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**Demographic Characteristics of Adoptees Presenting
to the Yale International Adoption Clinic and the
Utility of Pre-Adoption Video Review**

A Thesis Submitted to the
Yale University School of Medicine
in Partial Fulfillment of the Requirements for the
Degree of Doctor of Medicine

by

Jon L. Boone

2002

ABSTRACT

THE PREDICTIVE ACCURACY OF PRE-ADOPTION VIDEO REVIEW IN ADOPTEES FROM RUSSIAN AND EASTERN EUROPEAN ORPHANAGES.

Jon L. Boone, Margaret K Hostetter, and Carol Cohen Weitzman. Department of Pediatrics, Yale University School of Medicine, New Haven, CT.

The major purpose of this study was to examine whether the assessment of pre-adoption video (pre-vid) by an experienced pediatrician accurately predicts the post-adoption developmental (post-dev) status of the adoptee on arrival and to examine any difference in the extent of developmental delay between those adoptees with and those without a pre-vid review. As a foundation for the study, an extensive database for all adoptees seen at the Yale International Adoption Clinic was created and their demographic characteristics were analyzed.

The developmental status of 20 children from Russian and Eastern European orphanages was assessed by an experienced pediatrician using a pre-vid review while the post-dev status was evaluated by a developmental-behavioral pediatrician. Using the Denver Developmental II Scoring Test (pre-vid) and the Bayley Scale of Infant Development – Second Edition (post-dev), children were scored (0, 1, 2 or 3) to indicate the degree of developmental delay in fine motor, gross motor and language domains. A control group of international adoptees was assembled on the basis of age, gender, length of time in orphanage, length of stay in US before developmental exam and country of origin. The degree of post-dev delay in the cohort with a pre-vid was then compared to that of the control group without a pre-vid using a chi-square test and Fisher's exact test.

The Pearson r coefficient between the pre-adoption video and post-adoption developmental ratings indicated a significant correlation, $r=0.53$ and two-tailed $p = 0.01$, between the two ratings. Chi-square and Fischer test analysis examining the extent of developmental delay between the cohort and control groups were not significant.

Although there is no significant difference in the extent of developmental delay between the adoptees who did and did not receive a pre-vid assessment, results of this study show that a video review by an experienced pediatrician predicts with statistically significant accuracy the child's developmental status after arrival.

ACKNOWLEDGMENTS

First, I extend sincere thanks to my faculty advisors, Dr. Carol Cohen Weitzman and Dr. Margaret Hostetter for their consistent support, suggestions and patience. Their comments and expertise have both increased my understanding of developmental evaluation in international adoptees and helped me to learn about the processes involved in quality clinical research. I am also grateful to Pablo San Gabriel at Columbia University for his kind part in the creation of a database for the Yale International Adoption Clinic. For their assistance with statistical methods and calculations, I thank Ms. Wendy Chan, Dr. John Leventhal and Dr. Theodore Walls.

For financial support, I am indebted to the Office of Student Research at the Yale University School of Medicine. For departmental sponsorship, I extend thanks to the Yale Department of Pediatrics.

Finally, I wish to thank the international adoptees and adoptive parents who attended the Yale International Adoption Clinic – for consenting to share the video reviews and developmental information that made this study possible. It is my hope that this study will contribute to utilization of pre-adoption video review as a tool that will benefit the future medical care of international adoptees and enable more informed education of their prospective adoptive parents.

