of demographic variables (sex, age, parental SES, and country of origin). Because the possibility of performing a search differed by country of origin, the countries of origin were clustered according to search profile. The first group (India, Bangladesh, Lebanon, and Colombia) consisted of countries with many nonsearchers (~ 80%), a relatively high number of interested nonsearchers (~ 40%), and few reunited searchers (6% or below). The second group (Indonesia, Korea, Austria, and other European and non-European

countries) consisted of countries with relatively few interested nonsearchers (~ 20 to 30%), many searchers (~ 40 to 45%), and many reunited searchers (~ 20%). Analyses of covariances (ANCOVAs) were performed on all continuous outcome variables: factors were search group, sex, parental SES at Time 1, and country of origin (clustered by search profile); covariates were current age and age at placement (for mental health outcomes, earlier problem behavior was also controlled). If the global test indicated a significant effect of search group, pair-wise comparisons were used to examine the differences between the groups. Adjusted means were computed to take account of differences in sex, current age, age at placement, parental SES, and country of origin.

For dichotomous outcome variables, logistic regression analyses were performed with the following variables as covariates: search group, sex, parental SES at Time 1, current age, country of origin (clustered by search profile), and age at placement. As before, for mental health outcomes, earlier problem behavior was controlled. To take account of differences in sex, current age, age at placement, parental SES, and country of origin between search groups, differences were examined between search groups on the basis of odds ratios and calculated adjusted probabilities.

Because earlier adoption research has shown sex differences in search behavior and attitudes (e.g., Humphrey & Humphrey, 1989), the interaction of search group by sex was examined for all analyses. The interaction of search group by country of origin (clustered by search profile) was also examined.

Results

There was a significant association between age and search group, $F(3, 1413) = 3.340, p = .019, R^2 = .007$. Follow-up tests revealed that the mean age of reunited searchers (26.46 years) was significantly higher than of uninterested nonsearchers (26.15 years).

The distribution of sex across search groups is shown in Table 1. Sex was significantly related to search group, $\chi^2(3, N = 1417) = 34.327, p < .001$. A similar percentage of men and women were either reunited or searching, but women had a much greater interest in their biological origins. Parental SES was not significantly related to search group, $\chi^2(6, N = 1417) = 5.899, p = .435$. Table 1 also shows the distribution of country of origin across search groups. There were striking differences in the percentage of reunited searchers on the basis of their countries of origin; these ranged from 0 to 25.9%.

Tables 2, 3, and 4 demonstrate the association of different factors with search group. Although each factor was unique, the overall pattern was that searchers (not including reunited searchers) were older at placement, were more interested in searching during adolescence, had more behavioral problems and psychiatric disorders, and had a less positive attitude towards adoption. Searchers also had more difficult relationships with their adoptive parents: The adoptive parents were more likely to be divorced; in more cases contact with their adoptive parents had broken down; and searchers

Table 1
Search Behavior of Adoptees by Sex and by Country of Origin

	Uninterested nonsearchers		Interested nonsearchers		Searchers		Reunited searchers	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Sex								
Male	278	44.62	163	26.16	102	16.37	80	12.84
Female	238	29.97	290	36.52	148	18.64	118	14.86
Country of origin								
Korea	187	39.12	133	27.82	77	16.11	81	16.95
Colombia	69	36.51	68	35.98	40	21.16	12	6.35
India	58	40.00	64	44.14	17	11.72	6	4.14
Indonesia	30	27.78	29	26.85	21	19.44	28	25.93
Bangladesh	36	37.11	42	43.30	19	19.59	0	0.00
Lebanon	28	40.58	28	40.58	10	14.49	3	4.35
Austria	27	42.86	12	19.05	10	15.87	14	22.22
Other European countries	15	30.00	11	22.00	13	26.00	11	22.00
Other non-European countries	66	30.28	66	30.28	43	19.72	43	19.72
Total	516	36.41	453	31.97	250	17.64	198	13.97

had more problems with the dissimilarity with their adoptive parents. Uninterested nonsearchers differed sharply from the searchers with regard to nearly all these factors. In general, interested nonsearchers were fairly similar to reunited searchers with regard to developmental outcome.

