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***Challenges Experienced  
by Intercountry Adopted Children***

***A survey of the issues***

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Acknowledgements: The author and Intercountry Adoption Services would like to thank Dr. Margaret Lawson and Dr. Charles Hui of the Children's Hospital of Eastern Ontario for their advice during the writing of this report.

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June 10, 2005

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# ***Challenges Experienced by Intercountry Adopted Children***

## ***A survey of the issues***

### ***INTRODUCTION<sup>1</sup>***

Intercountry adoption is an increasingly common form of family formation, with an annual rate of approximately 2000 adoptions per year in Canada over the past decade.<sup>2</sup> Research suggests that the majority of these children do very well in their new homes. For example, a Quebec study<sup>3</sup> which surveyed children adopted between 1985 and 2002 found that, although there is a great variability of outcome among intercountry adopted children, as a whole these children show rates of attachment security and social and academic adaptation that is comparable to the general population of the province.

Nevertheless, it must be recognized that some children adopted from foreign countries arrive in their new families with special needs. In some cases the child's special needs are known or diagnosed prior to adoption, in some cases not. Some intercountry adopted children may be immediately diagnosed with treatable medical conditions, while some children may later develop conditions which entail a longer term commitment to treatments or therapies.

This document presents a survey of the literature on some potential challenges that intercountry adopted children may face. Not every intercountry adoption will entail the kinds of challenges described in this document. However, it is important that prospective adoptive parents recognize that there are risks associated with intercountry adoption and be prepared to deal with them. Helping parents with this task is the goal of this paper.

## ***Limitations of the information provided***

In developing a list of potential risks that intercountry adopted children may face, this document attempts to be as comprehensive as possible. The reports and studies surveyed have not been assessed regarding the validity or comparability of the data with regard to the Canadian experience. Complete documentation to the sources is provided (see the Notes and References section following the text of Part I) to enable interested readers to access the original documents and make their own judgements about the accuracy or relevance of the given information.

When assessing the information provided, readers should carefully consider a number of factors which can influence the results that have been reported and how those results should be interpreted. The following are some possible sources of research or interpretation bias:

1. *Dated references.* Many of the references were published a number of years ago, or the data may have been collected a number of years ago. The conditions and circumstances of children available for adoption often change considerably, for better or for worse, due to political, social, economic or medical reasons.
2. *Use of limited populations.* Some of the studies cited refer only to specific populations of intercountry adopted children, such as children adopted from certain countries or regions, from orphanages or foster care, or children adopted at certain ages. These studies should not be generalized to all intercountry adopted children because the conditions and circumstances experienced by the children can be highly variable and impact on children very differently. Furthermore, general statistics cannot be assumed to be representative for specific populations or cases.
3. *Lack of comparable data.* Although many of the issues described for intercountry adopted children (e.g., infections, parasites, dental problems, vision problems, hearing loss, Attention Deficit Disorder [ADD], learning disabilities and so on) are also common among Canadian-born children, this report does not provide comparative data for the Canadian population in general.
4. *Sources.* Many different resources were used in this review, including scholarly articles which have been reviewed by professionals before publication and lay articles or internet publications which are not assessed prior to publication. Such a variety of resources is included deliberately, in order to provide a comprehensive perspective as well as to provide a variety of resources for prospective parents which are accessible by different means (see Notes and References).

5. *Terminology.* Many different authors – adoption practitioners, medical practitioners and others of varied professional and personal backgrounds – have been cited in this document. It is very common for individuals with different backgrounds and experiences to use the same terminology very differently.
6. *Basic concepts.* The concept of a “problem” is, itself, problematic. What is a problem? If an older child adopted from a foreign country requires speech and language services to facilitate adaptation to a new language environment, is this a “problem” or “normal” under the circumstances? In many cases, something which may constitute a “challenge” to one person may not challenge another.

### ***Other considerations***

There is very little research which addresses the issue of parental satisfaction with their intercountry adoptions. One study of 475 children adopted from Romania into the USA between 1990 and 1993 asked the adoptive parents to assess the overall impact of the adoption on the family.<sup>4</sup> Despite being a very high risk cohort of adopted children, 91% of the parents felt either very positive (78%) or mostly positive (13%) about the effects of their adoptions on their families. Only 3% of the respondent parents rated their adoptions as having either a mostly (2%) or very (1%) negative effect on their family. The remaining 6% rated their adoption as having mixed effects.

The vast majority of the parents in this study, 93%, had never considered ending the adoption placement, but 3% of them thought of ending the adoption frequently or most of the time. An additional 4% had thought of ending the adoption placement, but not very often.

It is essential that each prospective parent give thoughtful consideration to the kinds of issues that he or she might find especially challenging, and – just as importantly – what he/she would not.

According to Nigel Cantwell, Senior Project Officer at UNICEF’s Innocenti Research Centre, “as far as young children in good health are concerned,” *even at the global level*, “requests for adoption would seem to outstrip the number of adoptable children.”<sup>5</sup> This does not mean that an adoption of a healthy, young child is impossible. It does mean that international adoption may not necessarily be an easy solution to every prospective parent’s desire for a healthy infant.

Prospective parents could better prepare themselves for an intercountry adoption by moving beyond overly simplistic categorizations of children as “special needs” and “non-special needs.” Such categories are problematic: they may not always be an accurate assessment of the child’s true condition and, furthermore, they may not be an

accurate reflection of the parents' real capabilities. As International Social Services<sup>6</sup> points out, the definition of "special needs" can vary widely from country to country, and some children classified as "special needs" may actually suit very well the dreams of some prospective adoptive parents who might not have considered children so labeled. For example, a healthy three-year-old child, a child with a curable handicap, a pair of young, healthy siblings – these cases could prove to be low risk adoptions, yet, depending on the country, be classed as "special needs" adoptions. It could also happen that an otherwise healthy child who is suffering from grief or lack of stimulation could be misdiagnosed as a child with developmental (or other) problems. At the same time, some children in countries or institutions with minimal medical attention might be classified as "healthy" yet suffer from undiagnosed conditions which could tax the resources of some prospective parents.

It is important for readers to recognize that no report could possibly respond to all of the questions and concerns that prospective parents may have regarding their children's health. Reading about adoption research and outcomes is just one of many steps that prospective parents can and should take, both individually and in collaboration with their social worker and agency, to prepare for an intercountry adoption.

## ***PRE-ADOPTION REPORTS<sup>7</sup>***

Many parents rely on the pre-adoption reports (also known as the child study report) to determine the health of their prospective adoptive child. However, a number of studies have noted that the actual health of the children on arrival in their adoptive homes did not always match the pre-adoption medical reports. Some countries from which children are adopted may not have adequate or accessible medical expertise to accurately assess the medical condition of the children.

