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Adoptees Do Not Lack Self-Esteem: A Meta-Analysis of Studies on Self-Esteem of Transracial, International, and Domestic Adoptees

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Do adopted children show lower self-esteem than nonadopted peers, and do transracial adoptees show lower self-esteem than same-race adoptees? Adopted children are hypothesized to be at risk of low self-esteem. They may suffer from the consequences of neglect, abuse, and malnutrition in institutions before adoption. They have to cope with their adoptive status, which often includes difficulties associated with the lack of resemblance to their adoptive parents. Additionally, transracial and international adoptees may feel less integrated into their family, resulting in low self-esteem. In a series of meta-analyses, the authors found, however, no difference in self-esteem between adoptees ($N = 10{,}977$) and nonadopted comparisons ($N = 33{,}862$) across 88 studies. This was equally true for international, domestic, and transracial adoptees. Across 18 studies including 2,198 adoptees, no differences in self-esteem were found between transracial and same-race adoptees. In contrast, in a small set of 3 studies ($N = 300$), adoptees showed higher levels of self-esteem than nonadopted, institutionalized children. The authors' findings may be explained by adoptees' resilience to overcome early adversity, supported by the large investment of adoptive families. Adoption can be seen as an effective intervention, leading to normative self-esteem.

Keywords: meta-analysis, self-esteem, adoptees, transracial adoption, international adoption

Do adopted children show lower self-esteem than their nonadopted peers, and do transracial adoptees (children of color placed in White families) show lower self-esteem than same-race adoptees (children placed in same-race families)? Many studies and several meta-analyses have shown that adopted children lag behind in physical growth, school performance, and language abilities; show more attachment and behavior problems; and are substantially overrepresented in mental health referrals and services for learning problems (Juffer & Van IJzendoorn, 2005; Van IJzendoorn, Bakermans–Kranenburg, & Juffer, 2007; Van IJzendoorn, Juffer, & Klein Poelhuis, 2005). The central issues for this meta-analytic review are (a) whether the problems of adopted children shown in the physical, cognitive, and socioemotional domain can also be found in the domain of self-esteem and (b) whether adoptees show better self-esteem than nonadopted, institutionalized children. A third issue is whether transracial and same-race adoptees differ in self-esteem. In some countries, for example, the United Kingdom, transracial adoptions have long been discouraged because of potential detrimental effects (see also Gill & Jackson, 1983; Office of the United Nations High Commissioner for Human Rights, 1989; Simon & Altstein, 1996).

Adoption: Risks, Protective Factors, and Resilience

Adoption—defined as the legal placement of abandoned, relinquished, or orphaned children within an adoptive family—can be characterized as a situation with risk and protective factors. According to the theory of risk and protective factors, an accumulation of risk factors leads to less optimal child development, whereas protective factors may buffer the negative effects of the risks, resulting in resilience in children (Rutter, 1987, 1990; Werner, 1993, 2000). Risk factors that have been studied include child abuse and neglect, teenage motherhood, parental mental illness, and perinatal complications. Surprisingly, some children from high-risk backgrounds appeared to show normative developmental outcomes despite experiences of adversity (Werner, 1993, 2000). In the same vein, children have shown sustained competence under conditions of stress such as parental divorce, and individuals have successfully recovered from serious childhood traumas such as war (Werner, 2000). Under each of these conditions, protective factors are assumed to buffer or ameliorate children's reaction to a stressful situation or chronic adversity so that their adaptation is more successful than would be the case without protective factors (Masten, Best, & Garmezy, 1990; Werner, 2000). Protective factors (e.g., having a secure attachment relationship with a supporting parent) can thus be conceived as moderators of risk and adversity that enhance the chance for normative developmental outcomes in children, while resilience is the result

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of buffering processes that allow the child to deal with stress and adversity effectively (Rutter, 1987; Werner, 2000). Werner (2000, p. 118) identified a positive self-concept in resilient individuals as one of the protective factors, replicated in at least two longitudinal studies of at-risk children.

Each year more than 40,000 children are placed worldwide through international adoption (Selman, 2005), and additionally large numbers of children are placed through domestic adoption (e.g., about 60,000 annually in the United States alone; Nickman et al., 2005). Often these children come from depriving backgrounds, including abuse and neglect, lack of medical care, and malnutrition in orphanages (Gunnar, Bruce, & Grotevant, 2000; Johnson, 2002; Miller, 2005). However, these preadoption risks cannot be generalized to every adopted child, as there are large political, geographical, and cultural differences in the countries of origin that impact the quality of caregiving before adoption (Selman, 2005). Compared with their nonadopted peers, adopted children show more developmental delays (e.g., Beckett et al., 2006; Morison, Ames, & Chisholm, 1995), attachment problems (e.g., Chisholm, 1998; Marcovitch et al., 1997), internalizing and externalizing behavior problems (e.g., Stams, Juffer, Rispens, & Hoksbergen, 2000; Verhulst, Althaus, & Versluis–den Bieman, 1990), and psychiatric problems (e.g., Hjern, Lindblad, & Vinnerljung, 2002; Tieman, Van der Ende, & Verhulst, 2005) in adolescence and adulthood.

Furthermore, adoptees have to cope with difficulties connected with the lack of genetic relatedness and (physical) resemblance to their adoptive parents (Brodzinsky, Schechter, & Henig, 1992; Juffer, 2006). The somewhat elevated risks of behavior problems and cognitive delays, as well as the feelings of being different, may foster low self-worth in (some) adopted children, and in particular the accumulation of risks over time (Rutter, 1990; Werner, 2000) may negatively influence the development of adequate self-esteem in adoptees. Additionally, transracial and international adoptees may feel less integrated into their family and culture because of their different appearance and ethnic origin, possibly resulting in lower self-esteem than in same-race adoptees (Hollingsworth, 1997). Empirical studies have shown equivocal outcomes: Some studies found lower self-esteem in adoptees than in nonadopted comparisons (e.g., Lanz, Iafrate, Rosnati, & Scabini, 1999; Passmore, Fogarty, Bourke, & Baker–Evans, 2005), but other studies reported no difference between adoptees and nonadoptees (e.g., Lansford, Ceballo, Abbey, & Stewart, 2001; Norvell & Guy, 1977) or differences in favor of the adoptees (e.g., Aumend & Barrett, 1984; Brown, 2000). A meta-analysis of the pertinent studies can show whether adoptees are at risk of low self-esteem.

Adoption can also be conceived as a situation offering protective factors and mechanisms. It should be noted that empirical studies and meta-analyses without exception have concluded that the large majority of adoptees are well adjusted and that the problems are shown by a (relatively large) minority (Bimmel, Juffer, Van IJzendoorn, & Bakermans–Kranenburg, 2003; Juffer & Van IJzendoorn, 2005; Nickman et al., 2005; Van IJzendoorn et al., 2005), pointing to protective factors in the adoptive family context that foster resilience in the adopted children. Adoption has been described as a natural intervention in the lives of adopted children (Johnson, 2002; Rutter, O'Connor & the English and Romanian Adoptees Study Team, 2004), leading to a remarkable catch-up in most domains of development, outperforming the children left behind in institutional care (Van IJzendoorn & Juffer, 2006). The change of environment from institutional care or from a birth family without resources to a usually nurturing adoptive family is drastic and turns children's development in a positive direction. Adoptive parents are usually well educated, and they generally provide the adopted children with an enriched and nurturing environment (e.g., Schwartz & Finley, 2006; Stams et al., 2000), although less is known about how they embrace and accept the cultural heritage of the child (but see Lee, Grotevant, Hellerstedt, Gunnar, & the Minnesota International Adoption Project Team, 2006). The often substantial parental investment and the support offered by the social environment (e.g., peers, teachers) may provide adoptees with protective factors, resulting in increased competence and resilience. The question here is whether for adoptees these protective factors are powerful enough to result in normative self-esteem or whether the risk factors take their toll and lead to low self-esteem.

Global Self-Evaluations and Self-Esteem

Self-esteem is considered to be one of the most important pillars of healthy personality development (Harter, 1999). Harter (1999, p. 5) distinguishes between self-evaluations that represent global characteristics of the individual (e.g., "I am a worthwhile person") and those that reflect the individual's sense of adequacy across particular domains, such as cognitive competence (e.g., "I am smart") and athletic competence (e.g., "I am good in sports"). According to Harter (1999), global self-evaluations have been referred to as "self-esteem," "self-worth," or "general self-concept." In each case, the focus is on the overall evaluation of one's worth or value as a person (Harter, 1999). Furthermore, some self-esteem instruments aggregate domain-specific self-evaluations into a single score for self-esteem (e.g., Coopersmith, 1981). In this meta-analysis we focus on global self-evaluations (referring to how worthwhile and confident an individual feels him- or herself to be) as well as on aggregated domain-specific self-evaluations, and we use the term *self-esteem* for both types of self-evaluations.

Research has shown that it is adaptive for people to have a positive sense of themselves and that low self-esteem is associated with dysfunctional outcomes, such as depression (Harter, 1999) and externalizing behavior problems (Brent Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005). In three studies, Brent Donnellan et al. (2005) found a robust relationship between low self-esteem and externalizing behavior problems—such as aggression, antisocial behavior, and delinquency—both in a cross-sectional and longitudinal design. These outcomes point to low self-esteem as a risk factor for psychopathology. Leary (2004) has suggested that self-esteem is an internal indicator of social acceptance and belonging, or a *sociometer*. Leary's sociometer theory states that the most basic human motive is to belong and to be socially connected. Feeling good about oneself (self-esteem) is an indicator that an individual is accepted by the social environment. In terms of the perspective of risk and protective factors, acceptance by others may serve as a protective factor in the face of risks. Leary (2004, p. 479) provides an evolutionary reason for the sociometer function of self-esteem: Members of a social species (such as human beings) that depend on group living, cooperation, and social support to survive need a mechanism for monitoring

others' reactions to them, particularly with regard to social acceptance and rejection.

Attachment theory provides a comparable evolutionary model of self-esteem. Self-esteem has been suggested to be the corollary of a secure attachment, which is basic trust in a supportive other (Ainsworth, 1989). From the perspective of risk and protective factors, a close attachment bond with a primary caregiver may serve as a protective factor (Werner, 2000). As Bowlby (1982) stated, internal working models of the attachment figure and of the self are complementary. A working model of the self as valued and valuable is constructed in the context of a working model of the attachment figure as loving, responsive, and emotionally available (Bretherton & Mulholland, 1999), providing young children with a set of expectations that guides their behavior (Sroufe, 1990). Thus, securely attached children not only feel supported and protected by their parents, but they also feel lovable and worthwhile themselves; in other words, they have adequate self-esteem. There is indeed empirical evidence that securely attached children are rated higher on indices of self-esteem (e.g., Booth–Laforce et al., 2006; Cassidy, 1988; Elicker, Englund, & Sroufe, 1992; Verschueren, Marcoen, & Schoefs, 1996). Because adoption involves the breaking and making of affectional bonds, secure attachments and related self-esteem may be more difficult to develop than in nonadopted children. From the perspective of our meta-analyses, it is important to know whether adopted children feel as confident and worthwhile as their nonadopted siblings and peers, despite possible experiences of loss and rejection caused by the adoption process (Brodzinsky, 1990; Leon, 2002; S. L. Smith, Howard, & Monroe, 2000).

Self-Esteem in Adoptees

Based on stress and coping theory, Brodzinsky et al. (1992, p. 63) stated that "being adopted can complicate the development of self-image and self-esteem." The emergence of acceptable levels of self-esteem in adopted children is not self-evident, because they may not only feel cut off from their birth parents but also rejected by them (Brodzinsky et al., 1992; S. L. Smith et al., 2000). Adoptees may blame themselves for their relinquishment and think that they were not worthwhile enough for the birth mother to keep them. In an empirical study, D. W. Smith and Brodzinsky (2002) found that adopted children who reported higher levels of negative affect about birth parent loss also reported higher levels of depression and lower self-worth. Adopted children may perceive differences between adoptive family members (siblings, parents) and themselves regarding temperament or educational level (Tieman et al., 2005) and evaluate themselves as less valuable. International and transracial adoptees may feel out of place in another national, cultural, or ethnic environment. Adoptees may also suffer from impaired or delayed physical growth and because of their short stature feel inferior to their peers (Mul, Oostdijk, & Drop, 2002; but see Voss, 2006). They may not live up to the academic standards of their school, or they may find themselves in the situation of needing treatment for their learning problems or behavioral difficulties.

