



Mother-daughter relationships among Chinese and Romanian adoptees

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Abstract

We compare matched samples of school-aged Chinese and Romanian adoptees in America who were adopted in the early and mid 1990s. Our focus is on connections between the source country, pre-adoption history, and strain in the mother-daughter relationship. While most relationships were rated by the mothers very positively, mothers with children adopted from Romania tended to report more strain in these relationships than mothers of children adopted from China. This difference is due, in part, to a between-country difference in age at adoption (children from Romania were older on average at the time of adoption than children adopted from China), and to the different effects of age of adoption within the two study groups (age at adoption was a strong predictor of relationship functioning within the Romanian sample but was unrelated to ratings of relationship functioning in the Chinese sample.) In interpreting the results, we link age at adoption to duration of exposure to child welfare systems which were clearly better in China than in Romania during the period under study. The results extend those of previous research on international adoption by illustrating how pre-adoption exposure to different child welfare systems may affect parent-child relationships years later.

Key words: adoption, mother-daughter relationship, Romanian adoptees, Chinese adoptees

The focus of the current paper is on the functioning of the adoptive parent-adopted child relationship in *middle childhood*. In America, middle childhood is characterized by the growing independence of the child and the emerging importance of peer groups (Elkin & Handel, 1972). While issues of trust and communication tend to be more obvious in early childhood, they often re-emerge in middle childhood in ways that are more complex and nuanced than when the child was younger. How and in what ways the parent-child relationship accommodates such changes will be affected by factors such as family composition and resources as well as pre-adoption factors such as length of institutional exposure and quality of care. Although it has now been well documented that institutionalization places children at risk for more difficulties, research has been inconclusive about why some children are more vulnerable than others, the areas of development in which children are most likely to recover, as well as the areas of development and functioning that remain problematic (Groza, Ileana & Irwin, 1999). The current study explores the persistence of attachment difficulties in the context of the parent-child relationship in middle childhood. Early difficulties forming a positive attachment may, or may not, launch both child and parent on a relationship trajectory that is not easily rectified.

Attachment theory and research

Attachment has become a dominant paradigm in adoption and child welfare. Attachment is a physical, social and psychological bond between a child and a parent or parents. While few believe any longer in the existence of a critical period for the formation of a secure attachment, nobody discounts the importance of attachment itself.

While most children who are adopted internationally readily form positive attachments with their adoptive parents, a minority experience problematic attachments even in very nurturing families with ample resources. In a study of Romanian children adopted to Canada, Marcovitch and colleagues (1997) reported that 70% were not securely attached. In a separate Canadian study of Romanian adoptees an average of 3 years after placement, Chisholm (1998) found that only 37% were securely attached. In a British study of Romanian children adopted from institutions and studied at ages 4 and 6, O'Connor and Rutter (2000) found that 20% of the children showed signs of attachment disturbances. Based on the research to date, the data suggest attachment is a problem for many internationally adopted children, at least during the first few years after placement.

Difficulty forming appropriate attachments is often linked to early trauma. Many children adopted internationally, most of whom have spent significant amounts of time in an institution, show greater risks for a variety of health and developmental difficulties including aggressive and antisocial behaviours, impulsivity, reading and other learning disorders, in addition to attachment problems (Rutter, 1995; Miller & Hendrie, 2000; Smyke, Dumitrescu & Zeanah, 2002; Chisholm 1998; O'Connor & Rutter, 2000; Johnson & Fein, 1991; Portello, 1993).

Most previous studies have focused on attachment only in *early childhood*. However, relationships between parents and children are dynamic, and change in culturally expected and age-related ways. An attachment behavioural system changes as a child grows and develops, and tends to be affected by parent responsiveness, social environment, and the age of the child (Stams, Juffer & van IJzendoorn, 2002; Groze, 1996). For these reasons, a longitudinal perspective that examines parent-child relationships at different stages in the life course can be very useful. Much is at stake because the parent-child relationship represents a developmental model for adult and peer socialization more generally (National Research Council, 2000).

Assessing or measuring attachment in middle childhood is complicated, in part, because the measures developed for attachment have been oriented to infants and toddlers, not older children. Even those measures of infant attachment are problematic, particularly when it comes to the measure of secure attachment. Rutter (1995) suggests that there is much individual variation in degree of security for infants that is not captured in current measurement systems.

Just as problematic, there is not a consensus about the categories of attachment. Bowlby and Ainsworth (Bowlby, 1969, 1973, 1988; Ainsworth, 1973, 1978) offered three categories (secure, anxious and avoidant), Main and Westin (1981) offered a fourth (disorganized, blending anxious and avoidant strategies), and Zeanah (2002) offers a different typology under the DSM-IV rubric of reactive attachment disorder. The first pattern is the failure to initiate or respond appropriately during social interactions. This category is similar to autism, characterized by unresponsive social interaction except for aggression, staring at spinning objects, failure to protest at separation, and reluctance to communicate with language/speech delays.