A large pan-Canadian study of Romanian adoptees<sup>8</sup> found discrepancies between the pre- and post-adoption medical evaluations. In 12% of the cases studied, medical testing done on arrival in Canada “revealed positive results for diseases for which [the] child had tested negative in Romania. New diagnoses in Canada included Hepatitis B, parasites, tuberculosis (TB), anemia, and Giardia; one child was HIV positive.” The authors noted that “these findings are similar to those of Jenista<sup>9</sup> [the author of an American study] who found that although parents were often reassured by negative screening results in Romania, postneonatal diagnoses in the United States revealed conflicting findings.”

An American study of children adopted from Eastern Europe<sup>10</sup> found that the preadoption medical reports from the children’s countries of origin often included multiple unfamiliar diagnoses of severe neurologic impairments which were not confirmed in post-adoption evaluations. However, for 20% of the children, post-adoption evaluations found growth and developmental delays as well as medical problems that had not been cited in the original reports.

A study of children adopted from China to the United States<sup>11</sup> found unsuspected medical diagnoses in 18% of the children. These diagnoses included hearing loss, orthopedic problems, cardiac anomalies and other congenital abnormalities. Furthermore, this study also found that the original classifications of children as “healthy” or “special needs” seemed to poorly match the actual status of the children. “The special needs designation was assigned to children with obvious birth defects, but many other children received this designation because of square skull or pigeon breast deformity (which may be signs of rickets) ... or even no obvious abnormality.” The three most severely developmentally delayed children were proposed as “healthy children” to their adoptive parents, and five children had such severe impairments that the adopting parents requested different children be assigned to them.

## **OVERVIEW<sup>12</sup>**

Parents may experience some medical or developmental issues with their internationally adopted child. A review of the adoption literature suggests that, at the time of adoption, medical problems may be more common among internationally adopted children than in the general population.

The study of children adopted from China to the United States<sup>13</sup> found that “Chinese adoptees display a similar pattern of growth and developmental delays and medical problems as seen in other groups of internationally adopted children.” These children arrived with medical problems such as anemia (35%), elevated blood levels of lead (14%), abnormal thyroid function tests (10%), intestinal parasites (9%) and positive tuberculosis skin tests (3.5%).

One study looked at children adopted from China, Russia, Southeast Asia, Eastern Europe and Latin America in 1997–1998 and who were screened at an international adoption clinic in New York City.<sup>14</sup> The authors found some common infectious diseases to be hepatitis B (2.5%), positive tuberculosis tests (19%), and intestinal parasites (19%).

A study of Romanian orphans adopted into British Columbia<sup>15</sup> found that a very high proportion, 85%, of the children who had lived in Romanian orphanages for at least eight months had at least one medical problem. Of the children who had been adopted directly from hospitals shortly after birth, many fewer, 42%, had at least one medical problem.

Developmental delays and disorders may also be found among internationally adopted children. Children with medical problems may be at greater risk for developmental problems.<sup>16</sup> An American review of medical issues among intercountry adopted children found that “virtually all studies of immigrant adopted children describe[d] developmental delay at the time of arrival.”<sup>17</sup> Developmental problems may be immediately obvious or not immediately diagnosable, quickly overcome or requiring interventions.

The study of children adopted from China to the United States<sup>18</sup> found that 75% of the children arrived with significant developmental delays in at least one domain; 44% suffered global delays. Another report found similar rates.<sup>19</sup>

The B.C. Romanian Orphan Study<sup>20</sup> found that 78% of the children from orphanages were delayed in fine motor, gross motor, social and language development at the time of adoption.

One study at an American international adoption clinic<sup>21</sup> found that 50% of the children showed developmental delays at the time of adoption. These included gross motor delays (33%), fine motor delays (40%), language delays (18%), cognitive delays

(16%) and global delays (14%).

In the New Arrivals Study<sup>22</sup> of 292 children adopted to the U.S. from many countries between 2001 and 2003, 10% of adoptive parents said that their child had more health concerns than they had anticipated. The most common health problems were hearing, vision, intestinal parasites and language delays. The most common behavioural problems among the new arrivals included withdrawal, nightmares, sleep problems, food problems and tantrums. The study also found that families who had received pre-adoption preparations and who had had their child's referral reviewed by a medical practitioner were less likely to be surprised by unanticipated health or developmental problems.

The following pages will provide more detail on some of the specific challenges found among intercountry adopted children.

## POST-ADOPTION CHALLENGES

While intercountry adopted children may recuperate very well from their initial medical issues, some may continue to have problems after the children have arrived in their new homes. In the Quebec study of internationally adopted children, parents reported that 12.1% of the children had a disease or a disability which had not been apparent on arrival.<sup>23</sup> Some post-adoption risks confronted by internationally adopted children and their families, including medical, developmental, behavioural, mental health and other problems, will be surveyed here.

### 1. GROWTH ISSUES

**Malnutrition**<sup>24</sup> may be common among internationally adopted children. For example, an American review of the intercountry adoption medical literature found that all of the studies reviewed showed “high rates of anemia and low height and weight.”<sup>25</sup>

It is generally believed that malnutrition is overcome quickly with an adequate diet. The long term consequences of early malnutrition are not well understood, and some researchers believe that early malnutrition may contribute to long term attention and behavioural deficits.<sup>26</sup> In general, however, early rehabilitation from malnutrition at a young age may greatly reduce any longer term impact. The most important factor is the age of the child: the longer the period of deprivation, the less potential there may be for a complete recovery.