Sex by search group interactions were also tested for all factors. Compared to female reunited searchers, male reunited searchers had relatively higher positive affect about

adoption, and had been relatively young at placement (on average 26.5 months). A relatively small percentage of female reunited searchers had wanted to get to know their birth parents during adolescence. Among searchers, experience of abuse in early childhood was differentiated by sex; male searchers had experienced the most abuse relative to males from other search groups, whereas female searchers had experienced the least.

Table 2
Adjusted Means and Probabilities of Mental Health by Different Search Groups

	Uninterested nonsearchers		Interested nonsearchers		Searchers		Reunited searchers		<i>F/Wald</i>	<i>df</i>	<i>R</i> ²
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Problem behavior in childhood— Parent report (CBCL)											
Internalizing	5.30 _{a,b}	0.29	5.99 _a	0.31	6.08 _a	0.40	4.77 _b	0.46	2.98*	3,1406	.006
Externalizing	6.36 _{a,b}	0.40	7.03 _a	0.42	7.49 _a	0.55	6.50 _b	0.63	1.37	3,1404	—
Total problems	18.87 _a	0.93	21.11 _{a,b}	0.99	21.92 _b	1.27	18.22 _a	1.47	2.66*	3,1403	.006
Problem behavior in adolescence— Self-report (YSR)											
Internalizing	8.47 _a	0.42	9.47 _a	0.47	11.41 _b	0.61	9.57 _a	0.70	6.32***	3,937	.020
Externalizing	9.94 _a	0.38	10.25 _a	0.42	12.64 _b	0.55	9.42 _a	0.63	8.40***	3,937	.026
Total problems	29.82 _a	1.06	32.17 _a	1.17	38.80 _b	1.51	31.08 _a	1.74	9.81***	3,937	.030
Problem Behavior in adulthood— Self-report (YASR)											
Internalizing	8.17 _a	0.42	10.68 _b	0.44	14.30 _c	0.57	11.06 _b	0.66	30.69***	3,1402	.062
Externalizing	6.41 _a	0.28	7.30 _b	0.30	9.37 _c	.39	7.13 _{a,b}	0.45	15.03***	3,1402	.031
Total problems	30.88 _a	1.22	36.81 _b	1.29	48.32 _c	1.67	37.43 _b	1.92	28.71***	3,1391	.058
Psychiatric disorders in adulthood (CIDI/DIS)											
Anxiety disorder	0.101 _a	0.057	0.181 _b	0.080	0.274 _c	0.114	0.158 _d	.069	30.05***	3	.035
Mood disorder	0.066 _a	0.022	0.094 _a	0.027	0.147 _b	0.041	0.137 _b	.035	14.84***	3	.022
Substance abuse/dependence	0.083 _a	0.045	0.080	0.047	0.075 _b	0.043	0.069 _b	.043	0.31	3	—
Disruptive disorder	0.030	0.030	0.031	0.039	0.050	0.054	0.037	.043	3.47	3	—
Any disorder	0.224 _a	0.077	0.313 _b	0.088	0.399 _c	0.094	0.321 _{b,c}	.081	22.79***	3	.023

Note. Analyses were controlled for effects of sex, age, parental socioeconomic status, age at placement, country of origin (clustered by search profile), and problem behavior at Time 1 (1986). Means or probabilities in the same row that do not share subscripts are significantly different. Scores for the CBCL, YSR and YASR are raw mean scores, with higher scores indicating more problem behavior. Scores for CIDI/DIS are proportions of participants with a certain diagnosis. CBCL = Child Behavior Checklist; YSR = Youth Self-Report; YASR = Young Adult Self-Report; CIDI = Composite International Diagnostic Interview; DIS = Diagnostic Interview Schedule.