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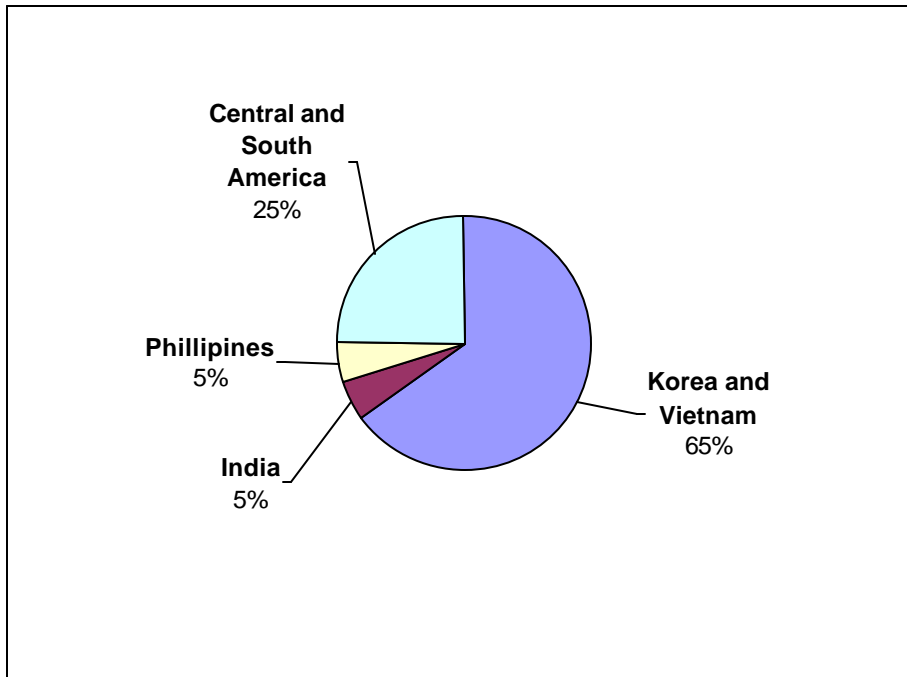
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INTRODUCTION

Since World War II, the United States has sought to become the home for orphaned and abandoned children around the world. Thousands of diverse American families now look to international adoption to build their families and provide a nurturing home for children. In the past decade the number of internationally adopted children coming to the United States has increased more than 2.5-fold to its present high of almost 18,000 per annum. (1) American parents now adopt more children from abroad than the citizens of all other countries combined. (2)

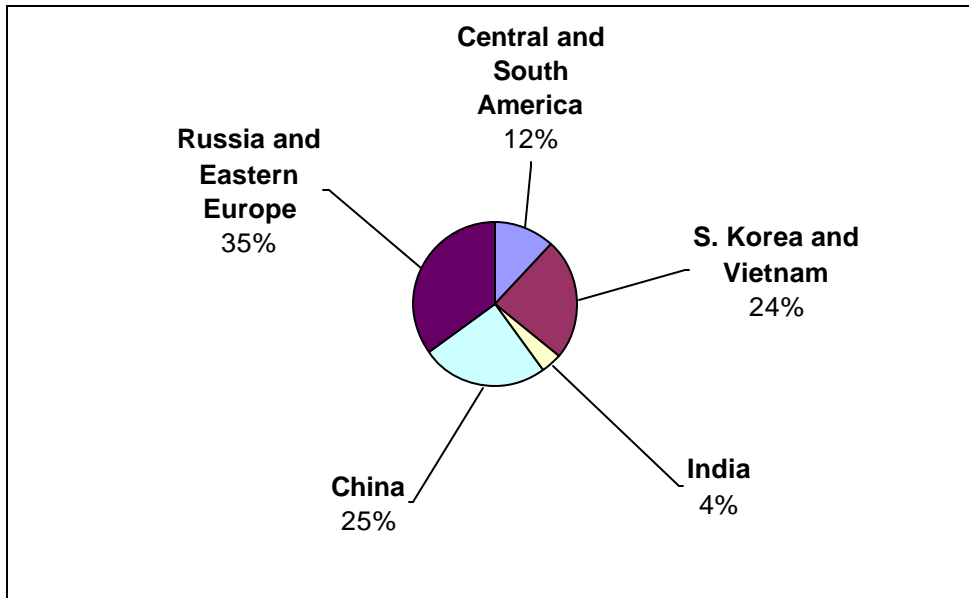
A. Demographics of International Adoption

Following the Korean conflict, international adoptions in the United States increased substantially. Throughout the 1960's and 70's, most international adoptions were of Korean, and later, Vietnamese children. A demographic display of the 82,000 international adoptions which took place between 1979 and 1989 is indicated in **Figure 1**. During this period, 70-75% of all international adoptees to the US came from Korea, India, or the Philippines; 25% were from Central and South America.(2)