On the other hand, adopted children appear to benefit from social support from their parents and wider environment (Jaffari–Bimmel, Juffer, Van IJzendoorn, Bakermans–Kranenburg, & Mooijaart, 2006; Stams, Juffer, & Van IJzendoorn, 2002). In some studies, adopted children placed in infancy have been found to compare favorably with nonadopted peers regarding prosocial competence and peer group popularity (Sharma, McGue, & Benson, 1996; Stams et al., 2000). Sharma et al. (1996) suggested that adoptees, who have already experienced loss, may try to avoid future abandonment by strengthening their social abilities. Adoptive parents may have adequate social abilities themselves and pass on prosocial values to their children, or they may teach adoptees prosocial values to make them less vulnerable to racial discrimination (Stams et al., 2000). Moreover, a secure attachment relationship with the adoptive parents may positively influence the adoptee's later social development (Jaffari–Bimmel et al., 2006; Stams et al., 2002). Our meta-analysis should address the question of whether adopted children develop acceptable levels of self-esteem, given the potentially negative feelings triggered by their relinquishment, but also given the positive opportunities for social development in the adoptive family. Because of these positive opportunities we expect higher levels of self-esteem in adoptees compared with those found in children left in institutional care. We also expect that, compared with their nonadopted counterparts, adoptees show lower self-esteem because of preadoptive adversities, delays, and feelings of stress resulting from the adoption process (being relinquished; having a different [ethnic] appearance). Because empirical studies examining the risk of low self-esteem in adoptees showed equivocal evidence (see above), a meta-analysis is the most obvious method to provide a more exact estimate of that risk. In a meta-analytic approach, all available pertinent studies are integrated and quantified, and an overall risk—in our case the risk of low self-esteem in adoptees—can be computed (Cooper & Hedges, 1994; Mullen, 1989). Moreover, a meta-analysis enables the search for moderating factors and may result in conclusions about the potential risks of low self-esteem in specific subgroups of adoptees. For example, for practice and further research it is important to know whether adoptees show normative levels of self-esteem in different life stages, whether different categories of adoptees (e.g., children adopted before or after their first birthday) score differently on measures of self-esteem, and whether outcomes are different for self-report and report by others.

Since 1970, many studies have examined the self-esteem of adoptees in different life stages. In some studies, the self-esteem of adopted children was reported (e.g., Palacios & Sanchez, 1996; Pinderhughes, 1998), while other studies examined adopted adolescents' self-esteem (e.g., Kühl, 1985; Lanz et al., 1999; Westhues & Cohen, 1997) or the self-esteem of adopted adults (e.g., Borders, Penny, & Portnoy, 2000; Levy–Shiff, 2001; Norvell & Guy, 1977). There is no clear-cut hypothesis about the life stage(s) in which adoptees particularly are at risk of low self-esteem, although puberty has been mentioned as a period of increased turmoil and reflections on one's identity (Sharma, McGue, & Benson, 1998; Verhulst & Versluis–den Bieman, 1995), suggesting that adoptees may develop low self-esteem during adolescence.

Several studies have examined the self-esteem of children adopted as babies (e.g., Lansford et al., 2001; Jungmann, 1987), while many others reported on the self-esteem of children adopted after their first birthday (e.g., Fletcher, 1995; Forsten–Lindman, 1993). It may be hypothesized that children adopted after their first birthday are more affected by the consequences of early deprivation and the lack of basic trust, leading to distorted representations

of others and self and ultimately to low self-esteem (Bowlby, 1982). This may be even more the case in children adopted after their second or fourth birthday. Finally, it is important to know whether the adoptees themselves evaluate their self-esteem differently from other informants (parents, teachers). In some studies on adopted children's behavior problems, adoptive parents reported more difficulties than the adoptees themselves did (Versluis–den Bieman & Verhulst, 1995), suggesting that lower self-esteem may be found in studies relying on parent report compared with studies that are based on self-report (cf. Hollingsworth, 1997). Therefore, studies in our meta-analysis measuring adoptees' self-esteem by parent or teacher report (e.g., Stams et al., 2000) will be contrasted with studies based on self-report (e.g., Aumend & Barrett, 1984; Groze, 1992).

Transracial and International Adoptees

There is much more literature on the (hypothesized) effects of transracial adoption on children's self-esteem than literature on the effects of international adoption. However, in most cases the effects of transracial adoption on self-esteem are thought to generalize to international adoptions. For example, Brodzinsky et al. (1992, p. 63) added the following to their statement that being adopted may complicate the development of self-esteem (see above): "especially when the adoptee does not look like his parents." The authors continued that the lack of physical similarity is a common factor in most transracial and international adoptions, and they hypothesized that these adopted children might have trouble coming to terms with their self-concept, as looking different can be disconcerting (see also Lee, 2003). To test this hypothesis we constructed two moderators in our meta-analysis: international adoption (international vs. domestic adoptees), and transracial adoption (transracial vs. same-race adoptees).

For a long time, transracial adoption has been surrounded by controversy and criticism (e.g., Lee, 2003; Simon & Altstein, 1996). Opponents of transracial adoption have declared that Black children in White homes were cut off from the healthy development of their identity as Black people and thus could not develop acceptable levels of self-esteem (McRoy, Zurcher, Landerdale, & Anderson, 1982; Simon & Altstein, 1996). Hollingsworth (1997) noted that in some studies, transracial adoptees were compared with White adoptees, whereas she argued that the crucial question is whether transracially adopted children would be able to develop their racial or ethnic identity and corresponding self-concept comparable to ethnic minority group adoptees of same-race parents, while controlling for adoptive status itself (Hollingsworth, 1997, p. 103). In our meta-analyses we took this issue into account by constructing an additional moderator: "ethnicity of the comparison group." In addition to the overall comparisons between transracial and same-race adoptees, we compared the self-esteem of transracial (e.g., Black) adoptees in White families with the self-esteem of same-race, non-White adoptees in same-race families (e.g., Black adoptees in Black families), which may be one of the most stringent tests of transracial adoption.

In conclusion, we examined in a meta-analysis the self-esteem of adoptees and expected to find lower self-esteem in adoptees than in nonadopted comparisons (Brodzinsky et al., 1992) but higher self-esteem than in institutionalized children (cf. Van IJzendoorn et al., 2005; Van IJzendoorn & Juffer, 2006). We also hypothesized that children adopted after their first birthday develop lower self-esteem than children adopted as babies. Furthermore, we expected to find lower self-esteem in adolescence than in other life stages, lower self-esteem in reports by parents or teachers than in self-report, and lower self-esteem in transracial or international adoptees than in same-race or domestic adoptees (Brodzinsky et al., 1992). Lastly, we examined in a separate meta-analysis the self-esteem of transracial and same-race adoptees, expecting lower self-esteem in transracial than in same-race adoptees (Hollingsworth, 1997).

Method

Selection of Studies

Three search strategies were used to systematically collect empirical studies documenting adoptees' self-esteem (Cooper & Hedges, 1994; Mullen, 1989). First, PubMed (U.S. National Library of Medicine), PsycLit (Psychological Literature), and ERIC (Education Resource Information Center) were searched with the keyword *adopt** (thus including *adoption, adopted, adoptive, adoptee*), combined with *self-esteem, self-concept, self-confidence, self-worth, self-image,* or *self-assurance* (hereafter called *self-esteem*) to find adoption studies published between 1970 and 2007. Second, the references of the collected journal articles, books, book chapters, dissertations, and reports were searched for relevant studies. Third, experts in the field were asked for relevant studies. The search was not limited to English-language publications. Our selection criteria were broad in order to include as many pertinent studies as possible. We searched for studies comparing the self-esteem of (international) adoptees and nonadopted comparisons or nonadopted institutionalized children, as well as studies examining these concepts in transracial and same-race adoptees. Adoptees in all age groups, from childhood through adulthood, were included. In the case of a longitudinal study, the first assessment with adequate data was used to ensure that every adoptee was counted only once in the pertinent meta-analyses. Similarly, a study sample described in more than one article or chapter was used only once.

We included studies that were based on the Harter Self-Perception Profile for Children (Harter, 1985), the Rosenberg Self-Esteem Scale (Rosenberg, 1979), the Coopersmith Self-Esteem Inventory (Coopersmith, 1981), and the Piers–Harris Children's Self-Concept Scale (Piers, 1984) or related measures to examine self-esteem. We included well-known and generally accepted standardized self-esteem measures, such as the Harter Self-Perception Profile for Children and the Rosenberg Self-Esteem Scale (Schmitt & Allik, 2005), but we also made use of measures that targeted broader aspects of child development or personality and reported separate self-esteem scores. Thus, we extracted self-esteem ratings from interviews (e.g., Bohman, 1970; Fan et al., 2002) and surveys (e.g., Sharma et al., 1998), and we used the self-esteem scores of broader personality measures such as the California Child Q-Set (Block & Block, 1980) in the study by Stams et al. (2000). If only a general personality score was reported in a study and a distinct self-esteem score could not be derived, that particular study was excluded from the current series of meta-analyses (e.g., Hoopes, Sherman, Lawder, Andrews, & Lower, 1969; Marquis & Detweiler, 1985). Generally, the reliability of the self-esteem measures typically reported in the adoption

studies in our meta-analyses ranged from moderate to high. It could be argued that journals may set higher standards with respect to the minimal psychometric properties of the self-esteem measures than is the case in books and reports. Therefore, we distinguished between these different publication outlets to test whether a potential difference in psychometric quality resulted in different outcomes (see below).

Exclusion criteria were (a) studies of clinical samples, for example, adopted children referred to psychiatric clinics or given medical treatment (e.g., Mul et al., 2001); (b) studies that exclusively sampled adopted children exposed to alcohol or drugs in utero; and (c) physically or mentally handicapped adopted children.

Some studies compared adoptees with nonadopted comparisons, as well as transracial with same-race adoptees. However, each study (and each participant) was included only once in a pertinent meta-analysis (Cooper & Hedges, 1994). In the same vein, three studies compared adoptees with a group of institutionalized children, as well as with a group of nonadopted noninstitutionalized children. We included the groups of adopted and institutionalized children in the specific meta-analysis on the comparison of adopted and institutionalized children. The groups of adopted and noninstitutionalized children were included in the meta-analysis on the comparison of adopted and nonadopted children.

Data Extraction

We used a detailed coding system to extract from every study data on sample characteristics, design, and publication outlet. Satisfactory intercoder reliabilities were established (97%, range: 85%–100%; $k = 20$).