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

Table 3
Adjusted Means and Probabilities of Adoption Specific Characteristics by Different Search Groups

	Uninterested nonsearchers		Interested nonsearchers		Searchers		Reunited searchers		F/Wald	df	R ²
	M	SD	M	SD	M	SD	M	SD			
Adoption dynamics											
Positive affect about adoption	49.73 _a	0.50	47.83 _b	0.53	43.29 _c	6.8	45.53 _d	0.79	25.84 ^{***}	3,1404	.052
Preoccupation with adoption	13.33 _a	0.34	22.26 _b	0.36	27.04 _c	0.46	15.42 _d	0.53	296.31 ^{***}	3,1406	.387
Negative experience with adoption	10.63 _a	0.20	11.51 _b	0.21	13.32 _c	0.27	11.51 _b	0.32	25.67 ^{***}	3,1407	.052
Parental openness	28.11 _{a,b}	0.41	28.85 _a	0.43	26.98 _b	0.55	27.12 _b	0.65	3.69 [*]	3,1404	.008
Background/early Adversity											
Intraracial adoption	0.081 _a	0.119	.051 _a	0.092	0.092 _{a,b}	0.141	0.126 _b	0.163	8.59 [*]	3	.012
Age at placement (months)	23.27 _a	1.16	27.41 _b	1.23	31.90 _c	1.58	35.29 _c	1.83	15.80 ^{***}	3,1408	.033
Neglect	0.733	0.051	0.699	0.052	0.666	0.065	0.599	0.078	0.91	3,888	—
Abuse	0.173	0.033	0.173	0.034	0.170	0.041	0.197	0.048	0.09	3,729	—
Number of placements	0.578	0.037	0.595	0.038	0.583	0.048	0.471	0.056	1.51	3,914	—
Characteristics of adoptive family											
Contact with adoptive parents	0.970 _a	0.023	0.949 _{a,b}	0.043	0.921 _{b,c}	0.056	0.891 _c	0.066	11.30 [*]	3	.023
Adoption motive parents (unwanted childlessness)	0.637	0.196	0.571	0.209	0.621	0.211	0.532	0.211	3.07	3	—
Divorce adoptive parents	0.104 _a	0.021	0.126 _{a,b}	0.027	0.147 _{b,c}	0.031	0.206 _c	0.043	14.02 ^{**}	3	.018
Birth children in family	0.386	0.140	0.470	0.147	0.480	0.154	0.470	0.147	4.47	3	—
Family similarity interview—											
Problem with dissimilarity											
Intellectual—mother	0.050 _a	0.015	0.102 _b	0.027	0.136 _b	0.035	0.096 _{a,b}	0.027	12.95 ^{**}	3	.021
Intellectual—father	0.048 _a	0.010	0.068 _{a,b}	0.014	0.112 _b	0.022	0.061 _{a,b}	0.014	8.730 [*]	3	.015
Psychological—mother	0.033 _a	0.009	0.086 _b	0.021	0.148 _c	0.033	0.106 _{b,c}	0.024	25.56 ^{***}	3	.047
Psychological—father	0.039 _a	0.013	0.046 _a	0.015	0.132 _b	0.037	0.091 _b	0.026	22.81 ^{***}	3	.041
Physical—mother	0.016	0.007	0.029	0.012	0.052	.020	.035	0.013	6.81	3	—
Physical—father	0.019	0.006	0.029	0.009	0.028	.009	.025	0.007	1.06	3	—
Search interest in adolescence											
Search birth parents/children's home	0.301 _a	0.062	0.543 _b	0.077	0.664 _c	.075	.640 _{b,c}	0.077	62.77 ^{***}	3	.095
Get to know birth parents	0.308 _a	0.067	0.573 _b	0.078	0.716 _c	.073	.589 _{b,c}	0.085	65.56 ^{***}	3	.108

Note. Analyses were controlled for effects of sex, age, parental socioeconomic status, age at placement, and country of origin (clustered by search profile). Means or probabilities in the same row that do not share subscripts are significantly different. For the adoption dynamics, mean scores are presented with higher scores indicating more positive affect, more preoccupation, more parental openness and more negative affect. For neglect, abuse and number of placements also mean scores are presented, with higher scores indicating more adversity. Age at placement indicates mean scores in months. All other variables present the proportions of participants with the characteristics in question.