FIGURE 1. International Adoptions to the US from 1979 to 1989

More recently, due to the industrialization of many Southeast Asian countries and the breakup of the Soviet Union and Eastern European communist regimes, the demographics of adoptions have undergone further change. By 1991, Asian children comprised only 35% of internationally adopted children; 30% were from Romania, and 28% from Latin America. From 1989 through 2000 nearly two-thirds of adoptees came from orphanages in Russia, Eastern Europe, and China. (1) A demographic breakdown of all international adoptions between 1989 and 2000 is displayed in **Figure 2**. At present, approximately 70% of internationally adopted children come from China, Russia, or the countries of Eastern Europe with only 20% from Korea.

FIGURE 2. International Adoptions to the US from 1989 to 2000



B. Pre-Adoption Environments

Along with these demographic changes have also come changes in many adoptees' early childhood environments. Most South Korean adoptees spend their entire childhood in the foster-care of one- or two-parent families. In contrast, Romanian, Soviet and Eastern European adoptees are held in large state-run orphanages. (3)

These environments are variable in quality, but observations of adoptees from Russia and Eastern Europe in the last decade have documented adoptees with a high incidence (nearly 40%) of infectious disease, growth failure and developmental delay. (5) Previous studies have reported that children from Romanian, Soviet and Eastern European countries remain in large and understaffed orphanages, many for an extended period of time with multiple transfers among orphanages, hospitals and

foster homes. (6, 7, 8) The most frequently cited reason for children to be placed in an Eastern European orphanage is abandonment by a single parent who is unable to provide for herself or an infant. (2) Deprived conditions in orphanages are compounded when many of these economically burdened countries are unable to provide basic medicines, food, electricity and gas.

Among the most alarming trends in Russia is a near fifty percent increase in the incidence of alcoholism among Russian women during the past decade, greatly increasing the risk of fetal alcohol syndrome (FAS) and fetal alcohol effect. (9) Many studies have shown the incidence of FAS among this population to be between 1.6 and 9%, a rate 9 to 47 times higher than in the United States and most Western European countries. (10) In a review of 265 adoption referrals from Eastern Europe accompanied by a video of the child, 9% had histories, physical features, and growth patterns strongly suggestive of alcohol exposure in utero. (11)

A. Long-term Effects of Institutionalization

1. In Institutionalized American Children

Studies of children institutionalized in the US conducted by Sally Provenance in the mid-1900s (12) demonstrated a correlation between developmental deterioration and duration of institutionalization. On standardized tests most institutionalized children, as young as two months of age, began demonstrating delayed developmental milestones, social apathy and withdrawal. By their second year of life, they had

scores in the retarded range. (13) Provence and her colleagues postulated that the primary environmental causes for these delays were attributable to a lack of sensory and social stimulation, with excessive time spent supine in cribs without toys or social interaction.

In at least two studies (14, 15), groups of institutionalized infants improved their developmental test scores where staff to infant ratios increased to 1:2 or 1:3. A more playful toy-filled atmosphere and increased time spent out of cribs also contributed. Conversely, when infants received sensory stimulation from mechanical, inanimate objects without forming relationships with specific caregivers, their developmental achievements were negatively affected. This finding accords with Bowlby's theory of attachment which specifies that the normal progress of infant development requires a selective non-interchangeable relationship with a single adult primary "attachment figure." (16)

2. In Institutionalized Russian and Eastern European Children

Numerous recent studies of children reared in Eastern European and Russian orphanages, described below, attempt to understand the impact of the environment upon later development. Along with the value of the observations come implicit methodological constraints given the difficulty of systematic and thorough examination of orphanages. Many orphanages, over the last decade, have not enthusiastically opened their doors to researchers interested in studying them. Despite these limitations, data from nearly all post-adoption studies indicate consistent areas of potential biologic and psychosocial risk to infants and young

children adopted from Russian and Eastern European orphanages. These include: (a) morbidity from infectious disease, (b) growth and cognitive development, (c) neuro-physiologic development, (d) socioaffective development. Another consistent finding in this population is rapid developmental catch-up after placement in an adoptive family. A review of relevant literature for each area follows.