The second pattern involves indiscriminate attachment. Zeanah states that the two overarching features are reckless/accident-prone behaviour and socially promiscuous behaviour. Reckless/accident-prone behaviour is characterized by behaviour patterns of encountering situations that place the child at-risk, such as wandering off and not checking with the caregiver. Socially promiscuous behaviour is characterized by superficial social responses and indiscriminate friendliness. Indiscriminate friendliness is not easily classified (Zeanah, 2000; Chisholm, 1998). While it is not clear how to classify it in attachment paradigms (Zeanah et al., 2002), it is a concern for parents and practitioners that requires investigation in attachment research.

The predictive quality of attachment relationships is also problematic. Events occurring at any point in the lifespan may have implications for subsequent outcomes (Belsky & Nezworski,

1988) but the role of early experience in later outcomes is not always clear or direct, and attachment may have no direct relationship with later psychiatric disorders (Rutter, 1995; Sroufe, 1988). Thus, even when a pre-adoption history is negative, it may not lead to psychopathology.

In addition, as Goldberg (1997) states: "... an established link between parent-child relationships and psychopathology can only be one element in a complex process. Parent-child relationships are not the only or (in some cases) even the most important determinant of childhood behaviour problems" (p. 171). While children with insecure attachment may be more likely to develop behaviour problems, some studies find no significant relationship (Goldberg, 1997). In part, this may be due to indications that patterns of attachment are not entirely stable over time.

International adoption

Since 1990, there has been a tremendous increase in the number of children adopted from overseas. It is likely that this percent will increase as international adoptions continue to increase. In 1990, about 7,000 children were adopted internationally. In 2001, about 18,000 children entered the United States from other countries. The 2000 Census estimates that 13 percent of adopted children have been adopted from foreign countries (U. S. Census Bureau, 2003). The countries where children originate may change. For example, in 1991 most European adoptions were from Romania but in 2001 most European adoptions were from Russia. Regardless of the source countries, the adoption of large numbers of foreign born children by Americans is expected to continue.

Adoptions from China

The Chinese government legalized foreign adoptions in 1992, in part as a response to the accumulating number of abandoned infant girls in orphanages which was taxing China's child welfare system. The abandonments occurred as a result of the government's one-child per family policy, which was being rigorously enforced in the cities, and was also influenced by cultural birth preferences (especially in the countryside) which favor boys over girls (Johnson, Huang, & Wang, 1998).

The U.S. is currently one of about a dozen countries adopting infant children from the P.R.C. Among these receiving countries, the U.S. has adopted about as many children from China as all of the other receiving countries combined. In recent years, about 5,000 Chinese-born children per year have been adopted by American families.

Since 1992, the Chinese government has required that prospective adoptive families come to China to finalize adoptions. As a result, adopting Americans have seen first-hand the birth culture of their future children. Some have also been able to visit the orphanages, where virtually all of the orphaned children have spent at least some time. The Chinese child welfare system has also developed a foster system outside of the orphanages, but it is rare for adoptive parents to have the opportunity to see their children in this context.

During the early years of China's foreign adoption program, it was widely believed that the Chinese were selecting the healthiest children for foreign adoption. More recently, the Chinese have also encouraged *special needs* adoptions as well as the adoption of older children. Thus, the trend throughout the 1990s, which continues into the present, has been in the direction of greater heterogeneity in the characteristics of the children who became available for international adoption.

With few exceptions, the coverage of Chinese adoptions in the American media has been very positive, celebrating the adoptions as a form of cultural exchange and as a humanitarian ges-

ture. While the total number of adoptions is not yet very large (to date, more than 30,000 Chinese girls, of varying ages, have been adopted into American families) the societal attention given to the program in both the sending and the receiving countries has been impressive. It is widely believed that monies received from the international adoption program have enabled the Chinese government to increase funding for its child welfare system enabling improvements in both its system of foster services and orphanages. Improvements in the orphanages have also been stimulated by the publication of a Human Rights Watch Report in 1993 which publicly criticized conditions in the orphanages and, as a result, embarrassed the Chinese government. Reactions to the Human Rights Watch Report were so extreme that some believe it was also responsible for the Chinese government's decision to impose a moratorium in international adoptions in 1993-1994.

Since 1995, the program has proceeded with few interruptions, and appears to have not been strongly affected by the changes in the adoption laws in 1998, which legalized domestic adoptions within China. The current regulations governing domestic adoptions allow Chinese families to adopt a second child so long as the second child is in an orphanage.