The following sample characteristics were extracted: gender, age at adoptive placement, age at assessment, international or domestic adoption, transracial or same-race adoption, and preadoption adversity. If they were available, gender findings (in case this was not reported, the study was placed in the category "mixed") or findings for different age groups were included separately, these groups being considered as subsamples or study outcomes (k). We coded whether the adoptees were placed for adoption at age 0–12 months, 12–24 months, 24–48 months, or older than 48 months (or "not reported," if data were not reported or extractable). We also coded the participants' age at the time of the assessment: age 4–12 years, 12–18 years, or older than 18 years. Studies were coded as international adoptions when the participants were born in a country of origin but were adopted and reared in another country (e.g., children from South Korea, Bangladesh, and other countries, adopted in Canada in Westhues & Cohen, 1997). Studies were coded as domestic adoptions when children were born, adopted, and reared in their country of origin (e.g., children born and adopted in the United States in Hoopes, Alexander, Silver, Ober, & Kirby, 1997). Studies were coded as transracial adoptions when children were adopted by parents of a different race (e.g., Black adoptees in White families in McRoy et al., 1982) and as same-race adoptions when children were adopted by parents of the same race (e.g., Black adoptees in Black families in Vroegh, 1997; or White adoptees in White families in Bagley, 1991). When studies failed to report whether the adoptees were adopted internationally or transracially, the study was coded as "not reported" for that specific category. In accordance with our previous work (Juffer & Van IJzendoorn, 2005; Van IJzendoorn et al., 2005), we coded a study as showing definite evidence of preadoption adversity if at least 50% of the sample experienced serious deprivation or maltreatment, such as severe neglect, malnutrition, and/or (physical/emotional/sexual) abuse (e.g., Groze, 1992; Pinderhughes, 1998). As most adoptees experienced at least some deprivation before adoptive placement, and as preadoption histories were not known with certainty in most cases, our index of adversity must be considered as a proxy for the most extreme preadoption circumstances. When studies did not meet our criterion of at least 50% deprivation or maltreatment, they were coded as having no evidence of preadoption adversity (and "not reported" was coded when studies failed to report on this issue).

The moderator "ethnicity of the comparisons" in the meta-analysis of transracial versus same-race adoptees was introduced above. Hollingsworth (1997) stated that the most relevant comparison is not between transracially adopted children of color placed in White families and White adoptees placed in White families. The best comparison would be between transracially adopted children of color placed in White families and non-White families who adopted same-race non-White children (Hollingsworth, 1997; see introduction). Therefore we also compared the self-esteem of transracial and same-race adoptees on the basis of this distinction.

The following design characteristics were extracted and coded: type of comparison group, type of report, standardized measure, general/specific sample, and country and year of publication. Studies that did not use a nonadopted comparison group or norm group (e.g., Tennessee Self-Concept Scale norms; Fitts & Warren, 1996) were not included in the meta-analyses, with the exception of studies comparing transracial and same-race adoptees. Nonadopted comparison groups were coded as general population samples, classmates, or current siblings, meaning the siblings in the adoptive family who were the biological children of the adoptive parents. We coded whether self-esteem was assessed through self-report or through reports from other informants (parents, teachers, or observers). It was coded whether a standardized self-esteem measure (e.g., Harter Self-Perception Profile for Children) or a nonstandardized self-esteem rating derived from an interview or from a broader personality measure was used. We also coded whether the adoptees in a study were recruited from a nonspecific, general sample or from a special adoption support or activist group (e.g., support groups for searching adoptees, groups striving for more liberal adoption policies, Internet groups). Also, continent and country of study were extracted, distinguishing between studies conducted in North America (United States and Canada) and those conducted in other continents, and those in the United States versus those in other countries. Finally, we extracted year of publication and analyzed studies published during the periods 1970–1979, 1980–1989, 1990–1999, and 2000–2007, as well as those before versus those after 1990.

Publication outlet was coded as an indication of study quality. We distinguished between studies published in refereed scientific journals and those published in reports, dissertations, books, or book chapters. Peer-reviewed journals may set higher standards than nonrefereed outlets (see above). Alternatively, compared with books and chapters, scientific journals may be more hesitant in accepting studies with small sample sizes and/or nonsignificant outcomes (resulting in a "file drawer problem" or publication bias; see below; Mullen, 1989; Rosenthal, 1979).

Statistical Methods

For each adoption study (or subsample of a study) we calculated an effect size, Cohen's *d,* the standardized difference between the means of the adopted group and those of the nonadopted group (or between the means of the transracial adoptees and those of the same-race adoptees). According to Cohen's (1988) criteria, *d*s of < 0.20 are considered small effects, *d*s of about 0.50 moderate effects, and *d*s of about 0.80 large effects. No outlying effect sizes ($z < -3.3$ or $z > 3.3$; Tabachnick & Fidell, 2001) were detected in the meta-analytic datasets after conversion into Fisher's *z*. Effect sizes indicating lower levels of adopted children's self-esteem got a positive sign (we expected that adopted children would be outperformed by their nonadopted comparisons), whereas effect sizes indicating better self-esteem for adopted children got a negative sign. The effect sizes were computed in Borenstein, Rothstein, and Cohen's (2000) Comprehensive Meta-Analysis (CMA, version 2) program, which also computed 95% confidence intervals (CI) around the point estimate of an effect size. The *Q* statistic (computed by CMA) was used to test the homogeneity of the specific set of effect sizes and the significance of moderators (Borenstein et al., 2000; Mullen, 1989). CMA provides for different options regarding the meta-analytic models. In the set of studies comparing adoptees and their nonadopted counterparts, random effect models were used when the subsets were all heterogeneous, and mixed effects models were used when the analysis involved both homogeneous and heterogeneous subsets. The set of studies comparing transracial and same-race adoptees was homogeneous; therefore we decided to compute the combined effect sizes in the context of fixed effect models in this meta-analysis (Rosenthal, 1995).

Combined effect sizes and confidence boundaries were recomputed after one study at a time was removed (available in CMA, version 2). This method of testing the stability of the outcomes is similar to a jackknife procedure, in which an entire sample except for one value is taken and then the test statistic of interest calculated. The process is repeated, each time a different value being left out and each time the test statistic being recalculated (Borenstein et al., 2000). Additionally, we used Duval and Tweedie's "trim and fill" method developed to estimate potential publication bias (available in CMA, version 2). Using this method, we constructed a plot of each study's effect size against its precision (1/*SE*). These plots should be shaped like a funnel if no publication bias is present. However, since smaller or nonsignificant studies are less likely to be published, studies in the bottom left-hand corner of the plot are often omitted (Duval & Tweedie, 2000a, 2000b; Sutton, Duval, Tweedie, Abrams, & Jones, 2000). For the meta-analyses the right-most studies considered to be symmetrically unmatched are trimmed. The trimmed studies are then replaced and their missing counterparts imputed or "filled." This then allows for the computation of an adjusted effect size and confidence interval (Gilbody, Song, Eastwood, & Sutton, 2000).

Results

The outcomes of our series of meta-analyses are presented in three sections. First, the meta-analysis comparing self-esteem in adopted and nonadopted groups is described, and possible moderators are analyzed. Second, we compare the self-esteem of adopted and institutionalized children. Third, in a separate meta-analysis we compare the self-esteem of transracial and same-race adoptees.

For our series of meta-analyses, we found 64 research papers comparing self-esteem in adopted and nonadopted groups (see Table 1), 3 papers comparing the self-esteem of adopted and institutionalized children (see Table 1), and 13 papers comparing the self-esteem of transracial and same-race adoptees (see Table 2). The studies were published in English, Dutch, German, and Spanish and conducted in Australia, Canada, Finland, Germany, Israel, Italy, the Netherlands, New Zealand, Spain, Sweden, the United Kingdom, and the United States.

Self-Esteem of Adoptees and Nonadopted Comparisons

From the 64 scientific papers mentioned above (see Table 1), we extracted 88 study outcomes (hereafter called studies) comparing the self-esteem of adoptees and their nonadopted counterparts. The overall combined effect size for the total set of 88 studies was not significant ($d = 0.01$, $p = .79$, $N = 44{,}839$) in a heterogeneous set of studies, $Q(87) = 337.41$, $p < .001$ (see Table 3). Thus, in comparing 10,977 adoptees with 33,862 nonadopted persons, we showed that adoptees' self-esteem did not differ from the self-esteem of their peers. The trim and fill procedure showed no publication bias. The jackknife procedure showed that the combined effect size remained the same when one study at a time was removed from the total set of studies.

Because we did not find an overall risk of low self-esteem for adoptees in this comprehensive meta-analysis, it is important to search for moderating factors in this heterogeneous set of studies and to examine whether potential risks exist in specific groups of adoptees or can be identified by specific design features. Several moderators were analyzed.

Sample characteristics. Self-esteem differences between adoptees and nonadopted comparisons were not significant when we contrasted international adoptees ($d = -0.06$, $p = .42$, $k = 23$, $n = 8{,}205$) with domestic adoptees ($d = 0.01$, $p = .84$, $k = 55$, $n = 18{,}128$), $Q(1) = 0.62$, $p = .43$ (see Table 3 for more details on CIs, numbers of adopted and nonadopted participants, and heterogeneity of the sets of studies). Contrasting samples of transracial adoptees ($d = -0.04$, $p = .49$, $k = 32$, $n = 8{,}751$) with samples without transracial adoptees ($d = 0.06$, $p = .17$, $k = 51$, $n = 17{,}810$) did not yield a significant difference, $Q(1) = 1.89$, $p = .17$. Preadoption adversity was not related to the effect sizes of the studies ($p = .12$).

For the studies that provided distinct data based on gender, we found no differences between female adoptees and male adoptees ($p = .22$). Although the number of studies presenting separate gender data ($k = 19$) was modest compared with the number of studies presenting data for both genders together ($k = 69$), it could be argued that those studies that did not present separate data did not do so (mainly) because they did not find gender differences in self-esteem. Adoptive placement before the first birthday ($d = -0.02$, $p = .66$, $k = 38$, $n = 9{,}104$) or after the first birthday ($d = 0.05$, $p = .34$, $k = 42$, $n = 10{,}731$) was not associated with differences in self-esteem of adoptees, $Q(1) = 0.99$, $p = .32$, and in the same vein, no differences were found for adoptive placement at older ages (see Table 3). Furthermore, no differences were found on the basis of age at assessment, contrasting children ($d = -0.01$, $p = .92$, $k = 21$, $n = 3{,}745$), adolescents ($d = -0.02$, $p =$