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

Finally, country of origin by search group interactions were tested for all factors. With the exception of uninterested nonsearchers, adoptees from India, Bangladesh, Lebanon, and Colombia were more preoccupied with adoption than adoptees from Korea, Indonesia, Austria, and other countries. With the exception of reunited searchers, adoptees from India, Bangladesh, Lebanon, and Colombia had also been older at placement.

Discussion

At 31.6%, the proportion of adoptees searching for birth parents was lower in our sample than in the estimates of Müller and Perry (2001a) and Selman (1999), which ranged from 40 to 50%. However, although 32.0% of our adoptees were not actually searching, they were still interested in their roots.

The lower search numbers in our study may be explained by the greater difficulty inherent to conducting an international search rather than a domestic one. To date, few studies have examined the search behavior of international

adoptees (e.g., Irhammar & Cederblad, 2000), and, to our knowledge, none have compared the search behavior among adoptees from different countries of origin.

The percentage of reunited searchers varied widely across the various countries of origin. This may have reflected variations in the difficulty of finding one's birth parents. It may also be pertinent that adoptees from countries in which searching was more difficult—India, Bangladesh, Lebanon, and Colombia—had a greater preoccupation with biological origin than adoptees from other countries.

Any investigation of the factors associated with international adoptees' search for birth parents should take full account of the difficulty they encounter in locating their birth parents. The fact that some adoptees do not search for their birth parents does not mean that they have no wish to do so; instead, it may indicate that other factors may restrict the possibility of a successful reunion.

Many studies have reported that females are more likely to search for their birth parents than males (Müller & Perry, 2001a; Schechter & Bertocci, 1990). Some researchers have

Table 4
Adjusted Means and Probabilities of Social Functioning by Different Search Groups

	Uninterested nonsearchers		Interested nonsearchers		Searchers		Reunited searchers		<i>F</i> / <i>Wald</i>	<i>df</i>	<i>R</i> ²
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
School functioning in childhood											
Grade repetitions	0.219	0.078	0.234	.085	0.238	.086	.227	.067	0.78	3	—
Special education	0.089	0.037	0.091	.041	0.132	.054	.101	.040	4.91	3	—
Educational and professional level in adulthood											
Educational level	4.03	0.05	4.05	.05	3.86	.07	4.04	.08	2.39	3,1389	—
Professional level	3.04	0.05	3.00	.05	2.89	.07	2.94	.08	1.39	3,1233	—
Family status in adulthood											
Married	0.150	0.086	0.132	.074	0.128	.074	0.147	.078	3.76	3	—
Relationship (> 1 year)	0.533	0.101	0.565	.099	0.536	.098	0.545	.105	0.88	3	—
Birth child(ren)	0.114	0.066	0.150	.074	0.156	.078	0.141	.071	1.01	3	—

Note. Analyses were controlled for effects of sex, age, parental socioeconomic status, age at placement, and country of origin (clustered by search profile). For educational and professional level in adulthood, mean scores were presented with higher scores indicating a higher level. For all other variables, proportions of participants with the characteristics in question were presented.

argued that women's greater willingness to participate in the studies led to female overrepresentation (Sobol & Cardiff, 1983). However, our own findings suggest that although females were no more likely than males actually to search for their birth parents, they were more interested in doing so. This is consistent with the results of Irhammar and Cederblad (2000), who found that although women seemed to have a greater interest in their birth family—as expressed by their thoughts about it—there was no statistical gender difference in the sense that one sex searched more actively for information about its family than another.

This study used several measures and several informants to assess problem behavior. Despite variations in methodology, all of our results tended towards the same conclusion: Searchers had more problems, and more searchers met the criteria for psychiatric disorders than did adoptees from other search groups. The lowest level of problems was found in adoptees who did not search for their birth parents, and who were uninterested in doing so (uninterested non-searchers).