Recent research on child outcomes, while still quite limited, is nonetheless very favorable towards the adoptions. The vast majority of the children exhibit the "catch up" effects in height and weight, and overall health and functioning, that is typical of international adoptees all over the world (Johnson & Traister, n.d.). Tessler and Gamache (2003) have recently reported that Chinese adoptees, ages 5-10, compare favorably in terms of social and psychological functioning with a national U.S. sample of similar aged children. In sum, the children from China appear not only to have found a welcome home in American society. They also appear to be adjusting very well to it (Tessler, Gamache, & Liu, 1999; Rojewski & Rojewski, 2001).

Adoptions from Romania

The Romanian government has a long history of foreign adoptions, but adoptions clearly increased in the early 1990s. The increase in both the pace and number of the adoptions coincided with the collapse of the Ceausescu dictatorship. The ensuing political and social chaos, coupled with poverty and unemployment, led many Romanian families with very limited resources to turn their children, boys as well as girls, over to the child welfare system. A disproportionate number of these placements involved children with special needs, including many that were very minor.

In the early 1990s, many of the Romanian orphanages had problems with basic physical structures, such as no windows, no running water, and inappropriate sewer systems. In addition, children in orphanages were exposed to child-to-caregiver ratios that allowed for very minimal personal interaction. Educational programming was virtually nonexistent and children received minimal, routine care (Groza, Ileana & Irwin, 1999).

Between August 1, 1990 and July 17, 1991, about 10,000 Romanian children were adopted abroad. This was followed by a moratorium on Romanian adoptions that continued into 1993. The moratorium was enacted in response to international criticism of the chaotic conditions in 1990 and early 1991 in which the inter-country adoptions were occurring, and evidence that increasing numbers of children were being adopted from poor families rather than from the institutions. Most of the Romanian children in the current study were adopted during or just prior to this period.

Notwithstanding the difficult pre-adoption experiences of many Romanian children, and the chaotic circumstances under which Romanian authorities attempted to negotiate placements for them, reports about children from Romania are generally quite positive (Groze & Ileana, 1996; Marcovitch et al., 1997; Ames, 1997). The prevalence of behavioural problems among Romanian adoptees is similar to domestically adopted children from the public child welfare system (Groza & Ryan, 2002; Groza, Ryan & Cash, 2003).

The children adopted from Romania are a diverse group and it has been difficult to explain why, under the same circumstances, some children fare well, many recover from the trauma, and others don't fare so well. Both clinical observations (Bascom & McKelvey, 1997; Groza, 1997; Jenista, 1997) with research (Groza, Proctor & Guo, 1999), suggest that international adoptees belong to one of three distinct groups. The first group is resilient. These children, regardless of their circumstances, seem to survive relatively well. They fare well in orphanages, do not have many developmental delays, and have adjusted well in their family settings. From one-fifth (Groza, 1997) to one third (Jenista, 1997) of the children fall into this category.

The second group demonstrates significant developmental delays resulting from institutionalization. However, families often report, with awe and astonishment, the changes that occur after this group of children enters adoptive homes. These children make up for many of the delays they exhibit at placement and, even though they may be somewhat behind in their development compared to other children not exposed to deprivation. Groza (1997) suggests that 60% of the children fall into this category, Jenista (1997) indicates that 33% fall into this category, and Bascom and McKelvey (1997) suggest that 60% to 70% of delays in development are reversible within 2 years after placement.

The third group is severely affected by institutionalization, and many have profound developmental needs. Although their development improves, they continue to have considerable difficulties. Some interventions work for a short time, and then their families have to try new ones. Groza (1997) suggests that one-fifth of the children fall into this category, Jenista suggests one-third of the children fall into this category, and Rutter (1995) suggests less than 10% of the children fall into this category.

Hypotheses

The current study compares parent-child relationships among children adopted internationally several years after the adoptions. The research design provides for a comparison of children adopted from China and Romania at roughly the same developmental period of their lives.

The potential to draw comparisons between different source countries is an interesting feature of the analysis, and uncommon in the extant adoption literature. That there are not many comparative studies in the literature is due to lack of opportunity to identify children adopted from different source countries who are of similar ages, and the difficulties in assuring comparable methods of data collection and measurement. When possible, inter-country research designs have the potential to provide more variation in the quality and duration of institutional exposure than is typical of single-country studies. Moreover, hypotheses about the impact of variations in the foster care systems, administrative procedures, and cultural differences can be explored.

The characteristics of American adults who chose to adopt from China in the 1990s are very similar to their counterparts in America who chose to adopt from Romania during the same period. The typical family adopting a baby from either country was upper middle class with at least one full time earner. Parents are also very well educated. Their reasons for adoption, for instance, infertility, wanting to give an orphan a home, interest in the culture of the source country, are also quite similar. For both groups, the adoptions involved substantial costs in money and travel time.

There are at least two points of differentiation, however. First, in the 1990s there were clearly more single parents seeking to adopt from China than Romania. Second, although it cannot be readily documented, race may also have been a factor, with some prospective adoptive parents choosing to adopt from Romania because of the greater racial similarity between parent and child. Interestingly, a corollary of these different racial preferences may include the greater emphasis given by parents who adopted from China to celebrate their child's cultural distinc-

tiveness, and to provide opportunities for bi-cultural socialization (Tessler, Gamache & Liu, 1999).