Table 1
Self-Esteem of Adoptees Versus Nonadopted Comparisons

Source	Number of adoptees	Number of nonadopted comparisons	Age at adoption (in months)	Age at assessment (in years)	TRA	INT	Country of study	Measure (informant)
Andujo (1988)	30	Norms	>24	12–18	TRA		United States	Tennessee Self-Concept Scale (S)
	30	Norms	>24	12–18				
Aumend & Barrett (1984)	113	Norms	<12	>18			United States	Tennessee Self-Concept Scale (S)
Baden (1999)	51	Norms	>12	>18	TRA		United States	Rosenberg Self-Esteem Scale (S)
Bagley (1991)	20	20	>24	12–18	TRA	INT	Canada	Coopersmith Self-Esteem Inventory (S)
	37	23	>24	12–18	TRA			
	42	20	>24	12–18				
Bagley (1993a)	50	100	>12	12–18	TRA	INT	United Kingdom	Coopersmith Self-Esteem Inventory (S)
Bagley (1993b)	23	46	12–24	>18			Canada	Coopersmith Self-Esteem Adult Scale (S)
Bagley (1993c)	22	12	>24	12–18	TRA	INT	United Kingdom	Coopersmith Self-Esteem Inventory (S)
Bagley & Young (1979)	30	15	<36	4–12	TRA		United Kingdom	Ziller's Measure of Self-Esteem (S)
	30	15 24[a]	<36	4–12				
Baker (1995)	30	15 30[a]	>12	11–15			United States	Harter Self-Perception Profile: Self-Worth (S)
Beer & Horn (2000); Loehlin et al. (1982)	159	49	<12	>18			United States	Sixteen Personality Factor Questionnaire, 16PF: Self-Assurance (S)
Benson et al. (1994)	289	Norms	<12	12–18	TRA	INT	United States	Survey: Self-Confidence (S)
Bohman (1970)	163	95	<12	4–12			Sweden	Interview: Self-Assurance (T)
Borders et al. (2000)	99	70	<12	>18			United States	Rosenberg Self-Esteem Scale (S)
Brown (2000)	30	Norms	<12	4–12			United States	Harter Self-Perception Profile for Children: Self-Worth (S)
	35	Norms	<12	4–12	TRA	INT		
Cederblad et al. (1999); Irhammar & Bengtsson (2004)	178	2,662	<12	12–27	TRA	INT	Sweden	Inventory "I think I am": Self-Esteem (S)
Cook et al. (1997)	125	132	12–24	4–12			Europe	Harter Pictorial Scale of Perceived Competence: Self-Esteem (S)
Culley (1970)	57	57	<12	12–18			United States	Index of Adjustment and Values: Self-Acceptance (S)
DeFries et al. (1994)	188	170	<12	4–12			United States	Harter Self-Perception Profile for Children: Self-Worth (S)
	148	163	<12	4–12				Social Competence Scale: Self-Esteem (O)
DelMonaco (1996)	69	Norms	<12	>18			United States	Tennessee Self-Concept Scale (S)
Duffy (1999)	54	Norms	<12	>18			United States	Rosenberg Self-Esteem Scale (S)
Fan et al. (2002)	514	17,241	na	12–18			United States	Interview: Self-Worth (S)
Farmer (1987)	12	25	na	12–18			United States	Offer Self-Image Questionnaire (S)
Fergusson et al. (1995)	32	842	<12	12–18			New Zealand	Coopersmith Self-Esteem Inventory (S)
Fletcher (1995)	100	97	>24	>18			United States	Rosenberg Self-Esteem Scale (S)
Forsten–Lindman (1993)	34	50	12–24	4–12	TRA	INT	Finland	Piers–Harris Children's Self-Concept Scale (S)
Geerars et al. (1995)	68	166	<12	12–18	TRA	INT	Netherlands	Rosenberg Self-Esteem Scale (S)
	13	166	>12	>18	TRA	INT		
Gill & Jackson (1983)	36	10	<12	12–18	TRA		United Kingdom	Coopersmith Self-Esteem Inventory (S)
Groze (1992)	57	1,183	>24	4–12			United States	Piers–Harris Self-Concept Scale (S)
Gutcher (1997)	12	12	<12	12–18			United States	Adjective CheckList: Self-Esteem (S)
Holbrook (1983; in Gill & Jackson, 1983)	20	10	na	10–13			United Kingdom	Coopersmith Self-Esteem Inventory (S)
Hoopes et al. (1997)	24	Norms	12–24	12–18			United States	Coopersmith Self-Esteem Inventory (S)
Jungmann (1987)	92	125	<12	9–13			Germany	Questionnaire: Self-Worth (P)

(*table continues*)

Table 1 (*continued*)

Source	Number of adoptees	Number of nonadopted comparisons	Age at adoption (in months)	Age at assessment (in years)	TRA	INT	Country of study	Measure (informant)
Kelly et al. (1998)	49	49	na	>18			United States	Multidimensional Self-Esteem Inventory (S)
Kim (1977)	406	Norms	>12	12–18	TRA	INT	United States	Tennessee Self-Concept Scale (S)
Kühl (1985)	44	25	>24	12–18	TRA	INT	Germany	Frankfurt Self-Concept Scales (S)
	43	25	>24	12–18				
Lansford et al. (2001)	26	47	<12	12–18			United States	Rosenberg Self-Esteem Scale (S)
Lanz et al. (1999)	157	160	>24	12–18	TRA	INT	Italy	Rosenberg Self-Esteem Scale (S)
Levy–Shiff (2001)	91	91	<12	>18			Israel	Tennessee Self-Concept Scale (S)
McAuley (1987)	122	Norms	<12	>18			United States	Tennessee Self-Concept Scale (S)
McRoy et al. (1982)	30	Norms	>24	12–18	TRA		United States	Tennessee Self-Concept Scale (S)
	30	Norms	>24	12–18				
Morgan (1995)	16	24	<12	>18	TRA		United States	Coopersmith Self-Esteem Inventory (S)
Müller et al. (2002)	343	Norms	<12	>18			United States	Rosenberg Self-Esteem Scale (S)
Nilson (2000)	39	47	<12	>18			United States	Rosenberg Self-Esteem Scale (S)
Norvell & Guy (1977)	38	38	12–24	>18			United States	Berger Self-Concept Scale (S)
Palacios & Sánchez (1996, 2005)	120	212 36[a]	>24	4–12			Spain	Harter Perceived Competence Scale: Self-Worth (S)
Passmore et al. (2005)	100	100	<12	>18			Australia	Rosenberg Self-Esteem Scale (S)
Pinderhughes (1998)	33	17	12–24	4–12			United States	Harter Self-Perception Profile for Children: Self-Worth (S)
	33	16	>24	4–12				
Ross (1985)	38	6	na	12–18			United States	Rosenberg Self-Esteem Scale (S)
Sharma et al. (1996)	4,464	5,443	12–24	12–18			United States	Survey: Self-Confidence (S)
Sharma et al (1998)	557	72	<12	12–18			United States	Survey: Self-Confidence (S)
Shoborg–Winterberg & Shannon (1988)	94	82	<36	>18			United States	Berger's Self-Acceptance Scale (S)
Simmons (1979)	18	18	<12	>18			United States	Tennessee Self-Concept Scale (S)
Simon & Altstein (1991)	37	23	12–24	4–12	TRA	INT	United States	Rosenberg Self-Esteem Scale (S)
Simon & Altstein (1996)	103	42	na	12–18	TRA		United States	Self-Esteem Scale (S)
	15	41	na	12–18				
Slobodnik (1996)	86	86	<12	>18			United States	Rohner's Personality Assessment Questionnaire: Self-Esteem (S)
Smith & Brodzinsky (2002)	82	Norms	>24	4–12			United States	Harter Self-Perception Profile for Children: Self-Worth (S)
Stams et al. (2000)	138	242	<12	4–12	TRA	INT	Netherlands	California Child Q-Set: Self-Esteem (T)
Stein & Hoopes (1985)	50	41	<12	12–18			United States	Offer Self-Image Questionnaire (S)
Storsbergen (2004)	71	166	<12	>18		INT	Netherlands	Rosenberg Self-Esteem Scale (S)
Vroegh (1997)	52	Norms	<36	12–18	TRA		United States	Rosenberg Self-Esteem Scale (S)
Westhues & Cohen (1997)	103	33	>12	12–18	TRA	INT	Canada	Rosenberg Self-Esteem Scale (S)
	58	66	>12	>18	TRA	INT		
Wickes & Slate (1997)	174	Norms	>24	>18	TRA	INT	United States	Rosenberg Self-Esteem Scale (S)
Wrobel (1990)	74	29	na	14–17	TRA		United States	Rosenberg Self-Esteem Scale (S)
Wrobel et al. (1996)	75	Norms	<12	4–12			United States	Harter Self-Perception Profile for Children: Self-Worth (S)

Note. TRA = sample with transracial adoptees; INT = sample with international adoptees; (S): self-report; (T): teacher report; (O): observer report; (P): parent report; na = data were not reported or were not extractable.
[a] Institutionalized nonadopted children.

.67, $k = 43$, $n = 35{,}345$), and adults ($d = 0.07$, $p = .27$, $k = 24$, $n = 5{,}719$), $Q(2) = 1.36$, $p = .51$. The hypothesis that adoptees struggle with self-esteem particularly during adolescence was not supported.

Design. Comparable effect sizes were found for self-reported self-esteem ($d = 0.01$, $p = .79$, $k = 81$, $n = 43{,}626$) and reports by other informants, such as parents, teachers, or observers ($d = -0.02$, $p = .76$, $k = 7$, $n = 1{,}166$), $Q(1) = 0.01$, $p = .95$. Contrasting the use of norm groups and no norm groups (but rather a general population group, classmates, or current siblings, for details see Table 3) did not yield a significant difference ($p = .36$). Standardized self-esteem measures did not show different outcomes from nonstandardized self-esteem ratings from interviews and other measures ($p = .60$). No differences were found between the effect sizes for North America and for other continents ($p = .49$), and the same was true for the contrast between the United States and other countries (see Table 3). The contrast for studies published in journals ($d = 0.07$, $p = .11$, $k = 44$, $n = 40{,}559$) and

Table 2
Self-Esteem of Transracial Adoptees (TRA) Versus Same-Race Adoptees (SRA)

Source	n_{tra}	n_{sra}	Transracial adoptees	Same-race adoptees	Age at adoption (in months)	Age at assessment (in years)	Country of study	Measure (informant)
Andujo (1988)	30	30	Mexican American adoptees, White parents	Mexican American adoptees, Mexican American parents	>24	12–18	United States	Tennessee Self-Concept Scale (S)
Bagley (1991)	20	21	Asian/South American adoptees, White parents	White adoptees, White parents	>24	12–18	Canada	Coopersmith Self-Esteem Inventory (S)
	37	21	Native adoptees, White parents	White adoptees, White parents	>24	12–18		
Bagley & Young (1979)	30	30	Mixed race adoptees, White parents	White adoptees, White parents	<36	4–12	United Kingdom	Ziller's Measure of Self-Esteem (S)
Benson et al. (1994)	289	579	Asian/Hispanic/African American/Native adoptees, White parents	White adoptees, White parents	<15	12–18	United States	Self-Esteem Index (S)
Brooks (2000)	21	11	African American adoptees, White parents	White adoptees, White parents	Transracial adoptees: >24	>18	United States	Coopersmith Self-Esteem Inventory (Adult Form) (S)
	48	11	Asian/Pacific Islander adoptees, White parents	White adoptees, White parents	White adoptees: <12	>18		
Brown (2000)	35	30	Asian/Latino/African American adoptees, White parents	White adoptees, White parents	<12	4–12	United States	Harter Self-Perception Profile for Children (S)
Burrow & Finley (2004)	8	74	Black adoptees, White parents	Black adoptees, Black parents	—	12–18	United States	Interview: Self-Worth (S)
	24	350	Asian adoptees, White parents	White adoptees, White parents	—	12–18		
Kühl (1985)	44	43	Asian/South American adoptees, White parents	White adoptees, White parents	>24	12–18	Germany	Frankfurt Self-Concept Scales (S)
Levy–Shiff et al. (1997)	50	50	South American adoptees, Israeli parents	Israeli adoptees, Israeli parents	<12	4–12	Israel	Tennessee Self-Concept Scale (S)
McRoy et al. (1982)	30	30	Black adoptees, White parents	Black adoptees, Black parents	>24	12–18	United States	Tennessee Self-Concept Scale (S)
Simon & Altstein (1996)	103	15	Black/Asian/Native adoptees, White parents	White adoptees, White parents	—	12–18	United States	Self-Esteem Scale (S)
Smith & Brodzinsky (2002)	20	62	Asian/African American/ mixed race adoptees, White parents	African American adoptees, African American parents; White adoptees, White parents	>24	8–12	United States	Harter Self-Perception Profile for Children (S)
Vroegh (1997)	34	18	Black adoptees, White parents	Black adoptees, Black parents	<36	12–18	United States	Rosenberg Self-Esteem Scale (S)

Note. Dashes indicate that data were not reported or were not extractable. n_{tra} = number of transracial adoptees; n_{sra} = number of same-race adoptees; (S) = self-report.

in reports and books ($d = -0.07$, $p = .16$, $k = 44$, $n = 4{,}235$) was significant, $Q(1) = 4.51$, $p = .03$. As expected, studies published in reports and books reported more positively on adoptees' self-esteem than did studies published in refereed journals. However, both types of publications showed a nonsignificant combined effect size for the difference between adoptees and nonadopted comparisons, thus leading to the same conclusion.

Recruitment from special groups, as opposed to recruitment from a general group, did not result in a significant difference ($p = .26$). Finally, contrasting publications before 1990 and publications after 1990 did not yield a significant difference either ($p = .65$).