In some cases, diagnosis and recovery from malnutrition may be complicated by co-existing medical issues, including dietary or hereditary anemia (which may be as high as 30-40% among internationally adopted children, according to two studies<sup>27</sup>), parasitic infections, lactose intolerance, gluten intolerance, or other problems. In some cases, eating disorders may impact on the child’s recovery from malnutrition, as “sometimes a child who has experienced malnutrition or has been subjected to food and drink being used in abusive ways (to taunt and deny) has lost the ability to recognize hunger and thirst.”<sup>28</sup>

Rickets, a deficiency of vitamin D and calcium, may result from malnourishment and leads to weak and poorly developed bones and muscles. One practitioner suggested that rickets “is probably present in 100% of all children adopted from China, even when it is not apparent to the observer.”<sup>29</sup> Other practitioners feel that rickets is an unusual disorder in intercountry adopted children.<sup>30</sup> With proper nutrition, rickets resolves and the body strengthens. However, “some infants and children may require vitamin D supplements for weeks, months, or years” and must have proper medical supervision to ensure appropriate dosing. Rickets may also contribute to growth failure (see below) in institutionalized children.<sup>31</sup>

**Growth failure**<sup>32</sup> resulting from malnutrition, social factors, or both, is a serious risk which may affect some children available for adoption internationally. “Failure to thrive” is used by one practitioner as a diagnosis that describes a child whose length, weight or both are below the 5<sup>th</sup> percentile of a standardized growth chart for their age, or weigh less than 90% of the expected weight for height.<sup>33</sup>

One practitioner believes that intercountry adopted children are more at risk for growth failure “than any other medical reality.”<sup>34</sup> Some studies have demonstrated growth failure especially among institutionally raised children,<sup>35</sup> with evidence suggesting that the longer children spend in institutions, the shorter they are for their age. “It has been estimated that young children lose approximately 1 month of growth for every 2-3 months of institutional care.”<sup>36</sup> The B.C. Romanian Orphan Study found that 85% of the children adopted from orphanages fell below the 10<sup>th</sup> percentile for weight.<sup>37</sup>

Growth problems may begin before birth due to malnutrition in utero. “About 2% or 3% of children in industrialized countries are malnourished at birth, but between 10% and 40% of children in the developing world suffer from it.”<sup>38</sup> Low birth weight may also be the result of a premature birth, which may not always be recorded in pre-adoption records. One study found that 48% of the children evaluated at an international adoption clinic had low birth weights.<sup>39</sup> Low birth weight can leave children at high risk for medical frailty, attention problems (ADD) and/or learning disabilities.

Research on 105 children adopted into the United States from orphanages in the former Soviet Union<sup>40</sup> found evidence that the combination of low birth weight and institutionalization correlate with higher risks in adoption outcomes. The 23% of the children who were doing very well in their adoptive homes had above average birth weights and had spent less time in institutions. The majority of the children (61%) were making good progress but continued to have some challenges; these had the highest average birth weights but were institutionalized at very young ages. The 16% of the children with the most difficulties had the lowest average birth weights and the longest periods of institutionalization, and some (5 of the 17 children in this category) also suffered from Fetal Alcohol Spectrum Disorder (see below, “Prenatal Alcohol Exposure”).

Growth failure in young children as a result of neglect or deprivation is known as “psychosocial dwarfism” and is usually indicative of global developmental delays. Growth failure impacts on both physical and neurological (brain) growth and development. For example, small head size in infants (in terms of FOC, or frontal-occipital circumference) is considered to be indicative of infant brain development. A British study of Romanian orphans adopted into the U.K. found that 38% of the children had FOC values below the third percentile at the time of adoption. Children adopted before the age of 6 months had completely caught up by the age of 4 years; however, in

children who were adopted after 6 months of age, 13% continued to have low FOCs four years later.<sup>41</sup> In general, children over the age of two years are less likely to fully catch up.

**Dental problems**<sup>42</sup> are a risk due to prenatal and postnatal malnutrition which can cause abnormalities in the formation of the tooth enamel. One study found that up to 20% of internationally adopted children<sup>43</sup> required dental care. Another study found that, among children adopted from China, “frequent dental caries are also emerging as a problem, despite the fact that many of the children ... were [less than] 6 months of age when adopted.”<sup>44</sup> Among children with rickets, “eruption of the baby teeth may be delayed and there may be defects of the enamel and extensive decay of the teeth. Permanent teeth may also inevitably be affected.”<sup>45</sup> Problems related to the formation of the tooth enamel may be compounded by the absence of fluoride or teeth brushing in the orphanages.

## 2. DISEASES

**Curable infectious diseases**<sup>46</sup> appear to be common among internationally adopted children, especially those arriving from institutional settings where infections may spread easily and rapidly. Some common infectious diseases include respiratory tract infections (including pneumonia), ear infections, diarrheal diseases (viral infections, *salmonella*, *shigella*, *campylobacter*), “exotic” diseases (such as typhoid fever or cholera), *heliobacter pylori* (which causes stomach ulcers), malaria and measles.

One Canadian study<sup>47</sup> of 123 children adopted from China, Russia, and other Asian countries, found that 65.5% of the children from China, 43.6% from other parts of Asia, and 57.7% from Russia arrived with respiratory infections, and 10% from China, 18% from other parts of Asia and 31% from Russia arrived with intestinal infections.

A Minnesota study<sup>48</sup> of 2291 children adopted from around the world between 1990 and 1998 found that 17% of the children suffered from chronic ear infections. Untreated ear infections leave children at higher risk of hearing loss.

Parasitic infections seem to be common among internationally adopted children. If left untreated, these can contribute to malnutrition and growth failure. One study of 452 children adopted from China to the Massachusetts<sup>49</sup> found that 11% tested positive for stool parasites. A study of children adopted from Romania in 1990<sup>50</sup> found that 33% were infected with intestinal parasites. Parasites such as scabies or lice also seem to be common among internationally adopted children as these spread rapidly in crowded institutional settings.<sup>51</sup> These parasites are infectious and may spread to other children and family members, in which case the whole family may need to be treated. One report found that up to half of the internationally adopted children surveyed suffered from

intestinal worms and parasites.<sup>52</sup>

Hepatitis A is a viral illness usually transmitted through infected food or water. It has a very high prevalence rate in all developing countries, and may be easily spread in institutional care settings such as daycares and orphanages. Although hepatitis A is usually not a dangerous illness in otherwise healthy individuals, it can be very serious, even deadly, for individuals already infected with hepatitis B or C.<sup>53</sup>

These illnesses are usually easily managed with appropriate medical care and rarely become long-term problems. In addition to medical supervision, often the most important precaution for international adoptive parents to take is careful attention to hygiene to prevent the spread of infections, such as vigilant hand washing with soap and water and vaccinations for family members against preventable viral infections. Untreated, infectious illnesses and parasites can contribute to growth failure, malnutrition, developmental delays and the long term consequences of failure to thrive in infants and children.