Although similar results have been reported (Cubito & Obramski Brandon, 2000), there is no unanimity: Wrobel et al. (2004) found no association between the level of problems and intention to search. However, participants in Wrobel's study were adolescents, and searching was defined more in terms of information seeking. And although Levy-Shiff (2001) found no association between the level of searchers' problems and reunion with their birth parents, one finding is consistent with our own: That searching, not reunion, was associated with problem behavior.

One striking finding was that in childhood, even before beginning their search, future searchers had higher levels of problem behavior than did future nonsearchers who were uninterested in searching for their birth parents. This suggests that the higher problem levels among searchers are not caused by the search itself, but are already present before the search. In at least some adoptees, the problems may actually lead to the search. It is also possible that searchers experience more stress from childhood on caused by the

loss involved in adoption, which they try to cope with by searching (among other things). Another possibility is that entirely different factors, such as family functioning or parenting, may influence both mental health and search interest.

However, it is important to note that the first data for this study were collected when the respondents were aged between 10 and 15 years. On average, children begin to focus on their adoption between 7 and 10, which is when they start asking questions about their roots (Brodzinsky et al., 1992). Thus, when the first measurement of this study took place, many adoptees had already been involved in an internal search process for some time. Future searchers' higher levels of problems in childhood (age 10 to 15 years) may therefore be a product of the early confusion and uncertainty that can accompany a child's exploration of adoption issues.

In childhood, there were also differences between future reunited searchers and future searchers. Specifically, reunited searchers showed lower levels of problem behavior. This finding suggests that reunited searchers were not "cured" by finding their birth parents; even as children, they had belonged to the higher functioning group. In other words, even many years before their search begins, adoptees who eventually succeeded in their search may not have the same characteristics as those who have not succeeded in their search.

This conclusion is further supported by our finding of large sex differences in the reunited searchers. A study by Smith and Brodzinsky (2002) revealed that the more curious adoptees were about their birth parents, the more they used problem-solving coping strategies (such as making a plan to solve the problem or thinking about the problem in a new way). It would be interesting to examine whether, from childhood on, adoptees who are eventually reunited have coping strategies that are distinct from those of searchers or nonsearchers.

Although some studies have indicated that older adoptees are more interested in their birth parents (Sachdev, 1992), our own results indicate that searchers' interest in their

biological origins was already present in adolescence, as was nonsearchers' lack of interest. Interest in biological origin, thus, is very stable over time—a finding that supports the assumption that search is an internal process or natural curiosity that begins in childhood (Schechter & Bertocci, 1990).

However, the tendency to search for birth parents is influenced by a number of factors, an important one being the divorce of adoptive parents. Our finding that the adoptive parents of reunited searchers were more likely to be divorced than the adoptive parents of nonsearchers is confirmed by Irhammar and Cederblad (2000). Although it is unlikely that the divorce of adoptive parents will be triggered by an adoptee's problems with his or her search, the opposite is very plausible: That the divorce of adoptive parents will raise questions in an adoptee's mind about his or her birth parents. It is also possible that divorce negatively influences adoptees' relationships with one or both of their adoptive parents, thereby increasing a desire to contact birth parents.

Although the majority of adoptees maintained regular contact with their adoptive parents, this was less true for searchers and reunited searchers. There are a number of possible explanations for this. Adoptees who searched or were reunited may be more independent—a characteristic that could be reflected in a tendency not only to be actively involved in seeking out their roots, but also to maintain less contact with their adoptive parents. It is also possible that an adoptee's search reduces contact with his or her adoptive parents, thereby putting a strain on their relationship.

Conversely, it is possible that the search was initiated because of a poor relationship (i.e., a lack of regular contact) with the adoptive parents. This seems less likely, however, in the Netherlands, parental openness about adoption is high compared to that in various other countries (e.g., Israel; Lichtenstein, 1996). Sobol and Cardiff (1983) found that the more negative the perceived relationship with the adoptive parents, the greater the degree of searching. They concluded that there are two subgroups of searchers, one whose searching is unrelated to the atmosphere of the home, and one whose searching derives from attempts to meet needs that were unfulfilled in the adoptive-family relationship.