Self-Esteem of Adopted and Institutionalized Children

In a separate meta-analysis, we found that the overall combined effect size for the three studies comparing adopted and institutionalized children (Bagley & Young, 1979; Baker, 1995; Palacios & Sanchez, 1996) was significant, $d = -0.58$ (CI, −0.84 to −0.33), $p < .001$, $N = 300$, in a homogeneous set of studies, $Q(2) = 4.64$, $p = .10$. Thus, comparing 210 adoptees with 90 children in children's homes, we found a considerable difference in favor of the adopted children: Adoptees showed higher levels of self-esteem than did institutionalized children. However, the set of

Table 3
Meta-Analytic Results of Studies Comparing Self-Esteem of Adoptees and Nonadopted Comparisons

	k	NA	NC	*d*	95% CI	*Q*	Contrast[a]
Total set	88	10,977	33,862	0.01[b]	−0.06, 0.08	337.41***	
Sample characteristics							
Adoption type							0.62
International	23	1,897	6,308	−0.06[b]	−0.19, 0.08	108.34***	
Domestic	55	8,176	9,952	0.01[b]	−0.07, 0.09	196.22***	
Not reported	10	904	17,602	0.05[c]	−0.02, 0.13	14.36	
Transracial adoption							1.89
No	51	7,759	10,051	0.06[b]	−0.03, 0.14	168.91***	
Yes	32	2,285	6,466	−0.04[b]	−0.16, 0.07	120.03***	
Not reported	5	933	17,345	−0.24[b]	−0.52, 0.04	14.74**	
Preadoption adversity							2.46
Yes	5	166	1,228	−0.27[b]	−0.61, 0.08	10.36*	
No	73	9,407	15,027	0.01[b]	−0.06, 0.09	279.30***	
Not reported	10	1,404	17,607	0.08[b]	−0.12, 0.28	38.38***	
Gender							1.50
Male	9	711	1,759	−0.06[c]	−0.20, 0.08	5.47	
Female	10	978	1,260	0.11[b]	−0.08, 0.31	37.10***	
Mixed	69	9,288	30,843	0.00[b]	−0.07, 0.08	289.30***	
Age at adoption							0.99
Before 12 months	38	3,406	5,698	−0.02[b]	−0.12, 0.07	109.49***	
After 12 months	42	6,797	10,731	0.05[b]	−0.05, 0.14	177.91***	
12–24 months[d]	22	5,268	6,052	0.08[b]	−0.06, 0.21	44.19**	
24–48 months	14	1,071	3,151	0.02[b]	−0.14, 0.19	67.68***	
>48 months	6	407	1,518	−0.02[b]	−0.26, 0.22	57.48***	
Not reported	8	825	17,443	−0.00[c]	−0.08, 0.08	1.17	
Age at assessment							1.36
4–12 years	21	1,302	2,473	−0.01[b]	−0.14, 0.12	75.85***	
12–18 years	43	7,708	27,637	−0.02[b]	−0.12, 0.08	164.76***	
>18 years	24	1,967	3,752	0.07[b]	−0.05, 0.19	82.90***	
Design							
Informant							0.01
Self	81	10,396	33,230	0.01[b]	−0.06, 0.08	319.72***	
Other	7	541	625	−0.02[c]	−0.14, 0.10	10.15	
Measure							0.28
Standardized	66	4,114	7,662	−0.00[b]	−0.08, 0.08	243.21***	
Nonstandardized	22	6,863	26,200	0.06[b]	−0.09, 0.19	79.25***	
Comparison group							0.84
Norm group	20	1,662	7,323	−0.04[b]	−0.17, 0.09	88.53***	
No norm group	68	9,315	26,539	0.03[b]	−0.05, 0.10	228.79***	
General population[e]	49	7,881	25,812	0.03[b]	−0.05, 0.12	195.73***	
Classmates	6	268	354	−0.13[c]	−0.29, 0.03	4.24	
Current siblings	13	1,166	373	0.03[c]	−0.10, 0.16	15.48	
Continent of study							0.47
North America	63	9,320	28,441	0.03[b]	−0.05, 0.10	214.59***	
Other continents	25	1,657	5,421	−0.02[b]	−0.14, 0.09	103.10***	
Country of study							0.02
United States	55	9,037	28,233	0.01[b]	−0.08, 0.09	195.45***	
Other countries	33	1,940	5,629	0.02[b]	−0.09, 0.12	127.01***	
Publication outlet							4.51*
Journal articles	44	8,732	31,827	0.07[b]	−0.02, 0.16	183.14***	
Reports, books	44	2,245	2,035	−0.07[b]	−0.17, 0.03	129.19***	
Special group							1.25
No	75	9,838	33,046	−0.01[b]	−0.08, 0.07	293.51***	
Yes	13	1,139	816	0.10[b]	−0.07, 0.27	43.66***	
Year of publication							1.46
1970–1979	9	742	240	0.10[c]	−0.06, 0.25	6.25	
1980–1989	17	808	852	−0.09[c]	−0.19, 0.01	23.00	
1990–1999	49	7,739	14,659	0.02[b]	−0.07, 0.11	210.80***	
2000–2007	13	1,688	18,111	0.01[b]	−0.14, 0.17	70.45***	
Publication < or > 1990							0.21
Before 1990	26	1,550	1,092	−0.04[c]	−0.12, 0.04	33.37	
After 1990	62	9,427	32,770	0.02[b]	−0.06, 0.09	291.22***	

Note. NA = number of adoptees; NC = number of nonadopted comparisons; CI = confidence interval; *Q* = heterogeneity statistic.
[a] Contrast between (sub)sets of studies, noted in *Q* (contrasts are presented for pertinent groups without the categories "not reported" and "mixed"). [b] Random effect. [c]Fixed effect. [d]Contrast between all age categories, $Q(3) = 1.32$, $p = .73$. [e]Contrast between norm group, general population group, classmates, and current siblings, $Q(3) = 1.53$, $p = .68$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

pertinent studies was small, precluding strong conclusions. Moderator analyses were not conducted because of the small number of studies. The trim and fill analysis did not show a publication bias. The fail-safe number was 14, meaning that 14 studies with nonsignificant findings would be needed to rule out the significant effect size.

Self-Esteem of Transracial and Same-Race Adoptees

From the 13 scientific papers addressing self-esteem in transracial and same-race adoptees (see Table 2), we extracted 18 study outcomes. In this meta-analysis, a positive sign means that transracial adoptees show lower levels of self-esteem than do same-race adoptees (our hypothesis), whereas a negative sign means that transracial adoptees do better than same-race adoptees on measures of self-esteem. The overall combined effect size was not significant ($d = -0.02$, $p = .74$, $k = 18$, $n = 2{,}198$ adoptees), in a homogeneous set of studies, $Q(17) = 17.80$, $p = .40$ (see Table 4). Thus, our analyses involving more than 2,000 adoptees showed that transracial and same-race adoptees did not differ with respect to their self-esteem. The trim and fill procedure indicated no studies to be trimmed. Also, the jackknife procedure showed no different outcomes when one study at a time was left out.

We could not analyze all moderators that we used in the meta-analysis of adoptees and nonadopted comparisons, because of the relatively small number of pertinent studies. We decided to restrict our moderator analyses to a minimum of four studies in each subset (cf. Bakermans–Kranenburg, Van IJzendoorn, & Juffer, 2003). Contrasting adoptions before the first birthday ($d = -0.04$, $p = .62$, $k = 5$, $n = 1{,}033$ adoptees) and adoptions after 12 months ($d = -0.02$, $p = .80$, $k = 10$, $n = 657$ adoptees) did not yield a significant difference, $Q(1) = 0.01$, $p = .91$ (see Table 4 for more details). There were only two study outcomes (reported in one paper) on adult transracial and same-race adoptees. Therefore we collapsed the two categories (12–18 years and >18 years) into older than 12 years. Age at assessment was not related to different effect sizes, showing comparable self-esteem outcomes for childhood ($d = -0.04$, $p = .71$, $k = 5$, $n = 307$ adoptees) and the years after age 12 ($d = -0.01$, $p = .85$, $k = 13$, $n = 1{,}891$), $Q(1) = 0.06$, $p = .80$.

As described in the introduction and the Method section, we created the moderator "ethnicity of the comparisons." We found no difference between the studies with children of color adopted in non-White families in the comparison group ($d = 0.03$, $p = .85$, $k = 4$, $n = 254$ adoptees) and the studies with White children adopted in White families as comparisons ($d = -0.03$, $p = .66$, $k = 13$, $n = 1{,}862$ adoptees), $Q(1) = 0.12$, $p = .73$. Thus, using a White or non-White comparison group of same-race adoptees did not make a difference for the outcome that transracial and same-race adoptees did not differ regarding their self-esteem.

Because of the small numbers in the subsets, we could not analyze the moderator "continent of study." For the moderator "country of study" we contrasted studies in the United States with other studies and found no difference ($p = .32$). Contrasting studies in journals with studies in reports and books did not yield a significant difference ($p = .13$). Finally, studies before 1990 reported comparable effect sizes as studies after 1990 ($p = .72$).

Table 4
Meta-Analytic Results of Studies Comparing Self-Esteem of Transracial Adoptees and Same-Race Adoptees

	k	n_{tra}	n_{sra}	d	95% CI	Q	Contrast[a]
Total set	18	823	1,375	−0.02[b]	−0.12, 0.09	17.80	
Age at adoption							0.01[c]
Before 12 months	5	374	659	−0.04[b]	−0.18, 0.10	5.91	
After 12 months	10	383	274	−0.02[b]	−0.20, 0.15	11.08	
Not reported	3	66	442	0.09[b]	−0.22, 0.39	0.30	
Age at assessment							0.06
4–12 years	5	135	172	−0.04[b]	−0.28, 0.19	0.73	
>12 years	13	688	1,203	−0.01[b]	−0.13, 0.10	17.00	
Ethnicity of comparisons							0.12[c]
Adoptees of color and adoptive parents of color as comparisons	4	102	152	0.03[b]	−0.25, 0.31	0.11	
White adoptees and White adoptive parents as comparisons	13	701	1,161	−0.03[b]	−0.14, 0.09	17.56	
Mixed	1	20	62	0.00	−0.50, 0.50		
Country of study							1.00
United States	13	642	1,210	−0.05[b]	−0.16, 0.07	12.14	
Other countries	5	181	165	0.08[b]	−0.14, 0.30	4.66	
Publication outlet							2.26
Journal article	9	253	656	0.09[b]	−0.08, 0.26	4.91	
Reports, books	9	570	719	−0.08[b]	−0.20, 0.05	10.63	
Year of publication							0.13
Before 1990	4	133	133	0.02[b]	−0.22, 0.26	0.11	
After 1990	14	689	1,242	−0.03[b]	−0.14, 0.09	17.56	

Note. n_{tra} = number of transracial adoptees; n_{sra} = number of same-race adoptees; CI = confidence interval; Q = heterogeneity statistic.
[a] Contrast between (sub)sets of studies, noted in Q. [b] Fixed effect. [c] Contrasts are presented for pertinent groups without the categories "not reported" and "mixed."

Discussion

In a series of meta-analyses we investigated the self-esteem of adoptees in all age ranges, from childhood to adulthood. Surprisingly, across a comprehensive meta-analysis of 88 studies we found no difference in self-esteem between more than 10,000 adoptees and more than 33,000 nonadopted comparisons. We did not find evidence for moderating factors pointing to potential risks of low self-esteem in specific groups of adoptees. The absence of risk of low self-esteem was equally true for children adopted before and after their first birthday. We did not find lower levels of self-esteem in adolescence than in other life stages. International adoptees did not show lower self-esteem than domestic adoptees, and transracial and same-race adoptees did not differ either. In a separate meta-analysis we found higher levels of self-esteem in adoptees than in nonadopted institutionalized children. Unfortunately the number of comparisons was small, as only three studies presented data on self-esteem of institutionalized children and adopted children.

In another separate meta-analysis we included studies that directly compared the self-esteem of transracial and same-race adoptees. Across 18 studies with more than 2,000 adoptees no significant differences were found between transracial and same-race adoptees. We contrasted studies with a stringent design criterion—same-race adoptees in non-White families (e.g., Black adoptees in Black adoptive families) as the comparison group for transracial adoptees—and studies with a less stringent design criterion (White adoptees in White families as the comparison group). Again, we did not find differences in self-esteem between transracial and same-race adoptees, although firm conclusions cannot be drawn because there were only four studies with the most stringent design criterion.