**Chronic infectious diseases**<sup>54</sup> may be more concerning. Hepatitis B may be the most common chronic infectious disease found in internationally adoptable children. One New England clinic found that approximately 5% of all intercountry adopted children to the United States were infected with active hepatitis B infections.<sup>55</sup> The study of children screened at a New York City clinic in 1997-1998 found lower rates of infection, with 2.8% of children with positive hepatitis B tests.<sup>56</sup> The highest rates of infection were in children adopted from Romania (20% overall<sup>57</sup>), and especially among older Romanian orphanage children (possibly as high as 40% infection rate<sup>58</sup>). One study cites prevalence rates of 3-6% for children adopted from China and Korea.<sup>59</sup> Another study of girls adopted from China into the United States found that 3.5% were hepatitis B carriers. The author noted that "it is important for prospective parents to know that these children tested negative for hepatitis B in China."<sup>60</sup>

Although pre-adoption screening tests for hepatitis B may be available, the results have been shown to be frequently unreliable. Some estimates suggest that laboratory testing for hepatitis B may be wrong 6-10% of the time for children from China, Russia and Eastern Europe.<sup>61</sup> Prevention by immunization is extremely effective when given properly. For example, immunization is the most critical medical intervention for hepatitis B, and therefore, as a precaution, all family members should be immunized before adopting. However, immunizations done overseas may be unreliable and cannot be assumed to be effective in preventing the disease. In one study of children adopted from many countries (for whom pre-adoption medical records were available), 96 children had received the hepatitis B vaccine. Of these children, 42 had received 3 doses, of whom 69% showed antibodies to the disease; 21 had received 2 doses, of whom 67% showed antibodies; 33 children had received a single dose of the vaccine and only 24% of these children showed antibodies.<sup>62</sup>

For children who arrive with a hepatitis B infection, some will overcome the disease; in fact, many children arrive with immunity, an indication of a previous exposure that was overcome. Children who remain positive for more than six months are considered to have a chronic hepatitis infection. One author, Dr. Jerri Ann Jenista, writes “chronic hepatitis B is not a death sentence.... With careful follow-up, most children with chronic hepatitis B can look forward to a full and normal life.”<sup>63</sup>

Tuberculosis (TB) is not usually infectious in children and can be effectively treated. In one study of Chinese adopted children, 8% tested positive for TB<sup>64</sup>; in another study 5% tested positive.<sup>65</sup> In a study of children adopted from 16 different countries, 19% had positive TB tests.<sup>66</sup> The tuberculosis bacteria often remain dormant, even for years, after the initial infection without causing illness or becoming contagious; in fact, up to 90% of the people who are exposed to TB never become ill.<sup>67</sup> A positive test for TB infection therefore provides an opportunity for preventative treatment, to ensure that the disease cannot develop or spread. Pre-adoption vaccinations may not always be administered correctly and so may not be effective in preventing infection. Because earlier TB vaccinations may create some confusion in interpreting the TB test, it is important that the test be interpreted by an experienced medical practitioner.

The risk of HIV (the AIDS virus) infection is very low in international adoptions, with an estimated prevalence rate of 0.16%. Only a few HIV positive children are known to have been adopted into North America, primarily from Romania (perhaps as many as 20 infected children), and more rarely from Cambodia, Vietnam, Panama and Russia.<sup>68</sup>

Congenital syphilis (transmitted from mother to child during pregnancy or at birth) is not common but has sometimes been found in internationally adopted children. The Minnesota study<sup>69</sup> found a 1% incidence of syphilis among children adopted between 1990 and 1998. About 60% of babies born with congenital syphilis are asymptomatic at birth and symptoms may appear any time within the first two years. Early treatment can prevent all complications, but untreated infections may have irreversible effects. Syphilis testing is not always routinely done for intercountry adopted children. Although rarely found in children adopted from China, the study of Chinese children adopted into Massachusetts reported one child who tested positive and later recovered fully due to early intervention.<sup>70</sup> Syphilis is more prevalent in Eastern Europe than in China, but there are no data available regarding prevalence rates among children adopted from this region. A social history of treated syphilis exposure may also suggest increased risks associated with drug and alcohol abuse or HIV and Hepatitis (B and C) infections.<sup>71</sup>

**Prenatal alcohol exposure**<sup>72</sup> can cause intellectual and learning disabilities, physical, developmental, and behavioural problems. Alcohol exposure is presumed to be under-reported in the internationally adoption literature because most children do not bring well-documented medical or social histories with them into their new homes. There are characteristic facial features which are recognized as a good indicator of fetal

alcohol exposure in cases without useful histories but, because alcohol can cause brain damage at lower doses than is required to cause physical deformities, “most children exposed to alcohol in utero will not have the facial features ... but may develop behavioral and learning problems”.<sup>73</sup> As little as one drink per day may cause lower birth weights and have an effect on a child’s mental capacities.<sup>74</sup> Prenatal exposure to alcohol is very difficult to diagnose without an accurate social history. Fetal Alcohol Spectrum Disorder (FASD) is a broad term which comprises all levels of exposure and effects.<sup>75</sup>

In general, fetal alcohol exposure affects the development of the central nervous system (brain, nerves, spinal cord) “resulting in low intelligence, hyperactivity, language dysfunction, perceptual problems, sensory hypersensitivity, and attention deficits.”<sup>76</sup> However, there is considerable variability among children with FASD; for example, “IQ’s ... range from 45 to 110.”<sup>77</sup> Furthermore, individual children may present a complex and confusing mix of strengths and weaknesses, of abilities and lags. Children with FASD commonly suffer from many physical problems as well, including heart, joint, spinal and dental abnormalities, cleft lip and palate, hydrocephaly and epilepsy.<sup>78</sup>

It is not known how common prenatal alcohol exposure is among children available for adoption due to the lack of accurate social and medical histories. The study of children adopted to the U.S. from orphanages in the former U.S.S.R. found that “information about the birthmother’s health was available on 47 of the children,” and among those 47 cases, “the most frequently reported finding was a history of alcohol abuse in 43 birthmothers.”<sup>79</sup>

**Prenatal drug exposure**<sup>80</sup> may be assumed to occur among internationally adopted children, but due to lack of adequate histories, it is almost never identified and the incidence rate is unknown.

**Environmental toxins**<sup>81</sup> have adverse impacts on human health, but there is little research investigating the impact of environmental toxins on the health of internationally adopted children or children living in orphanages. One clinician found asthma to be one of the top five medical problems of children adopted from China, presumably due to increasing air pollution in that country, and that about 10% of these children continued to have asthmatic problems after adoption.<sup>82</sup>

The American Centers for Disease Control<sup>83</sup> conducted a prevalence study of elevated levels of lead in the blood of children who had been examined by international adoption clinics. It was found that from 1% to 13% of Chinese adopted children and 1% to 5% of adopted children from Russia tested positive for high levels of lead. Many people with lead poisoning show no symptoms; however, permanent adverse effects,

especially neurological problems such as seizures, cerebral palsy, and cognitive disabilities, can result from untreated lead poisoning.<sup>84</sup>

### 3. LEARNING ISSUES

**Learning disabilities**<sup>85</sup> are part of a very broad category of problems related to having difficulties processing information about the world. “Children diagnosed as having a learning disability typically display underdeveloped learning strategies, time concepts and physical abilities; attention disorders; perceptual, memory and spatial disorders; and an inability to follow directions compared to their peers.”<sup>86</sup> There have been no broad studies of intercountry adopted children examining the prevalence of learning disabilities. Research on some specific learning issues are surveyed below.