Both research investigating Romanian adoption and research investigating Chinese adoption find ample evidence that parent-child relationships are a strong resource for foreign adoptees, helping to overcome risk factors in the pre-adoption history. Since that history is generally regarded as more severe in Romania during the 1990s, we expected to see greater evidence of long-term problems including the functioning of the parent-child relationship.

In summary, consideration of the reasons for adoption from the two countries, the resources available for caring for orphaned children, and the efficiencies in arranging for international placements which reduced waiting time for adoptions from China in the early and mid 1990s, led to the following research hypotheses:

Hypothesis 1. Parent-child relationships in middle childhood will be more challenged in the families with children from Romania.

Hypothesis 2. Differences discerned in the functioning of the parent-child relationships *will not* be traceable to differences in the characteristics of the adoptive parents and their household characteristics.

Hypothesis 3. Differences in the functioning of the parent-child relationships *will be* traceable to the characteristics of the children, particularly their age at adoption and their current behavioural problems, which may reflect different characteristics of the child welfare systems.

Methodology

Both sub-samples are part of longitudinal studies. First, we describe the Romanian adoption study from which the sub-sample for the current comparison was drawn. Second, we describe the China adoption study.

The Romanian study

In 1994 a convenience sample of adoptive families of Romanian children in the United States was recruited from 10 parent support groups located throughout the country. In the first wave, data based on self-administered questionnaires were collected about 475 children residing in 399 families. (This represented about 16 percent of all adoptions from Romania between 1990 and 1993). In fall, 1995, the families who participated in the first year of the study, and gave their addresses ($n = 330$), were contacted for a second time. Ten additional families also joined the study at this time. Thus, the second wave of questionnaires was sent to 340 families. The second wave probed in greater detail the placement history of the children prior to adoption and included a standardized checklist for assessing children's behavioural problems. The questionnaires that were received in this second wave provided information about 238 children living in 209 families. The respondents were predominantly mothers (88%). The children included both boys and girls.

The China study

The China adoption study was launched in 1996 based on data from 526 parents in 361 families and followed up in 2001-2002 approximately five years later; 467 parents from 328 families provided data at follow-up. Parents were recruited over the Internet and through notices in newsletters distributed to Families with Children from China. As with the Romanian study, self-administered questionnaires were used at both Time 1 and Time 2 as the primary method of data collection. At Time 2 data collection was limited to one child per family. Because of the small number of boys at Time 1, the follow-up survey included only girls. Approximately

31 percent of the parents who participated at Time 2 were fathers and 69 percent were mothers.

The analysis of cases for this paper comes from the second waves of both studies. Although the second waves occurred in different years, 1998 in the Romanian study and 2001-02 in the China study, the ages of the children were similar. Even so, the two groups needed to be further limited in order to provide a fair comparison between them.

Sample selection

There were several challenges involved in constructing an integrated data set suitable for testing the research hypotheses. The first was to select cases that could be compared. Both adoption studies consisted of multiple waves of data. Thus an initial problem was to choose those waves in which the children would be the closest in age.

A second problem was the mix of cases. The Chinese sample included mothers and fathers as respondents. However, the Romanian sample consisted mostly of mothers. A further complication was that while the Romanian sample included both boys and girls, the Chinese sample included only girls.

In view of the differences in sample characteristics, the working sample was restricted to *mothers and daughters*, between 8 and 12 years of age. There were a total of 80 mother-daughter pairs available for this analysis from China, and 54 mother-daughter pairs available for analysis from Romania.

As already noted, both studies used self-administered questionnaires. The response rate in the China study at wave 2 was 90 percent. There was more attrition at wave 2 in the Romanian study. The response rate there was 63 percent due largely to difficulties tracing respondents. Once traced, refusals were minimal. Comparison of respondents and non-respondents at wave 2 in both studies revealed few differences between respondents who provided data in both wave 1 and wave 2 and those who were lost to attrition.

Measurement

In order to facilitate direct comparison, the China study researchers incorporated some measures from the Romanian file into the China wave 2 study. These consisted of 12 items from the Child Behavior Check-List (CBCL) and 5 items pertaining to parent-child relationships (PCR).

Analysis of the CBCL and PCR measures were non-problematic because they used the same response categories. But other measures, such as family income, used different categories. In order to analyze the data associated with different measures of the same construct it was necessary to find a common system of codes so that we could generate a single variable for analysis. That is, in some cases we had to standardize measures when they were slightly different across the two studies. Usually we used the questionnaire designed for families of Chinese adoptees as the standard and recoded the other questionnaire accordingly, but sometimes we had to adjust both coding systems in order to integrate the two data sets.