Contrary to expectations, adopted children are able to develop normative levels of self-esteem, and this appears to be the case throughout specific groups of adoptees (those placed before or after their first birthday, international or domestic adoptees, transracial or same-race adoptees), across the life span, and independent of informant (self- or other report). We did not find any statistically significant difference in self-esteem between adopted and nonadopted persons (with the exception of publication outlet; see below). In our previous work we did find significant statistics with the same meta-analytic approach and with smaller (sub)sets of adoption studies (e.g., Juffer & Van IJzendoorn, 2005; Van IJzendoorn et al., 2005). Considering the large number of studies and participants involved in the current meta-analyses, and the corresponding strong power to find differences, we feel confident to interpret the null findings as the absence of self-esteem differences, although logically the failure to reject the null hypotheses does not imply the acceptance thereof.

The only significant contrast was publication outlet. As expected, publications in books reported better self-esteem than did publications in journals. We had a substantial number of both refereed journal articles and nonrefereed books and reports ($k = 44$ each), thus restricting the possibility of a "file-drawer problem" (Mullen, 1989; Rosenthal, 1979). However, although there was a significant difference between the two sets of publications, from both types of studies the same conclusion was derived, namely that no difference between adoptees and nonadopted comparisons was found.

The finding of normative self-esteem development in adoptees may be explained by the theory of risk and protective factors (see introduction; Rutter, 1987, 1990; Werner, 1993, 2000). Although many adopted children have experienced trauma and adversity before adoptive placement, protective factors within the adoptive family context may have served as moderators, buffering the ill effects of the risk factors and resulting in catch-up and resilience in the children. According to Werner (2000), a positive self-concept in resilient children points to a protective factor. Some adopted children have survived extremely poor circumstances, maybe because they were (genetically) predisposed to endure severe deprivation (cf. DeVries, 1984). Additionally, protective factors may be found in the characteristics of the adoptive families. Adoptive parents do invest substantially in their child's upbringing (e.g., Schwartz & Finley, 2006; Stams et al., 2000), and they usually offer the child an enriched cognitive and emotional family environment compared with the previous institutional environment.

Adoptive parents are able to offer the child secure parent–child attachment relationships (Juffer, Bakermans–Kranenburg, & Van IJzendoorn, 2005, 2007)—a well-known protective factor (Werner, 2000)—from which the child may profit in terms of positive social development (Jaffari–Bimmel et al., 2006; Sharma et al., 1996; Stams et al., 2000, 2002) and positive self-esteem. Another explanation may be that in most adoption studies in our meta-analysis the self-esteem assessments were made (far) beyond early childhood, and the longer time lapse since adoptive placement may have granted the children more opportunities for catch-up and recovery (cf. Juffer & Van IJzendoorn, 2005). Nevertheless, even for assessments of self-esteem between 4 and 12 years of age we did not find a difference between adoptees and their nonadopted peers (although the mean age in the pertinent studies in this category was 9 years). Finally, the lack of risk of low self-esteem in (subgroups of) adoptees might be explained by the possibility that adoptive status alone is not a meaningful way to classify individuals, at least not in the domain of self-esteem.

It is remarkable that adoptees show normative levels of self-esteem despite their somewhat elevated risks of short stature, lower school achievement, and behavior problems and their substantially elevated risk of learning problems and mental health referrals (Juffer & Van IJzendoorn, 2005; Van IJzendoorn et al., 2007, 2005). We hypothesize that in general the majority of adoptees receive sufficient compensation from the social environment—including the adoptive family context—to feel valued, despite (some) difficulties and delays. Some studies found that adopted children were more popular than their nonadopted peers or showed more prosocial competence (Sharma et al., 1996; Stams et al., 2000), while the adopted children with positive or average sociometric status showed fewer behavior problems (Juffer, Stams, & Van IJzendoorn, 2004). Higher levels of support from the social environment may thus translate into fewer behavior problems and positive self-esteem in adoptees.

Consistent with our expectations, adopted children outperform their institutionalized peers and show higher levels of self-esteem. Unfortunately we could find only three studies that compared adopted and institutionalized children, and therefore strong conclusions cannot yet be drawn. However, the findings converge with our previous work (Van IJzendoorn et al., 2007; Van IJzen-

doorn & Juffer, 2005, 2006) and support the concept of adoption as an effective intervention in children's lives.

Contrary to our expectations, we found no elevated risks for transracial or international adoptees. These findings converge with our previous work in which we found no elevated risks for international adoptees, and even found that international adoptees showed fewer behavior problems than did domestic adoptees (Juffer & Van IJzendoorn, 2005). Maybe international and transracial adoptees are placed in potentially enriching environments that offer them opportunities to accept their cultural–ethnic differences. Another explanation may be that protective factors in the adoptive family buffer the risks involved in international and transracial adoption. Hence resilience may be co-constructed by the adopted children interacting with their adoptive family. Future research should try to identify features of the adoptive family context that produce and maintain resilient and positive outcomes in adoptees.

The following limitations of our meta-analyses should be mentioned. First, we focused on self-esteem in the sense of global self-evaluations of self-worth (Harter, 1999), and our meta-analytic outcomes may not generalize to domain-specific self-evaluations such as adopted children's scholastic or athletic competence. Second, we examined adoptees' self-esteem and not the related concept of their (ethnic–cultural) identity. It cannot be denied that adoptees' development in the domain of (ethnic–cultural) identity formation is more complicated (Lee et al., 2006; Mohanty & Newhill, 2006). Third, we examined whether adoptees have on average similar levels of self-esteem as their nonadopted peers. Of course, some specific subgroups of adoptees may be at risk of lower self-esteem, for example children who suffer more than others from the loss of their birth parents (D. W. Smith & Brodzinsky, 2002) or children with special needs and behavior problems (S. L. Smith et al., 2000).

We conclude that adoptees show normative levels of self-esteem, and this appears to be the case for international as well as for domestic adoptees, and for transracial and same-race adoption alike. These findings should be understood as evidence for adopted children's resilience to recover from severe deprivation within the context of the adoptive family and to catch up with their nonadopted peers. Our meta-analysis also supports the idea of adoption as an effective intervention in children's lives (cf. Van IJzendoorn & Juffer, 2005, 2006), replacing an institutional setting by a generally nurturing family environment. Finally, drawing on attachment theory (Bowlby, 1982) we suggest that an ultimate test of adopted children's adjustment is the quality of these children's internal working models of others and self, and consequently how they evaluate important other people as well as their own person. Our meta-analysis shows that adoptees do succeed in developing normative feelings of worth about themselves, and this outcome is the more robust since we were able to control for informant bias: The same outcomes were found for report by teachers or parents and for self-report by the adoptees themselves. The self-report studies in our meta-analysis suggest that adoptees share our conclusion, namely that they have the same self-esteem as their nonadopted peers.

References

(References marked with an asterisk indicate studies included in the meta-analysis.)

Ainsworth, M. D. S. (1989). Attachments beyond infancy. *American Psychologist, 44,* 709–716.

*Andujo, E. (1988). Ethnic identity of transethnically adopted Hispanic adolescents. *Social Work, 33,* 531–535.

*Aumend, S. A., & Barrett, M. C. (1984). Self-concept and attitudes toward adoption: A comparison of searching and nonsearching adult adoptees. *Child Welfare, 63,* 251–259.

*Baden, A. (1999). *The psychological adjustment of transracial adoptees: An application of the cultural-racial identity model.* Unpublished doctoral dissertation, University of Michigan, East Lansing.

*Bagley, C. (1991). Adoption of native children in Canada: A policy analysis and a research report. In H. Altstein & R. J. Simon (Eds.), *Intercountry adoption: A multinational perspective* (pp. 55–83). New York: Praeger.

*Bagley, C. (1993a). Adopted girls from Hong Kong in Britain: A twenty year follow-up of adjustment and social identity. In C. Bagley, L. Young, & A. Scully (Eds.), *International and transracial adoptions: A mental health perspective* (pp. 195–206). Aldershot, United Kingdom: Avebury.

*Bagley, C. (1993b). Mental health and adoption in a community survey of adults. In C. Bagley, L. Young, & A. Scully (Eds.), *International and transracial adoptions. A mental health perspective* (pp. 114–120). Aldershot, United Kingdom: Avebury.

*Bagley, C. (1993c). Adopted from Vietnam: A ten year follow-up of British adoptees. In C. Bagley, L. Young, & A. Scully (Eds.), *International and transracial adoptions: A mental health perspective* (pp. 207–213). Aldershot, United Kingdom: Avebury.

*Bagley, C., & Young, L. (1979). The identity, adjustment and achievement of transracially adopted children: A review and empirical report. In G. K. Verma & C. Bagley (Eds.), *Race, education and identity* (pp. 192–219). London: Macmillan Press.

*Baker, M. E. (1995). *The psychological functioning of institutionalized minority children.* Unpublished doctoral dissertation, University of North Carolina, Chapel Hill.

Bakermans–Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2003). Less is more: Meta-analysis of sensitivity and attachment interventions in early childhood. *Psychological Bulletin, 129,* 195–215.

Beckett, C., Maughan, B., Rutter, M., Castle, J., Colvert, E., Groothues, C., et al. (2006). Do the effects of early severe deprivation on cognition persist into early adolescence? Findings from the English and Romanian Adoptees Study. *Child Development, 77,* 696–711.

*Beer, J. M., & Horn, J. M. (2000). The influence of rearing order on personality development within two adoption cohorts. *Journal of Personality, 68,* 789–819.

*Benson, P. L., Sharma, A. R., & Roehlkepartain, E. C. (1994). *Growing up adopted: A portrait of adolescents and their families.* Minneapolis, MN: Search Institute.

Bimmel, N., Juffer, F., Van IJzendoorn, M. H., & Bakermans–Kranenburg, M. J. (2003). Problem behavior of internationally adopted adolescents: A review and meta-analysis. *Harvard Review of Psychiatry, 11,* 64–77.

Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Minnesota Symposium on Child Psychology* (pp. 39–101). Hillsdale, NJ: Erlbaum.

*Bohman, M. (1970). *Adopted children and their families: A follow-up study of adopted children, their background, environment and adjustment.* Stockholm: Propius.

Booth–Laforce, C., Oh, W., Hayoung Kim, A., Rubin, K. H., Rose–Krasnor, L., & Burgess, K. (2006). Attachment, self-worth, and peer-group functioning in middle childhood. *Attachment & Human Development, 8,* 309–325.

*Borders, L. D., Penny, J. M., & Portnoy, F. (2000). Adult adoptees and their friends: Current functioning and psychosocial well-being. *Family Relations, 49,* 407–418.

Borenstein, M., Rothstein, D., & Cohen, J. (2000). *Comprehensive Meta-*

Analysis. A computer program for research synthesis. Englewood, NJ: Biostat.

Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). London: Hogarth Press.

Brent Donnellan, M., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science, 16,* 328–335.

Bretherton, I., & Mulholland, K. A. (1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (pp. 89–111). New York: Guilford.

Brodzinsky, D. M. (1990). A stress and coping model of adoption adjustment. In D. M. Brodzinsky & M. D. Schechter (Eds.), *The psychology of adoption* (pp. 3–24). Oxford, England: Oxford University Press.

Brodzinsky, D. M., Schechter, M. D., & Henig, R. M. (1992). *Being adopted: The lifelong search for self.* New York: Anchor Books.

*Brooks, M. D. (2000). *A study of the experiences and psychosocial developmental outcomes of African American adult transracial adoptees.* Unpublished doctoral dissertation, University of California, Berkeley.

*Brown, L. E. (2000). *The role of perceived similarity to parents in adopted children's adjustment.* Unpublished doctoral dissertation, Rutgers University, New Brunswick, NJ.