**Sensory Integration Disorder (SID)**<sup>87</sup> means that a child does not properly process information that arrives through the senses. Sensory information is taken in through “the five senses” – touch, smell, sight, sound, and taste – as well as through other sensory experiences such as movement, the feel of gravity, and awareness of one’s own body (proprioception). This information is “processed,” which means interpreted, organized and integrated by the brain, as part of normal childhood development.

Very little research has been done on SID among intercountry adopted children. One study<sup>88</sup> looked at sensory processing problems among 73 children adopted from Romanian orphanages by American families. Parents were asked to complete a checklist of behaviors indicative of the clinical features of sensory processing disorders, with higher scores indicating more problem behaviors. The researchers found that the Romanian children scored significantly higher than a control group (of typically developing children living in the United States) in five of the six sensory processing domains analysed, including touch, movement-avoids, movement-seeks, vision, and audition; only the taste-smell domain did not show significant group differences.

Visual development and processing disorders<sup>89</sup> are sensory processing disorders other than focusing or other vision problems. These have not been well researched among internationally adopted children, and no information on prevalence rates are available.

Auditory processing disorders<sup>90</sup> are hearing disorders other than hearing loss which show no physical problems with the sense organs. There are many kinds of auditory processing disorders including various central auditory processing problems, hypersensitive hearing and slow processing speeds. Very little research has been done

on auditory processing problems among internationally adopted children. One clinical study of eight adoptees from Eastern Europe<sup>91</sup> found that deficits in their receptive language skills (comprehension) were common.

**Vision problems**<sup>92</sup> were found in almost 28% of the children surveyed in the Minnesota study. The diagnoses included myopia (nearsightedness), hyperopia (farsightedness), astigmatism, strabismus and other impairments. Only 30% of the children with vision problems had been identified prior to adoption, and only one child had received glasses.

**Hearing loss**<sup>93</sup> can significantly impact on the learning that is necessary for language and cognitive development. The Minnesota study<sup>94</sup> found that about 6% of the children surveyed had permanent hearing loss and a further 6% had experienced temporary hearing loss; 88% of the children had no hearing loss. None of these cases were identified prior to adoption. The Massachusetts study of children adopted from China<sup>95</sup> found unsuspected hearing loss in 2.7% of the children. One clinician cautions that in the population of internationally adopted children in general, "hearing must be carefully evaluated because of the high incidence of ear infections and lack of medical care for this population."<sup>96</sup>

**Speech and language delays**<sup>97</sup> have been reported among internationally adopted children at incidence levels that range from 30% to 60%.<sup>98</sup> The American Speech-Language-Hearing Association believes that 20% of international adoptees have no language problems, 60% will have temporary language difficulties, and 20% will have long-term language disabilities.<sup>99</sup>

The Minnesota study<sup>100</sup> found that the children's preverbal social skills at the time of adoption were predictive of the rate at which the children subsequently learned English in their new American families. The kinds of preverbal skills investigated included the ability to use social skills to obtain a desired object, the ability to respond to another person's social cues (e.g., pointing), the ability to initiate social interactions and the ability to share an experience with another person (e.g., showing a toy to someone). In this study, the children adopted at fourteen months or older tended to be less likely to try to share their experiences with another person.

Research on healthy infants adopted from China to the United States and Canada and later assessed at 3 to 6 years of age found that approximately 42% scored above average, 44% showed average scores, and 15% scored below average on standardized speech and language assessments.<sup>101</sup> These results are based on assessments of very young children and it is not known whether these results will be

valid regarding the long-term risk of language deficits.

New research is developing guidelines for evaluating language development among young internationally adopted children.<sup>102</sup>

Currently, there is little information on language learning in children adopted at older ages or on the long-term effects of early deprivation and language change among internationally adopted children. For example, “some internationally adopted children may have subtle learning and language issues that cannot be easily detected on a parent survey, and that may not become apparent until the child reaches school age.”<sup>103</sup> One study of children adopted to Norway,<sup>104</sup> for example, suggests that these subtle difficulties may occur more often than obvious speech and language delays, with perhaps as many as one-third of intercountry adoptees having some degree of language problems.<sup>105</sup> Similar results were found in Sweden.<sup>106</sup>

The Minnesota study identified speech and language services as the most used educational services from elementary to high school.<sup>107</sup> The Quebec study<sup>108</sup> found that the most common services received in school by intercountry adopted children were remedial education or speech therapy services (these data were not disaggregated).

**Imagery and imagination problems**<sup>109</sup> refer to the ability to use the imagination to create mental images, a skill which may be central to many cognitive functions including language processing and comprehension, memory, cognitive functions, and academic skills. This is an emerging area of understanding and no research has been done among internationally adopted children.

**Intellectual and cognitive development**<sup>110</sup> refers to an individual’s capacity to think and reason, and is typically measured by intelligence (IQ) tests. It is generally believed that intelligence develops from and may be limited by both genetic potential and environmental opportunities. Two critical environmental factors are nutrition and stimulation. “Cognitive development is directly tied to deprivation of care and feeding in the pre-adoption period.... The less deprivation a child has suffered, the greater his chance of being intelligent.”<sup>111</sup>

In the B.C. Romanian Orphan Study,<sup>112</sup> the children who were adopted from orphanages were compared with the children who were adopted shortly after birth directly from hospitals and with Canadian born children (all at age 4 ½). Although there was considerable variation within each group (which is to be expected given individual genetic potential), the average scores may be used to represent the environmental opportunities and costs experienced in common by each group. The average IQ of Canadian born children was 109, which is considered to be in the “high average” range.

The early adopted children showed an IQ score in the “average” range, at 98. The orphanage children scored in the “low average” range, with an average score of 90; however, the orphanage children who were adopted at an older age had the lowest IQ score, at 69 (1 ½ to 2 ½ years behind their Canadian born peers). “There were no group differences in areas of particular strength or weakness; orphanage experience diminished all intellectual areas equally.”