Inevitably there were data elements that either did not exist in both data files or were not sufficiently alike to be compared. For example, bi-cultural socialization, which was measured in much detail in the China study, was unmeasured in the Romanian study. By the same token, the Romanian adoption file included all of the scales from the CBCL (over 100 items) while the Chinese adoption file included only a small subset of 12 items from the depression scale of the CBCL (Achenbach, 1991). Thus, CBCL in the current comparison is limited to depression.

Mother's age was not systematically available on the wave 2 Romanian file (and could not be derived from the wave 1 file) and thus is a missing data element in the analysis. However,

based on what we could infer about mothers' ages in the aggregate at wave 1 of the Romanian adoption file, we think that these mothers' at wave 2 were about 45 years old and thus slightly younger than the mothers in the wave 2 China adoption file who averaged 48 and one-half years of age.

The final coding categories for each of the measures used in the analysis are shown below:

Household and maternal characteristics

Household income: 1 = less than \$30,000; 2 = between \$30,000 and \$49,999; 3 = between \$50,000 and \$89,000; 4 = between \$90,000 and \$129,999; 5 = between \$130,000 and \$149,999; 6 = between \$150,000 and \$199,999; 7 = \$200,000 or more.

Maternal Education: educational attainment in years prior to entry into study.

Maternal Employment: 1 = working for pay, full time or part time; 0 = not currently working for pay.

Marital Status: 1 = currently married; 0 = other.

Child characteristics

Child's Age at Wave 2: coded in years.

Child's Age at Adoption: coded in months.

Siblings: 1 = one or more siblings, 0 = no siblings. Note: siblings include but are not limited to siblings adopted from China and Romania.

Behavioural Problems: dichotomized 1 = somewhat, very, or often true, 0 = not true. The specific items were: complains of loneliness, cries a lot, doesn't eat well, feels worthless or inferior, feels too guilty, overeating, overtired, sleeps more than most kids during day and/or night, poor school work, under-active, slow moving, or lacks energy, unhappy, sad, or depressed, talks about killing herself. A summary index was constructed representing the number of problems out of the 12 that were reported in each case.

Mother-daughter relationships

A total of five questions formed the basis of an index of parent-child relationships. Below we show the wording of the questions along with the response categories for each. Even though the response categories varied somewhat from question to question, we judged them sufficiently similar to justify including the items in a single index.

1. How do you and your daughter get along? (4 = very well; 3 = fairly well; 2 = not so well; 1 = very poorly)
2. How would you rate the communication between you and your daughter? (4 = very well; 3 = fairly well; 2 = not so well; 1 = very poorly)
3. Do you trust your daughter? (4 = yes, very much; 3 = yes, for the most part; 2 = not sure; 1 = no)
4. Do you feel respected by your daughter? (4 = yes, very much; 3 = yes, for the most part; 2 = not sure; 1 = no)
5. Do you feel close to your daughter? (4 = yes, very much; 3 = yes, for the most part; 2 = not sure; 1 = no)

Statistical analyses

First, we will compare both sub-samples first in respect to the independent variables and then the key dependent variable of mother-daughter relationships. Next, we will present zero-order correlations between the independent and dependent variables for the sample as a whole, and also separately for the China and Romanian sub-samples. Finally, we will regress summary scores for the index of mother-daughter relationships on country of origin (China, Romania) controlling for household and maternal characteristics, and child characteristics, in an effort to explain the observed differences on the dependent variable.

Results

Examination of the characteristics of both groups in Table 1 shows that household income averaged between \$90,000 and \$129,999. Approximately 74 percent of the mothers were currently working for pay at least part time. The average number of years of schooling was about 17, or one-year post-graduate study. Educational attainment was higher in the sub-sample of mothers who had adopted children from China (17.6 years) than in the sub-sample of mothers who had adopted children from Romania (16.2). However, the mothers in both sub-samples were well educated, with the vast majority in each sub-sample having graduated from college.

Approximately 87 percent were currently married. Almost all (about 98 percent) of the mothers with children from Romania were currently married compared to 80 percent of the mothers with children from China. The significant difference in marital status is probably due to more liberal rules governing Chinese adoptions in the early and mid 1990 which did not discriminate against single parents.