*Burrow, A. L., & Finley, G. E. (2004). Transracial, same-race adoptions, and the need for multiple measures of adolescent adjustment. *American Journal of Orthopsychiatry, 74,* 577–583.

Cassidy, J. (1988). Child-mother attachment and the self in six-year-olds. *Child Development, 59,* 121–134.

*Cederblad, M., Höök, B., Irhammar, M., & Mercke, A. M. (1999). Mental health in international adoptees as teenagers and young adults: An epidemiological study. *Journal of Child Psychology and Psychiatry, 40,* 1239–1248.

Chisholm, K. (1998). A three year follow-up of attachment and indiscriminate friendliness in children adopted from Romanian orphanages. *Child Development, 69,* 1092–1106.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences.* New York: Academic Press.

*Cook, R., Vatev, I., Michova, Z., & Golombok, S. (1997). The European study of assisted reproduction families: A comparison of family functioning and child development between Eastern and Western Europe. *Journal of Psychosomatic and Obstetric Gynaecology, 18,* 203–212.

Cooper, H., & Hedges, L. V. (1994). *The handbook of research synthesis.* New York: Russell Sage Foundation.

Coopersmith, S. (1981). *SEI: Self-esteem inventories.* Palo Alto, CA: Consulting Psychologists Press.

*Culley, J. L. (1970). *A study of the self-concept, self-acceptance, and ideal self of adopted and nonadopted adolescent children.* Unpublished doctoral dissertation, University of South Dakota, Vermillion.

*DeFries, J. C., Plomin, R., & Fulker, D. W. (1994). *Nature and nurture during middle childhood.* Oxford, England: Blackwell.

*DelMonaco, J. P. (1996). *Adult adoptees' perceptions of sameness to/difference from adoptive family: The relationship with self-concept and loss.* Unpublished doctoral dissertation, Chicago School of Professional Psychology, Chicago.

DeVries, M. W. (1984). Temperament and infant mortality among the Masai of East Africa. *American Journal of Psychiatry, 141,* 1189–1194.

*Duffy, D. E. (1999). *Searchers and non-searchers: Self-esteem and life satisfaction among adoptees.* Unpublished doctoral dissertation, American School of Professional Psychology, Corte Madera, CA.

Duval, S., & Tweedie, R. (2000a). A nonparametric "trim and fill" method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association, 95,* 89–98.

Duval, S., & Tweedie, R. (2000b). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics, 56,* 455–463.

Elicker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. D. Parke & G. W. Ladd (Eds.), *Family-peer relationships: Modes of linkage* (pp. 77–106). Hillsdale, N. J.: Erlbaum.

*Fan, X., Miller, B. C., Christensen, M., Park, K.–E., Grotevant, H. D., van Dulmen, M., et al. (2002). Questionnaire and interview inconsistencies exaggerated differences between adopted and non-adopted adolescents in a national sample. *Adoption Quarterly, 6*(2), 7–27.

*Farmer, M. E. (1987). *Self-images of selected groups of adopted and non-adopted adolescents.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

*Fergusson, D. M., Lynskey, M., & Horwood, L. J. (1995). The adolescent outcomes of adoption: A 16-year longitudinal study. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 36,* 597–615.

Fitts, W. H., & Warren, W. L. (1996). *Tennessee Self-Concept Scale: Manual* (3rd ed.). Los Angeles: Western Psychological Services.

*Fletcher, J. F. (1995). *Correlates of psychosocial adjustment among adult adopted children.* Unpublished doctoral dissertation, New York University.

*Forsten–Lindman, N. (1993). *Foreign-born children's socioemotional adjustment to Finland: Intercountry adoptees and Vietnamese refugees.* Unpublished master's thesis, Åbo University, Åbo, Finland.

*Geerars, H., Hoksbergen, R., & Rooda, J. (1995). *Geadopteerden op weg naar volwassenheid* [Adoptees on their way to adulthood]. Utrecht, The Netherlands: Utrecht University.

Gilbody, S. M., Song, F. J., Eastwood, A. J., & Sutton, A. (2000). The causes, consequences and detection of publication bias in psychiatry. *Acta Psychiatrica Scandinavica, 102,* 241–249.

*Gill, O., & Jackson, B. (1983). *Adoption and race: Black, Asian and mixed race children in white families.* London: Batsford Academic and Educational.

*Groze, V. (1992). Adoption, attachment and self-concept. *Child and Adolescent Social Work Journal, 9,* 169–191.

Gunnar, M. R., Bruce, J., & Grotevant, H. D. (2000). International adoption of institutionally reared children: Research and policy. *Development and Psychopathology, 12,* 677–693.

*Gutcher, S. M. (1997). *The identity process of young adolescents who were relinquished and adopted during infancy.* Unpublished doctoral dissertation, California School of Professional Psychology, Alameda.

Harter, S. (1985). *Manual for the Self-Perception Profile for Children.* Denver, CO: University of Denver.

Harter, S. (1999). *The construction of the self: A developmental perspective.* New York: Guilford Press.

Hjern, A., Lindblad, F., & Vinnerljung, B. (2002, August 10). Suicide, psychiatric illness, and social maladjustment in intercountry adoptees in Sweden: A cohort study. *Lancet, 360,* 443–448.

*Holbrook, D. (1983). Knowledge of origins: Self-esteem and family ties of long-term fostered and adopted children. Cited in O. Gill & B. Jackson (1983) (Eds.), *Adoption and race: Black, Asian and mixed race children in White families* (p. 83). London: Batsford Academic and Educational.

Hollingsworth, L. D. (1997). Effect of transracial/transethnic adoption on children's racial and ethnic identity and self-esteem: A meta-analytic review. *Marriage and Family Review, 25(1–2),* 99–130.

*Hoopes, J. L., Alexander, L. B., Silver, P., Ober, G., & Kirby, N. (1997). Formal adoption of the developmentally vulnerable African-American child: Ten-year outcomes. *Marriage and Family Review, 25,* 131–144.

Hoopes, J. L., Sherman, E. A., Lawder, E. A., Andrews, R. G., & Lower, K. D. (1969). *A follow-up study of adoptions: Vol. 2. Post-placement functioning of adopted children.* New York: Child Welfare League of America.

Irhammar, I., & Bengtsson, H. (2004). Attachment in a group of adult international adoptees. *Adoption Quarterly, 8*(2), 1–26.

Jaffari–Bimmel, N., Juffer, F., Van IJzendoorn, M. H., Bakermans–Kranenburg, M. J., & Mooijaart, A. (2006). Social development from infancy to adolescence: Longitudinal and concurrent factors in an adoption sample. *Developmental Psychology, 42,* 1143–1153.

Johnson, D. E. (2002). Adoption and the effect on children's development. *Early Human Development, 68,* 39–54.

Juffer, F. (2006). Children's awareness of adoption and their problem behavior in families with 7-year-old internationally adopted children. *Adoption Quarterly, 9(2–3),* 1–22.

Juffer, F., Bakermans–Kranenburg, M. J., & Van IJzendoorn, M. H. (2005). The importance of parenting in the development of disorganized attachment: Evidence from a preventive intervention study in adoptive families. *Journal of Child Psychology and Psychiatry, 46,* 263–274.

Juffer, F., Bakermans–Kranenburg, M. J., & Van IJzendoorn, M. H. (2007). Supporting adoptive families with video-feedback intervention. In F. Juffer, M. J. Bakermans–Kranenburg, & M. H. van IJzendoorn (Eds.), *Promoting positive parenting: An attachment-based intervention* (pp. 139–153). Mahwah, NJ: Erlbaum/Taylor & Francis.

Juffer, F., Stams, G.-J. J. M., & Van IJzendoorn, M. H. (2004). Adopted children's problem behavior is significantly related to their ego resiliency, ego control, and sociometric status. *Journal of Child Psychology and Psychiatry, 45,* 697–706.

Juffer, F., & Van IJzendoorn, M. H. (2005). Behavior problems and mental health referrals of international adoptees: A meta-analysis. *JAMA: Journal of the American Medical Association, 293,* 2501–2515.

*Jungmann, J. (1987). *Aufwachsen in der Adoptivfamilie. Die Entwicklung adoptierter Kinder im Urteil ihrer Adoptiveltern* [Growing up in the adoptive family: The development of adopted children as evaluated by their adoptive parents]. Munich, Germany: Juventa Verlag.

*Kelly, M. M., Towner–Thyrum, E., Rigby, A., & Martin, B. (1998). Adjustment and identity formation in adopted and nonadopted young adults: Contributions of family environment. *American Journal of Orthopsychiatry, 68,* 497–500.

*Kim, D. (1977). How they fared in American homes: A follow-up study of adopted Korean children in the United States. *Children Today, 6(March–April),* 2–6.

*Kühl, W. (1985). *Wenn fremdländische Adoptivkinder erwachsen werden . . .* [When foreign adopted children grow up . . .]. Osnabrück, Germany: Terre des Hommes Deutschland.

*Lansford, J. E., Ceballo, R., Abbey, A., & Stewart, A. J. (2001). Does family structure matter? A comparison of adoptive, two-parent biological, single-mother, stepfather, and stepmother households. *Journal of Marriage and the Family, 63,* 840–851.

*Lanz, M., Iafrate, R., Rosnati, R., & Scabini, E. (1999). Parent-child communication and adolescent self-esteem in separated, intercountry adoptive and intact non-adoptive families. *Journal of Adolescence, 22,* 785–794.

Leary, M. R. (2004). The function of self-esteem in terror management theory and sociometer theory: Comment on Pyszczynski et al. (2004). *Psychological Bulletin, 130,* 478–482.

Lee, R. (2003). The transracial adoption paradox: History, research, and counseling implications of cultural socialization. *Counseling Psychologist, 31,* 711–744.

Lee, R. M., Grotevant, H. D., Hellerstedt, W. L., Gunnar, M. R., & the Minnesota International Adoption Project Team (2006). Cultural socialization in families with internationally adopted children. *Journal of Family Psychology, 20,* 571–580.

Leon, I. G. (2002). Adoption losses: Naturally occurring or socially constructed? *Child Development, 73,* 652–663.

*Levy–Shiff, R. (2001). Psychological adjustment of adoptees in adulthood: Family environment and adoption-related correlates. *International Journal of Behavioral Development, 25,* 97–104.

*Levy–Shiff, R., Zoran, N., & Shulman, S. (1997). International and domestic adoption: Child, parents, and family adjustment. *International Journal of Behavioral Development, 20,* 109–129.

Loehlin, J. C., Willerman, L., & Horn, J. M. (1982). Personality resemblances between unwed mothers and their adopted-away offspring. *Journal of Personality and Social Psychology, 42,* 1089–1099.

Marcovitch, S., Goldberg, S., Gold, A., Washington, J., Wasson, C., Krekewich, K., et al. (1997). Determinants of behavioural problems in Romanian children adopted in Ontario. *International Journal of Behavioral Development, 20,* 17–31.

Marquis, K. S., & Detweiler, R. A. (1985). Does adopted mean different? An attributional analysis. *Journal of Personality and Social Psychology, 48,* 1054–1066.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcame adversity. *Development and Psychopathology, 2,* 425–444.

*McAuley, L. O. (1987). *The relationship between adoptees' fantasies of birth parents, adjustment, self-esteem, adoptive family relationships, and reunion seeking behavior.* Unpublished doctoral dissertation, Hofstra University, Hempstead, NY.

*McRoy, R. G., Zurcher, L. A., Landerdale, M. L., & Anderson, R. N. (1982). Self-esteem and racial identity in transracial and inracial adoptees. *Social Work, 27,* 522–526.

Miller, L. C. (2005). *The handbook of international adoption medicine: A guide for physicians, parents, and providers.* Oxford, England: Oxford University Press.

Mohanty, J., & Newhill, C. (2006). Adjustment of international adoptees: Implications for practice and a future research agenda. *Children and Youth Services Review, 28,* 384–395.