**School failure**<sup>113</sup> has been correlated with the child’s age at adoption and pre-adoption history. In the Quebec study,<sup>114</sup> 17.9% of the adopted children in elementary school as well as 14.5% in high school had repeated a grade, compared to 15% of elementary school children and 10% of high school children who are behind in academic skills in the general population. Although the rates for intercountry adopted children are slightly higher than for the general population, the data also show that children adopted before 18 months of age had a lower rate of school failure (8.9% on average) than the general population. The children in this study who had repeated a grade had been adopted at an average age of 40.9 months while those who did not repeat a grade had been adopted at an average age of 23.6 months. Furthermore, the study showed that children adopted from Europe and Latin America were, on average, at greater risk of school failure than children adopted from Asian countries.

The Minnesota study<sup>115</sup> showed that children with a positive pre-adoption history were more likely to participate in special classes for gifted students (about 27%) than to fall behind in some or all of their school subjects (about 10%). A deterioration in the children’s pre-adoption experiences correlated clearly with increased difficulties at school. Children with poor or very poor pre-adoption histories had very high rates of school difficulties: 50% and 65%, respectively.

#### 4. PSYCHOLOGICAL ISSUES

**Attachment problems**<sup>116</sup> are defined as difficulties in forming appropriate relationships due to adverse experiences in early life. “Attachment” refers to the emotional bond which develops between the infant and the caregiver, usually the mother. Attachment is often confused with love, but is actually the foundation of trust on which love is built. “The first real choice a human baby *must* make is whether to trust or mistrust other humans.”<sup>117</sup> Unlike “love at first sight,” attachment cannot happen suddenly but must develop through experience over a period of time. “This relationship is formed in the first year after adoption. As in a non-adoptive situation, children and parents spend time building a relationship of trust and any talk of insecure attachment must be avoided for a period of at least one year after adoption.”<sup>118</sup>

Attachment is a continuum of more or less trust: some children are more securely attached (feeling more secure due to their profound trust of the caregiver) and some are less securely attached (feeling insecure because their trust in the caregiver is weak or shaky). In severe cases of Reactive Attachment Disorder, an infant “has decided in his subconscious that he cannot trust anyone to care for him” and without appropriate interventions the child may be at risk of forever losing the ability to trust another human being.<sup>119</sup> One author distinguishes between psychosocial attachment disorders which may develop in children with otherwise normal neurocognitive development as a result of negative social experiences that destroy feelings of trust (such as abuse or neglect), and neuropsychological attachment disorders which are the result of abnormal neurocognitive development (which may be caused by a combination of medical and social, pre- and post-natal risk factors).<sup>120</sup>

The Quebec study<sup>121</sup> found that the younger the child at the time of adoption, the more securely attached the child became to the adoptive parents, and also that boys tended to be somewhat less securely attached than girls at the same age. Children who were under the age of six at the time of the study had similar attachment levels as children of the same age who were born in Quebec (no comparative data were available for older groups of children). The researchers from this study concluded that “on the whole, these children do not constitute a clinical population”, although certain groups of intercountry adopted children (depending on their age at adoption, sex, and pre-adoption experiences) are at higher risk.

The B.C. Romanian Orphan Study<sup>122</sup> found that the children who had lived long periods in Romanian orphanages showed less secure patterns of attachment than the children who had been adopted from Romania shortly after birth, but that over time even the institutionalized children became more attached (not necessarily securely attached) to their adoptive parents. The children who continued to have attachment problems three or four years after adoption were those who also had other developmental problems (such as low IQ). One conclusion from this study was that the likelihood of attachment difficulties increases when there is a combination of several risk factors.

Intensive interventions can be successful even for severe cases of attachment disorder. For example, the Cascade Centre for Family Growth had a success rate of over 75% in treating severe Reactive Attachment Disorder.<sup>123</sup> Perhaps the most important factor for success in treating attachment disorders is the age of the child. When diagnosed and receiving therapy before the age of seven, the chances of success are considered high; after age seven, the chances of success are only half as good; after puberty the chances of success diminish greatly.<sup>124</sup>

**Mental health problems**<sup>125</sup> are a broad category of difficulties and studies may not always refer to the same set of issues. In general, mental health issues may be

more prevalent among international adoptees than among the general population, but the research evidence is not conclusive on this issue yet.

The Quebec study<sup>126</sup> found that the rate of emotional problems (“internalizing problems”) did not vary according to the country of origin, the age of the child at the time of the study, or the length of time that the child had resided with the adoptive family. However, the age of the child at adoption and the child’s sex were both significant factors. For boys, the age of adoption did not have a significant impact on the development of emotional problems or anxieties (unlike behavioural problems, see below), but girls who were adopted very early, younger than six months, had low rates of post-adoption emotional and/or anxiety problems, while girls who were adopted late were at higher risk.

The Minnesota study<sup>127</sup> found that internationally adopted children were no more likely to be anxious, withdrawn or depressed than the general population, except that there was a slightly increased risk for children who had had health problems at the time of adoption.

A large survey of domestic and international adopted teenagers in the United States<sup>128</sup> found that those who had been adopted before the age of two had similar mental health outcomes as birth children.

One very large study conducted in Sweden<sup>129</sup> compared more than 11,000 intercountry adoptees (including 8700 born in Asia and 2620 born in Latin America, all adopted before the age of 7 years) with over 2000 Swedish-born siblings, 4000 immigrant children and the general population of Sweden. The researchers found that 4% of the adopted boys and 5% of the adopted girls “had at least one indication of poor mental health” compared to 2% of the general population. They conclude that “intercountry adoptees are three to four times more likely to have serious mental health problems such as suicide, suicide attempts, and psychiatric admissions; five times more likely to be addicted to drugs; and two to three times more likely to commit crimes or abuse alcohol than other children in Swedish society living in similar socioeconomic circumstances.” The risk of maladjustment was higher for children adopted after age four than for children adopted early in life. However, the authors also noted that 82% of the boys and 92% of the girl adoptees “had no indication of mental health disorders or social maladjustment,” which could be interpreted “as further evidence of resilience in children who start their early life in adverse circumstances.”

**Identity development**<sup>130</sup> may be a challenge for all adoptees, a greater challenge for intercountry adoptees, and an even greater challenge for transracial adoptees, due to the increasing complexities of the issues involved. Identity development is the process of developing a clear sense of self in order to explore and

develop meaning and direction in one's life. This is an essential foundation for establishing a satisfying independent place in society. The period of adolescence and early adulthood is a time of intense identity work as the individual prepares to leave childhood and its protected family environment for adulthood in the larger society. However, identity development is a life-long process and changes in identity concept over the life course may be common for intercountry adoptees.