Table 1

Comparison of family, parent, and child characteristics in families with children adopted from China and Romania

	Total sample Mean (standard deviation)	China (n = 80) Mean (standard deviation)	Romania (n = 54) Mean (standard deviation)
Household income (1 = less than \$20,000; 7 = \$200,000 or more)	3.99 (1.62)	4.06 (1.49)	3.89 (1.82)
Maternal employment (1 = yes, 0 = no)	.739 (0.44)	.788 (0.41)	.667 (0.48)
Maternal education (in years)	17.03 (2.20)	17.63 (1.96)	16.15*** (2.25)
Marital status (1 = married, 0 = other)	.873 (0.33)	.800 (0.40)	.981** (0.14)
Child's current age	9.20 (1.21)	8.74 (0.94)	9.88*** (1.25)
Child's age at adoption	1.14 (1.06)	0.98 (0.84)	1.38* (1.29)
Has sibling (1 = yes)	.679 (0.47)	.663 (0.48)	.704 (0.46)

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

Children adopted from China were no more (or less) likely to have a sibling (about 66 percent had at least one sibling) than children adopted from Romania (about 70 percent had siblings). Although children from both studies were in the same age range (8 - 12 years of age), on average the children from Romania were slightly older (9.9 years) than the children from China (8.7 years). Age at adoption also differed between the two groups. In the Chinese sample, the average age at the time of adoption was just short of one year whereas in Romania it was just short of one and one-half years.

Mother-daughter relationships

In general, responses to the relationship questions provided very positive views of the mother-daughter relationship. For example, 83.6 percent of the mothers said that they get along very well with their daughters, and 60.2 percent rated their communication as excellent. Overall, the mean scores describing these relationships are much more positive than negative. For example, responses to the first question shown in Table 2 "How well do you and your daughter get along" on average are much closer to *very well* (4) than to *fairly well* (3). Responses to the second question shown in Table 2, "How would you rate the communication between you and your daughter?" are roughly between *excellent* (4) and *good* (3).

Table 2

Comparison of mother-daughter relationships in children adopted from China and Romania

Relationship Trait	Total sample	Children adopted from China	Children adopted from Romania
1 = very poorly, no			
2 = not so well, fair, not sure			
3 = fairly well, yes, for the most part	Mean	Mean	Mean
4 = very well, excellent, yes, very much	(Standard deviation)	(Standard deviation)	(Standard deviation)
Get along well	3.83 (.398)	3.90 (.3021)	3.72** (.482)
Communicate well	3.51 (.692)	3.61 (.608)	3.37* (.784)
Trust	3.51 (.712)	3.71 (.482)	3.22*** (.883)
Respect	3.57 (.643)	3.69 (.515)	3.39** (.763)
Close	3.81 (.498)	3.91 (.326)	3.65** (.649)
Scale average	3.65 (.493)	3.73 (.388)	3.41*** (.659)

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

Despite the clustering of responses towards the positive end of the distributions, there were significant differences comparing the two groups. The outcomes of the statistical tests shown in column 4 indicate that, on average, parents with children from China experience more closeness, respect, trust, better communication, and generally get along better with their daughters.

In order to describe variation in the perceived quality of the mother-daughter relationships overall, we created a summary scale ($\alpha = .878$) of responses to the five questions, which could range from 1.0 to 4.0. The actual means are shown in the bottom row of Table 2. Comparison of the means and standard deviations reveals a significant difference between the two groups.

This between-group difference invites interpretation. Why are the mother-daughter relationships with children adopted from China (even) more successful in middle childhood than mother-daughter relationships with children adopted from Romania? Below we consider some alternative interpretations.

One possibility is that the children adopted from Romania have more behavioural problems. Table 3 shows the proportions of children in the total sample (column 2) and in the sub-samples of children from China (column 3) and Romania (column 4) whose parents said they had any of 12 problems at least to some extent. (Because of limited variance, the positive responses *somewhat true* and *very or often true* were dichotomized and contrasted with *not true*). The bottom row shows the percentages averaged across all 12 items.

Table 3

Prevalence of 12 behavioural problems selected from the Child Behavior Checklist

Type of behavioural problem	Total sample	Children adopted from China	Children adopted from Romania
	Percent	Percent	Percent
Complains of loneliness	21.1	19.0	24.1
Cries a lot	18.2	15.4	22.2
Doesn't eat well	18.8	15.2	24.1
Feels worthless or inferior	25.8	19.2	35.2*
Feels too guilty	13.5	13.9	13.0
Overeating	9.0	6.3	13.0
Overtired	21.1	22.8	18.5
Sleeps more than most kids during day and/or night	10.5	8.9	13.0
Poor school work	20.3	11.4	33.3**
Under active, slow moving, or lacks energy	3.8	2.5	5.6
Unhappy, sad, or depressed	12.1	9.0	16.7
Talks about killing herself	5.3	7.6	1.9
Scale average	15.9	13.3	19.6*

* $p < .05$, ** $p < .01$

The most prevalent of the 12 problems were feeling worthless or inferior, complaints of loneliness, being overtired and poor schoolwork. Proportions of children said to have each of these problems ranged from one-quarter to one-fifth.

Comparison between the children adopted from China and those adopted from Romania revealed significant differences in feeling worthless or inferior (35% of the children from Romania compared to 19% of the children from China), and poor schoolwork (33% of the children from Romania compared to 11% of the children from China).

The scale average (Cronbach's Alpha = .701) also showed a significant between-group difference. On average the children from Romania were reported to have two problems compared to only one problem among the children from China. While the between-group difference in behavioural problems is consistent with the proffered interpretation, the difference is not large.