*Morgan, N. (1995). *The adjustment, racial identification/identity, and self-esteem of interracially adopted African Americans.* Unpublished doctoral dissertation, Pepperdine University, Culver City, CA.

Morison, S. J., Ames, E. W., & Chisholm, K. (1995). The development of children adopted from Romanian orphanages. *Merrill–Palmer Quarterly: Journal of Developmental Psychology, 41,* 411–430.

Mul, D., Oostdijk, W., & Drop, S. L. S. (2002). Early puberty in adopted children. *Hormone Research, 57,* 1–9.

Mul, D., Versluis–den Bieman, H. J. M., Slijper, F. M. E., Oostdijk, W., Waelkens, J. J. J., & Drop, S. L. S. (2001). Psychological assessments before and after treatment of early puberty in adopted children. *Acta Paediatrica, 90,* 965–971.

Mullen, B. (1989). *Advanced basic meta-analysis.* Hillsdale, NJ: Erlbaum.

*Müller, U., Gibbs, P., & Ariely, S. G. (2002). Predictors of psychological functioning and adoption experience in adults searching for their birthparents. *Adoption Quarterly, 5*(3), 25–53.

Nickman, S. L., Rosenfeld, A. A., Fine, P., MacIntyre, J. C., Pilowsky, D. J., Howe, R. A., et al. (2005). Children in adoptive families: Overview and update. *Journal of the American Academy of Child and Adolescent Psychiatry, 44,* 987–995.

*Nilson, A. K. (2000). *The effects of adoption on attachment style and internal working models of self and other in young adults.* Unpublished doctoral dissertation, Wright Institute Graduate School of Psychology, Berkeley, CA.

*Norvell, M., & Guy, R. F. (1977). A comparison of self-concept in adopted and non-adopted adolescents. *Adolescence, 12,* 443–448.

Office of the United Nations High Commissioner for Human Rights. (1989). *Convention on the Rights of the Child.* Retrieved September 3, 2007, from www.unhchr.ch/html/menu3/b/k2crc.htm

*Palacios, J., & Sanchez, Y. (1996). Ninos adoptados y no adoptados: Un estudio comparativo [Adopted and non-adopted children: A comparative study]. *Anuario de Psicologia, 71,* 63–85.

Palacios, J., & Sánchez–Sandoval, Y. (2005). Beyond adopted/nonadopted comparisons. In D. M. Brodzinsky & J. Palacios (Eds.), *Psychological issues in adoption: Research and practice* (pp. 117–144). Westport, CT: Praeger.

*Passmore, N. L., Fogarty, G. J., Bourke, C. J., & Baker–Evans, S. F. (2005). Parental bonding and identity style as correlates of self-esteem among adult adoptees and nonadoptees. *Family Relations, 54,* 523–534.

Piers, E. V. (1984). *Piers-Harris Children's Self-Concept Scales.* Los Angeles: Western Psychological Services.

*Pinderhughes, E. E. (1998). Short term placement outcomes for children adopted after age five. *Children and Youth Services Review, 20,* 223–249.

Rosenberg, M. (1979). *Conceiving the self.* New York: Basic Books.

Rosenthal, R. (1979). The "file drawer problem" and tolerance for null results. *Psychological Bulletin, 86,* 638–641.

Rosenthal, R. (1995). Writing meta-analytic reviews. *Psychological Bulletin, 118,* 183–192.

*Ross, M. (1985). *The educational needs of adoptive parents.* Unpublished doctoral dissertation, American University, Washington, DC.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57,* 316–331.

Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. Rolf, A. S. Masten, D. Cichetti, K. H. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 181–214). Cambridge, England: Cambridge University Press.

Rutter, M., O'Connor, T. G., & the English and Romanian Adoptees Study Team. (2004). Are there biological programming effects for psychological development? Findings from a study of Romanian adoptees. *Developmental Psychology, 40,* 81–94.

Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 89,* 623–642.

Schwartz, S. J., & Finley, G. E. (2006). Father involvement, nurturant fathering, and young adult psychosocial functioning: Differences among adoptive, adoptive stepfather, and nonadoptive stepfamilies. *Journal of Family Issues, 27,* 712–731.

Selman, P. (2005, September). *Trends in intercountry adoption 1998–2003: A demographic analysis.* Paper presented at the First Global Conference on Adoption Research, Copenhagen, Denmark.

*Sharma, A. R., McGue, M. K., & Benson, P. L. (1996). The emotional and behavioral adjustment of United States adopted adolescents: Part I. An overview. *Children and Youth Services Review, 18,* 83–100.

*Sharma, A. R., McGue, M. K., & Benson, P. L. (1998). The psychological adjustment of United States adopted adolescents and their nonadopted siblings. *Child Development, 69,* 791–802.

*Shoborg–Winterberg, T., & Shannon, J. (1988). Adoption and psychosocial adjustment. *Social Work, 33*(1), 66.

*Simmons, W. V. (1979). *A study of identity formation in adoptees.* Unpublished doctoral dissertation, University of Detroit, Detroit, MI.

*Simon, R. J., & Altstein, H. (1991). Intercountry adoption: Experiences of families in the United States. In H. Altstein & R. J. Simon (Eds.), *Intercountry adoption: A multinational perspective* (pp. 23–54). New York: Praeger.

*Simon, R. J., & Alstein, H. (1996). The case for transracial adoption. *Children and Youth Services Review,* 18, 5–22.

*Slobodnik, N. J. (1996). *Communication about adoption, personality development and attachment in adoptive families.* Unpublished doctoral dissertation, Seton Hall University, South Orange, NJ.

*Smith, D. W., & Brodzinsky, D. M. (2002). Coping with birthparent loss in adopted children. *Journal of Child Psychology and Psychiatry, 43,* 213–223.

Smith, S. L., Howard, J. A., & Monroe, A. D. (2000). Issues underlying behavior problems in at-risk adopted children. *Children and Youth Services Review, 22,* 539–562.

Sroufe, L. A. (1990). Considering normal and abnormal together: The essence of developmental psychopathology. *Development and Psychopathology, 2,* 335–347.

*Stams, G.-J. J. M., Juffer, F., Rispens, J., & Hoksbergen, R. A. C. (2000). The development and adjustment of 7-year-old children adopted in infancy. *Journal of Child Psychology and Psychiatry, 41,* 1025–1037.

Stams, G.-J. J. M., Juffer, F., & Van IJzendoorn, M. H. (2002). Maternal sensitivity, infant attachment, and temperament predict adjustment in middle childhood: The case of adopted children and their biologically unrelated parents. *Developmental Psychology, 38,* 806–821.

*Stein, L. M., & Hoopes, J. L. (1985). *Identity formation in the adopted adolescent: The Delaware Family Study.* New York: Child Welfare League of America.

*Storsbergen, H. (2004). *Psychische gezondheid en welbevinden van volwassen Grieks geadopteerden in Nederland: De invloed van het geadopteerd zijn* [Psychological health and well-being of adult Greek adoptees in the Netherlands]. Delft, The Netherlands: Eburon.

Sutton, A. J., Duval, S. J., Tweedie, R. L., Abrams, K. R., & Jones, D. R. (2000). Empirical assessment of effect of publication bias on meta-analyses. *British Medical Journal, 320,* 1574–1577.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). New York: HarperCollins.

Tieman, W., Van der Ende, J., & Verhulst, F. C. (2005). Psychiatric disorders in young adult intercountry adoptees: An epidemiological study. *American Journal of Psychiatry, 162,* 592–598.

Van IJzendoorn, M. H., Bakermans–Kranenburg, M. J., & Juffer, F. (2007). Plasticity of growth in height, weight and head circumference: Meta-analytic evidence of massive catch-up after international adoption. *Journal of Developmental and Behavioral Pediatrics, 28,* 334–343.

Van IJzendoorn, M. H., & Juffer, F. (2005). Adoption is a successful natural intervention enhancing adopted children's IQ and school performance. *Current Directions in Psychological Science, 14,* 326–330.

Van IJzendoorn, M. H., & Juffer, F. (2006). The Emanuel Miller Memorial Lecture 2006: Adoption as intervention. Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development. *Journal of Child Psychology and Psychiatry, 47,* 1228–1245.

Van IJzendoorn, M. H., Juffer, F., & Klein Poelhuis, C. W. (2005). Adoption and cognitive development: A meta-analytic comparison of adopted and non-adopted children's IQ and school performance. *Psychological Bulletin, 131,* 301–316.

Verhulst, F. C., Althaus, M., & Versluis–den Bieman, H. J. M. V. (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. (1995). Developmental course of problem behaviors in adolescent adoptees. *Journal of the American Academy of Child and Adolescent Psychiatry, 34,* 151–159.

Verschueren, K., Marcoen, A., & Schoefs, V. (1996). The internal working model of the self, attachment, and competence in five-year-olds. *Child Development, 67,* 2493–2511.

Versluis–den Bieman, H. J., & Verhulst, F. C. (1995). Self-reported and parent reported problems in adolescent international adoptees. *Journal of Child Psychology and Psychiatry, 36,* 1411–1428.

Voss, L. D. (2006). Is short stature a problem? The psychological view. *European Journal of Endocrinology, 155,* S39–S45.

*Vroegh, K. S. (1997). Transracial adoptees: Developmental status after 17 years. *American Journal of Orthopsychiatry, 67,* 568–575.

Werner, E. (1993). Risk, resilience, and recovery: Perspectives from the Kauai Longitudinal Study. *Development and Psychopathology, 5,* 503–515.

Werner, E. (2000). Protective factors and individual resilience. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed.; pp. 115–132). Cambridge, England: Cambridge University Press.

*Westhues, A., & Cohen, J. S. (1997). A comparison of the adjustment of adolescent and young adult inter-country adoptees and their siblings. *International Journal of Behavioral Development, 20,* 47–65.

*Wickes, K. L., & Slate, J. R. (1997). Transracial adoption of Koreans: A preliminary study of adjustment. *International Journal for the Advancement of Counselling, 19,* 187–195.

*Wrobel, G. M. (1990). *The self-esteem of transracially adopted adolescents.* Unpublished doctoral dissertation, University of Minnesota, Minneapolis.

*Wrobel, G. M., Ayers–Lopez, S., Grotevant, H. D., McRoy, R. G., & Friedrick, M. (1996). Openness in adoption and the level of child participation. *Child Development, 67,* 2358–2374.

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New Editors Appointed, 2009–2014

The Publications and Communications Board of the American Psychological Association announces the appointment of six new editors for 6-year terms beginning in 2009. As of January 1, 2008, manuscripts should be directed as follows:

- *Journal of Applied Psychology* (http://www.apa.org/journals/apl), **Steve W. J. Kozlowski, PhD,** Department of Psychology, Michigan State University, East Lansing, MI 48824.
- *Journal of Educational Psychology* (http://www.apa.org/journals/edu), **Arthur C. Graesser, PhD,** Department of Psychology, University of Memphis, 202 Psychology Building, Memphis, TN 38152.
- *Journal of Personality and Social Psychology: Interpersonal Relations and Group Processes* (http://www.apa.org/journals/psp), **Jeffry A. Simpson, PhD,** Department of Psychology, University of Minnesota, 75 East River Road, N394 Elliott Hall, Minneapolis, MN 55455.
- *Psychology of Addictive Behaviors* (http://www.apa.org/journals/adb), **Stephen A. Maisto, PhD,** Department of Psychology, Syracuse University, Syracuse, NY 13244.
- *Behavioral Neuroscience* (http://www.apa.org/journals/bne), **Mark S. Blumberg, PhD,** Department of Psychology, University of Iowa, E11 Seashore Hall, Iowa City, IA 52242.
- *Psychological Bulletin* (http://www.apa.org/journals/bul), **Stephen P. Hinshaw, PhD,** Department of Psychology, University of California, Tolman Hall #1650, Berkeley, CA 94720. (Manuscripts will not be directed to Dr. Hinshaw until July 1, 2008, as Harris Cooper will continue as editor until June 30, 2008.)

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