One longitudinal study of domestic and international transracial adoptions in the United States,<sup>131</sup> studied a group of adoptees from early childhood into their late teens and young adulthood. They found that as young children they had no identity problems, as older children they were struggling with their identity challenges, and by early adulthood the majority of the adoptees had largely resolved their confusions and difficulties. The researchers found that most of the adoptees had grown into young adults who were at "ease with their own racial characteristics."

Another large survey of adoptive families in the USA<sup>132</sup> made systematic comparisons of transracial and international adoptions with domestic, same-race adoptions, using a sample of many hundreds of families from four states. For both traditional and non-traditional adoptions, they measured and compared the adoptees' identity and self esteem, attachment and emotional bonds of adoptees with their adoptive parents, family characteristics and parenting styles, and adoptees' mental health. The authors concluded that "transracially adopted adolescents are as healthy as their counterparts in same-race families."

Some international adoptees have had experiences and identity problems which have left them angry about their lives and their adoptions. For example, one group of primarily Korean adoptees call themselves "Transracial Abductees (angry, pissed off, ungrateful, little transracially abducted motherfuckers from hell)."<sup>133</sup> But there are also many international adoptees who have struggled with the same identity challenges and arrived at a positive vision of intercountry adoption. For example, another group of primarily Korean adoptees has created an organization called *Also-Known-As, Inc.*, with the mission to empower the intercountry adoption community, build cultural bridges and transform stereotypical ideas about race.<sup>134</sup>

## 5. BEHAVIOURAL ISSUES

**Attention Deficit Disorder (ADD),**<sup>135</sup> with or without hyperactivity, may be common among adopted children. Estimates suggest that between 3% and 6% of the general population has ADD,<sup>136</sup> but one author estimated that between 17% and 40% of all adopted children (including domestic adoptions) in the U.S. may suffer from ADD.<sup>137</sup>

In the B.C. Romanian Orphan Study,<sup>138</sup> approximately one-third of the children who had spent 8 months or more in a Romanian orphanage were identified with ADD by the age of 10 ½. The group of children who were adopted directly from Romanian hospitals at a very young age, and did not spend time in an orphanage, did not show higher levels of ADD than the Canadian-born control group.

A study of 165 children adopted from Romanian orphanages into the United Kingdom<sup>139</sup> also found elevated levels of inattention and hyperactivity. The authors concluded that inattention and overactivity “may well constitute an institutional deprivation syndrome” which is independent of, but exacerbated by, other factors such as low birth weight, malnutrition and cognitive impairment.

The Quebec study<sup>140</sup> found that 9.5% of the intercountry adoptees who (at the time of interviews) were 6-7 years old, and 13.7% of the 10-12 year olds in the study, had ADD. As in the general population, the internationally adopted boys developed ADD at higher rates than girls. In this study, children adopted from Russia and Romania tended to have higher rates of ADD and other behavioural difficulties than children from other geographical areas.

**Behaviour problems**<sup>141</sup> may be more common among internationally adopted children than among the general population. In the United States, about 10-15% of children have problems that are considered serious or significant.<sup>142</sup>

The Quebec study<sup>143</sup> found that, as a whole, intercountry adopted children have a higher rate of behavioural problems than children of the same age who were born in Quebec. For example, approximately 20% of the children developed behavioural problems such as oppositional-defiant disorder or conduct disorder.<sup>144</sup> Behavioural problems are more common among boys than girls (which is also true in the general population). However, some sub-groups of the adopted children were more likely to develop behavioural problems while other sub-groups demonstrated lower rates of behavioural problems than the general population.

The Quebec study also found that the length of time that a child is exposed to an environment of risk, such as an orphanage, has an influence on the prevalence of later behavioural problems. In this study, the statistical data suggested that for more recently adopted children (those under six years at the time of the study), boys who were adopted after the age of 18 months and girls who were adopted after the age of 36 months were more likely than the general population to develop behavioural problems. Behavioural problems were rare among girls who had been adopted very young. Oppositional behaviours were most likely among boys adopted between 18 and 36 months of age. The study also found that prevalence rates of behavioural problems can vary significantly according to the year of adoption, as some years (e.g., 1988-89 and

1994-95) showed higher rates and some years (1996-2002) showed lower rates.

The Minnesota study<sup>145</sup> found that approximately 80% of the children surveyed had no serious behavioural challenges. Children adopted under the age of one year and who had fewer than two minor health problems at adoption were no more likely than the general population to have behaviour problems. However, the rate of behaviour problems increased with a pre-adoption history of medical or other problems and with increasing age. For example, more than one third of the children who were over the age of three at adoption and who had had multiple health problems prior to adoption were found to have developed significant behaviour problems, and over half of the children with a very difficult pre-adoption history had behaviour problems. This study also found that children who were adopted from orphanages in Russia or Eastern Europe (but not other geographical regions) had an increased risk of attention and/or aggression problems.

The B.C. Romanian Orphan Study<sup>146</sup> illustrated the evolution of the behavioural problems found in some of these children. During Phase 1 of the study, most of the children had been in their adoptive homes for about 11 months and had an average age of 29 ½ months. At this time, specific behavioural problems, such as eating, sleeping, repetitive (“stereotyped”) behaviours and problems with other children were common among the children who had lived for lengthy periods in orphanages, but not among the children who had been adopted directly from hospitals before they were four months old. These problems were seen to be the direct consequence of inadequate orphanage care.

During Phase 2 of the study, the children were studied at age 4 ½ and had been in their adoptive homes an average of 39 months. By this time, the kinds of behaviour problems seen in the children had changed. The orphanage children showed no greater tendencies toward eating, sleeping or sibling problems than the children who had been adopted early or than the Canadian born control group, and stereotyped behaviours had decreased markedly (but had not yet completely disappeared). However, 36% of the orphanage children scored above the clinical cutoff on a standardized assessment of behavioural problems (a level of behavioural deviance above which professional help is recommended), while the group of children adopted directly from Romanian hospitals had comparable scores to the Canadian born control group of children. Furthermore, the longer the children had spent in the orphanage, the more they showed behavioural problems of all kinds, and the most difficult area for the children was in social behaviours (any behaviours that involve interactions between people). At this time, 72% of the parents felt that the most troublesome problems of their children were behavioural, emotional or social, such as peer problems, fears, ADHD, and disobedience or defiance.

By Phase 3 of the study, the children were 10 ½ years old. The orphanage children were as well accepted by their peers as the children adopted directly from

hospitals or Canadian born children, but they suffered from a lack of intimate friendships or strong sense of peer group belonging. Especially the children who had shown indiscriminately friendly behaviour at age 4 ½ felt lonelier and had fewer friends as they grew up.