Table 4 shows the zero-order correlations between the index of mother-daughter relationships (higher scores indicate more positive relationships) and each of the independent variables including the summary index of behavioural problems. Following the format of the previous tables, the correlations are presented first for the total sample (see column 2) and then for the

sub-sample of children adopted from China (column 3) and the sub-sample of children adopted from Romania (column 4). Because of the small sample sizes within sub-samples, statistical significance is denoted up to $p < .10$.

Table 4

Correlations of ratings of mother-daughter relationships with family, parent, and child characteristics

Rating of mother-daughter relationship (1 = low functioning, 4 = high functioning)	Total sample Pearson correlation coefficient	China (n = 80) Pearson correlation coefficient	Romania (n = 54) Pearson correlation coefficient
Household income (1 = less than \$20,000; 7 = \$200,000 or more)	-.002	.027	-.044
Maternal employment (1 = yes, 0 = no)	.201*	-.016	.316*
Maternal education (years)	.187*	.132	.080
Marital status (1 = married, 0 = other)	.070	.239 ⁺	.107
Child's current age (years)	-.177*	.110	-.146
Child's age at adoption (years)	-.239**	-.098	-.251 ⁺
Has sibling (1 = yes, 0 = no)	-.112	-.110	-.112
Behavioural problems (1-12)	-.497***	-.498***	-.535***

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Examination of the results for the total sample shows that mothers rated their relationships with their adopted daughters *more positively* the younger the child, the more educated the mother, and if the mother was currently employed. Mother-daughter relationships were rated *less positively* the more the behavioural problems and the older the child at the time of the survey, and the older the child at time of adoption.

Further examination reveals some additional differences of note. Mother's employment showed a statistically significant correlation with ratings of the functioning of the mother-daughter relationships in the Romanian sub-sample but not in the China sub-sample. In addition, both children's *current age* and *age at adoption* were more negatively associated with mother-daughter relationships in the Romanian than in the China sub-sample.

Thus, bivariate analyses suggest a number of alternative interpretations of the observed difference between country of adoption and mother-daughter relationships in middle childhood. Behavioural problems, mother's employment, child age, and age at adoption may all be involved.

Multivariate analyses

In order to interpret the effects of country of adoption on the functioning of the mother-daughter relationship, we attempted to reduce the effect statistically by introducing different sets of control variables. The results are shown in Table 5.

Model 1 (see column 2) shows the total effect of country of adoption without control variables. Model 2 (see column 3) includes the indirect effects of child, family, and parent characteristics. In Model 2 the magnitude of the between-country effect is reduced somewhat but

remains statistically significant not withstanding the very strong influence of behavioural problems. Model 3 expands the equation to include interaction terms based on earlier observations of sub-sample differences. Model 3 succeeds in reducing the between-country difference to non-significance due mainly to the interaction between source country and age at adoption (*Chinflag*ageadopt*).

Table 5

Multiple regression of ratings of mother-daughter relationships with country of adoption and control variables (N = 134)

Rating of mother-daughter relationship (1 = low functioning, 4 = high functioning)	Model 1 Unstandardized regression coefficient (standard error)	Model 2 Unstandardized regression coefficient (standard error)	Model 3 Unstandardized regression coefficient (standard error)
Country of origin (1 = China, 0 = Romania)	.293*** (.083)	.270** (.087)	1.45 (1.04)
Household income (1 = less than \$20,000; 7 = \$200,000 or more)	—	-.029 (.023)	-.030 (.023)
Maternal employment (1 = yes, 0 = no)	—	.178* (.087)	.160 (.089)
Maternal education (years)	—	.018 (.019)	.021 (.018)
Marital status (1 = married, 0 = other)	—	.270* (.116)	.269* (.115)
Child's current age (years)	—	.056 (.044)	.206* (.106)
Child's age at adoption (years)	—	-.069 (.046)	-.248* (.103)
Has sibling (1 = yes, 0 = no)	—	-.043 (.079)	-.034 (.078)
Behavioural problems (1-12)	—	-.990*** (.168)	-1.00*** (.166)
Chinflag*childage	—	—	-.153 (.120)
Chinflag*ageadopt	—	—	.252* (.117)
Adjusted R ²	.079	.330	.346

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

Discussion

Our objective has *not been* to make invidious comparisons between families with children adopted from different source countries. This would serve little purpose, and could be mis-

leading considering that adoption policies and circumstances are dynamic and subject to changes in both the source and host countries.

Adoption policies and procedures have changed considerably in both China and Romania since the early and mid 1990s when the original samples were recruited. These changes have probably narrowed rather than widened the differences in child experience prior to adoption. For example, there are currently more *special needs* children arriving from China than in the early and mid 1990s. In addition, both source countries are being influenced by the international press coverage surrounding foreign adoptions world-wide.