Relative to uninterested nonsearchers, searchers had more problems with their dissimilarity from their adoptive parents. Surprisingly, although physical differences with adoptive parents were not important, intellectual and psychological differences were important. The physical difference between international adoptees and their adoptive parents is apparently so obvious that adoptees have no problem with it. A lack of psychological or intellectual similarity with their parents may be harder to accept, and might raise more difficulties in family functioning.

Age at placement was also associated with searching behavior: The older the adoptees were at placement, the more interest they had in searching. This finding contradicts other research indicating that searchers were more likely to have been placed in adoptive families earlier than nonsearchers (Aumend & Barrett, 1984; Smith & Brodzinsky, 2002; Sobol & Cardiff, 1983). Although it is unclear why

different studies have produced different results, our own hypothesis is that adoptees who are older at placement have more memories from before their adoption and may therefore be more curious about their roots.

Is searching for birth parents an indicator of an unsuccessful adoption, or is it a normative developmental task? Is searching necessary, or should it be discouraged? Several studies (Howe & Feast, 2001; Howe et al., 2000; Müller & Perry, 2001b) have shown that, after a successful search, the long-term outcomes of reunion differ enormously between adoptees. Some go on to have close relationships with their birth parents, whereas some end all contact directly after the reunion. Interestingly, whatever the outcome, adoptees are almost always satisfied with their search. Contact with birth parents satisfies an adoptee's need for information and, to a lesser extent, for emotional support from their birth parents. The majority of adoptees felt that the contact with their birth parents had a positive effect on their self-concept, self-esteem, and their relationships with others (Howe & Feast, 2001; Howe et al., 2000; Müller & Perry, 2001b).

When earlier results are combined with our own, it is possible neither to urge adoptees to search for their biological parents, nor to dissuade them from doing so. If an adoptee feels the desire to search and has the opportunity to do so, such a search might be important. After all, our findings indicate that the cause of searchers' higher level of problem behavior is not searching itself. Whatever the outcome of the search, the experience may be worthwhile for the adoptee (Müller & Perry, 2001b). However, if they have no desire to search for birth parents—and this is quite a large group—they should not be forced. Nonsearchers in our sample were generally well-adjusted, so searching does not seem to be a necessary developmental task.

This study demonstrates that the classification into search groups is crucial for interpretation of results. A distinction between "searchers" (including reunited adoptees) and "nonsearchers" (whether interested or uninterested) is not sensitive enough to reveal differences. Because uninterested nonsearchers differed from interested nonsearchers, and because searchers differed from reunited searchers, important differences would have been masked if these groups had been combined.

Further research on searching for birth parents should therefore be based on different subgroups of searchers and nonsearchers. And as it is important to include factors that limit the options for contacting birth parents (such as their death), future research should also include a category such as "would want to search, but is unable to." Because the present study was unable to identify adoptees who had searched in the past but who had stopped (either because they had lost interest or because they had found sufficient but incomplete information), future questionnaires should also include questions on earlier searches.

In summary, almost one-third of the international adoptees in our sample searched for or were reunited with their birth parents. Of those who did not search for their birth parents, half were interested in their birth family. Our study examined many factors associated with searching for birth parents, including mental health, social functioning, early

adversity, and the characteristics of the adoptive family. Our longitudinal data reveal that the higher levels of problem behavior among searchers were not caused by the search itself, and that those who were successfully reunited were not cured by the search. Many years before they started their attempts to find their birth parents, adoptees who finally succeeded in their search may have had very different characteristics from those who did not succeed in their search.

In general, for some adoptees—that is, those whose interest in their origins was already present in adolescence—searching may be the result of a natural curiosity. Nevertheless, the desire to search may also be affected by various external factors, including the divorce of adoptive parents. Finally, the possibility of performing a search is itself an important factor that influences searching behavior.

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