Both the Quebec study<sup>147</sup> and the B.C. study<sup>148</sup> showed a close relationship between the children's behavioural problems and attachment problems: children with secure attachments rarely developed behavioural problems while children who demonstrated behavioural disorders at a clinical level also demonstrated significant attachment insecurity.

## **CONCLUSIONS: EVALUATING THE RISKS<sup>149</sup>**

A picture is beginning to emerge about the outcomes for children adopted from overseas. The author of an American study of children adopted from Romania,<sup>150</sup> Dr. Victor Groza, characterized these children as falling into three general categories: about 20% of the children, called “resilient rascals,” showed little or no continuing negative effects after their adoption; about 60% of the children he described as “wounded wonders” who, although still somewhat behind their peers, were making good progress in their adoptive homes at recovering from their early deprivation; the final 20% of the children were called “challenged children” and had many problems.

This pattern, although with widely varying prevalence rates for the three categories, can be seen in a number of studies. For example, in the Romanian Orphan Study of B.C.,<sup>151</sup> the children who had been adopted after living many months in deprived conditions in orphanages showed the highest rates of challenges as well as the more difficult challenges. The greatest challenges (serious behaviour problems, atypical insecure attachments, lower IQs and parenting stress) were found in about 30% of the orphanage children (the “challenged children”), while 35% had a few problems but were progressing well (the “wounded wonders”), and 35% of the orphanage children did not have serious problems and some were even doing better than the average Canadian-born child (the “resilient rascals”).

Why were some of the institutionalized children more vulnerable to problems than others? Why do some internationally adopted children excel in their new homes, while others struggle?

Statistical correlations from the B.C. Romanian Orphan Study<sup>152</sup> showed that the length of time spent in an orphanage was the most predictive factor for later difficulties. The next most important factor was parenting skills: more nurturing, stimulating and supportive adoptive parents were able to provide a better rehabilitative environment for the orphanage children. It should be noted, however, that in this study all the adoptive parents were “good parents” (and would not likely have had problems with a normal infant) but that some of the parents were more able than others to provide the extraordinary support and nurturing that some of the very needy children required. Some other factors which might have had a significant impact on the children’s development were not investigated in this study.

The study of children adopted from orphanages in the former Soviet Union into the U.S.A.<sup>153</sup> found similar results. Time spent in an orphanage was a strong risk factor while an appropriately supportive and nurturing family environment was a strong rehabilitative factor. This study also identified low birth weight (information not available in the Romanian Orphan Study<sup>154</sup>) as another critical risk factor.

The Quebec study<sup>155</sup> likewise found that exposure to an environmental risk (such as an orphanage) had an effect on the rates of post-adoption challenges experienced by these children. This study also found that the sex of the child was a factor, with boys tending to be somewhat more vulnerable than girls to the risks that they experienced. Furthermore, boys appeared to be more likely to develop behavioural (“externalizing”) problems, such as aggression or hyperactivity, in contrast to girls who seemed more likely to develop emotional (“internalizing”) difficulties, such as anxiety or depression, in later years.

The Minnesota study<sup>156</sup> identified seven possible pre-adoption “risk factors” that the children (who had been adopted from many different countries and from both orphanage and family settings) may have experienced. These included (1) prenatal exposure to drugs or alcohol, (2) a birthmother who was malnourished during pregnancy, (3) a premature birth, (4) more than six months residence in an institution (orphanage, baby home or hospital), (5) neglect of social needs (love, affection, attention, cuddling), (6) neglect of basic physical needs (food, clothing, medical care), and (7) physical abuse.

The researchers’ survey asked the parents if they believed that their child had experienced any of these risk factors and then the researchers assigned a score of 0 (no risk factors) to 7 (all of the identified risk factors) to each child, the sum of every risk factor that the parents knew or suspected that the child had experienced. This allowed the researchers to compare the outcomes of internationally adopted children with very different backgrounds. The researchers then compared the pre-adoption risk factor scores with post-adoption outcomes for the children using two key indicators, the children’s behaviour and their successes or difficulties at school.

The Minnesota researchers found that outcomes were not correlated to any particular type of risk, but were strongly correlated to the total number of risks experienced prior to adoption. In this study, 78% of all the children with three or fewer risk factors were doing very well. The children who suffered four or more risk factors, on the other hand, were much more likely to be struggling. Because older children tended to have experienced more risk factors, this finding also helps to explain why these children often, but not always, experience greater challenges than children adopted at younger ages.

The key to understanding the outcomes of children adopted from other countries seems to be understanding the level of risk experienced by the children in their pre-adoptive living situation. The level of risk – including the kinds of risks, the number of different kinds of risks, and the duration of the period of risk – can impact on a child in a number of ways, including the child’s physical development (growth, medical problems, etc.), emotional development (attachment, mental health, etc.) and general development (intelligence, sensory skills, etc.). A child who is challenged by a high risk history may

experience problems in one area or several, and these challenges might be independent or strongly inter-related. In order to assess the risks of a given intercountry adoption, prospective parents must be able to evaluate the risks experienced by the child prior to adoption.

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### ***The sources***

The references cited below provide interested readers with further resources. Readers are strongly encouraged to explore the intercountry adoption literature in more depth and detail, including the references listed here as well as other sources and new publications. Specifically included here (where possible) are a variety of references including some internet resources which are easily accessible but often short-lived, books which are usually available to borrow through public libraries or for purchase through local bookstores and over the internet, and specific research articles which may only be available through university library systems or through interlibrary loans (where available). Internet citations were verified to be active at the time of publication. (If you have difficulty with the links, try to cut and paste the address into your web browser.)

Most of the references listed here are in English; additional information on the internet is available in French at <http://quebecadoption.net> and [www.meanomadis.com](http://www.meanomadis.com).

### ***How to read the references***

The references are organized under the topical headings to facilitate readers who have specific interests. Some references may appear under more than one topic.

The first note at the beginning of each section includes a complete list of all the references used in that section. Citations in the text to specific research references are provided in summary form: for complete bibliographic information, please refer to the complete references in the first note of that section.

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142. Minnesota International Adoption Project, 2003.
143. Tessier et al., 2005.
144. From Table 5, data for 6-7 and 10-12 year old children only.
145. Gunnar & van Dulman, 2003.
146. Ames et al., 1997 (for results to age 4 ½) and LeMare, 2004 (for results at age 10 ½).
147. Tessier et al., 2005.
148. Ames et al. (1997) and LeMare (2004).
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