The unique feature of the current analysis is its comparative perspective on adoptees from different source countries. The comparative perspective permitted a between-country analysis of the inter-relationships among children's pre-adoption histories, characteristics of adoptive parents, and the attachments between these children and their parents in middle childhood. However the methodological limitations involved are considerable.

Methodological limitations

In both studies, sample selection was not random. Because they depended on volunteers, the samples may not be representative of girls adopted from China and Romania, or of their adoptive mothers in America. A corollary is that some subgroups may be over or under-represented in these data and, therefore, generalization of the results should be made cautiously. Generalization is also limited to mother-daughter relationships, and may not be applicable to father-son, mother-son, and father-daughter relationships.

Another problem was the reliance in both studies on self-reported questionnaires as the primary method of data collection. This may have been a cost-efficient alternative, but it carried other costs including non-response, missing data, and questionable reliability and validity.

Many of the methodological problems arise because the research was not originally designed as an inter-country comparison. The idea occurred only shortly before the China survey was finalized, and after the Romanian study was completed. As a result, it was only possibly to include a small number of questions in common. Furthermore, age and gender variations between the two studies reduced the number of cases which could be matched. As a result the analysis is limited to sub-samples from much larger studies.

It is important to keep these matters in mind as we interpret the results. The discussion that follows is organized around the research hypotheses that guided the analysis.

Hypotheses

The first hypothesis was that mother-daughter relationships in middle childhood would be more challenged in the families with children from Romania. This hypothesis is clearly supported although we hasten to acknowledge that the data source is limited to mothers and does not include the perspective of the children or fathers. It would be interesting to see how the children in these two sub-samples would evaluate their relationships with their parents, but it is more realistic to inquire directly from the children after they have moved into adolescence.

The second hypothesis was that differences discerned in parent-child relationships would not be traceable to the characteristics of the adoptive parents and their household characteristics. The test of this null hypothesis was limited to household income, the presence of siblings in the household, the parents' marital status, employment, and educational attainment. As expected, none of these variables accounted for the observed relationship between adoption country and the functioning of the mother-daughter relationship in middle childhood. In general the parents and households from both sub-samples were much more similar than dissimilar. Where there were differences, they did not explain the differences in the functioning of the parent-child relationships.

Some of the socio-demographic effects were nonetheless of interest. The positive effects of mothers' education and employment are consistent with general population studies (Rossi & Rossi, 1990). Employment was observed to be more important in the Romanian sample. Employment may have reduced stress in Romanian families where there were more child behavioural problems. The effect of being married should be interpreted with caution, because the variance was extremely limited.

It is also interesting that certain variables, namely *household income* and *having a sibling*, had no discernable effects on the functioning of the mother-daughter relationships. There may be a threshold beyond which further increments in family income do not affect parent-child relationships. Virtually all of the families in this study would have been above such a threshold.

Why siblings had no discernable negative effect is less obvious, since siblings reduce the amount of attention from parents that can be focused on any individual child. But the loss of attention from mothers may be offset by a gain of attention from siblings. Alternatively, the growing independence from parents which is a hallmark of middle childhood may render the diffusion of parental attention more tolerable.

The third hypothesis was that between-country differences in the functioning of the mother-daughter relationships would be traceable to the characteristics of the children, particularly their age at adoption and their current behavioural problems. Both predictions were strongly supported by the data.

Future research

The results of the current study extend those of previous research on international adoption by showing how attachment difficulties nested in different child welfare systems may affect the mother-daughter relationship by influencing its early trajectory. It is noteworthy that these effects are being observed prior to the transition to adolescence when even very positive parent-child relationship can be challenged. Thus, studying adolescence is an obvious direction for future research, but it is best done prospectively by surveying parents and children beforehand.

Another direction for the future is to consider alternative interpretations of the observed variation in mother-daughter relationships. We have interpreted this variation in terms of differences in age at adoption linked to negative institutional exposure. An alternative interpretation is that the observed differences were due to a differential emphasis by the adoptive parents in America on bi-cultural socialization (Tessler & Gamache, 2003).

Parental commitments to bi-cultural socialization are thought to be much stronger among families with children adopted from China than among families with children adopted from Romania, but we could not test for the effects of this apparent difference due to the lack of information about cultural practices in the Romanian study. This was unfortunate considering that becoming a bi-racial versus a mono-racial family was a major point of differentiation.

In concluding, we want to emphasize the value of thinking comparatively in formulating research questions and designing studies of international adoption. A comparative approach need not be limited to comparing adoptions from different *source countries*. Alternatively it may involve comparing adopted children being raised in different *host countries*, or it may involve comparing other naturally occurring groupings such as foreign versus domestic adoptions. Whatever groupings are chosen, a major lesson from the current study is the importance of emphasizing inter-group comparisons at the very beginning and throughout the research process.

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