a. Infectious Morbidity

Living conditions in Russian and Eastern European orphanages frequently provide a fertile setting for the flourishing of infectious diseases. Problems with contamination, hygiene and person-to-person contact facilitate easy transmission of infectious parasitic, bacterial and viral organisms. (3) In one study of sixty-five Romanian adoptees (17), only 15% were judged to be physically healthy and developmentally normal. Fifty-three percent had serological evidence of past or present hepatitis B infection and 20% of screened children tested positive for the hepatitis B surface antigen. Intestinal parasites were found in 33% of subjects and 45% of infected children had two or more pathogens. High rates of *Salmonella* and *Shigella* frequently occur in Russian orphanages, while the prevalence of syphilis among Russian and Eastern European women of childbearing age continues to increase. (3) In addition to evidence showing the common unreliability of vaccinations in Russia and Eastern Europe (4), this higher prevalence of infectious diseases underscores the necessity of thorough and complete screening tests in this population.

b. Developmental and Growth Delays

Developmental evaluations of children following their arrival in the U.S. reveal a significant percentage with delays in growth and development. A study from 1995 (18) reported detailed developmental evaluations in 129 international adopted children (from 22 birth countries) at the time of their adoption and compared their developmental status to their nutritional status. Of 129 children tested, 65 (50%) displayed development in the “normal/age appropriate” range. Forty-three (33%) had gross motor delays (13 slight, 16 moderate, and 14 severe) and fifty-two (40%) had fine motor delays. Twenty-one children (17%) exhibited cognitive delays and twenty (16%) showed language delays. Of all the 129 children, twenty children (16%) had global delays impacting three or more areas (8 moderate, 12 severe). In this study, the severity of gross and fine motor delays increased as standardized z scores for height, weight and head circumference decreased. Thus, there is a clear connection between poor nutritional status, growth failure and developmental delay.

An additional study of 65 Romanian adoptees (5) found developmental impairments in 85% of infants and children older than 6 months on arrival at the clinic. Delays included decreased gross and fine motor activity, decreased strength, retarded speech, solitary play, temper tantrums, gaze aversion and enuresis. Adoptees also exhibited a high degree of growth failure (34%) that correlated with length of time in the orphanage. There was furthermore a high incidence (41%) of small head size in children older than 10 months.

c. Neuro-physiologic Damage

Children who have a profound lack of emotional interaction in orphanages exhibit both psychological and neurophysiologic consequences. (19, 20) The right prefrontal cortex of the human brain is the control center for the recognition and expression of attuned emotional expressions. Early deprivation in a child's first year of life may diminish the full neuronal development of this area, thereby diminishing the child's capacity to experience the relational cues of trusting, emotionally secure and pleasurable interactions.

A study examining Romanian adoptees in Canada (21) found that children adopted after 8 months or more of orphanage life had significantly higher salivary cortisol levels than did non-adopted control subjects throughout the day. In this study, cortisol levels were positively correlated with the time the child spent in the institution. Research from Meaney and Sapolsky (22) suggests that institutionalized children may experience damage to the limbic system (the system which regulates emotions) resulting from chronically increased levels of circulating cortisol. Using rat models, these investigators showed that early tactile deprivation and stress decreases glucocorticoid binding sites in the hippocampus and frontal cortex, leading to increased levels of circulating glucocorticoids.

d. Socio-Affective and Cognitive Delay

Multiple studies (23-28) demonstrate a long-lasting effect of institutionalization on social development and behavioral adjustment. Hodge and Tizard (23) followed

approximately forty institutionalized children from their pre-school to adolescence. By two years of age, the children had been cared for by an average of 24 different caregivers; by 4 years of age, an average of 50 and by 8 years of age, around 80. Childhood rearing from such large number of institutional caregivers had visible behavioral consequences.

Their study demonstrates a striking impact on the children's pattern of relationships with adults. They were particularly clinging at age two, uninterested with few attachments at age four, and "attention seeking" and "overly friendly" by 8 years of age as described by teachers and parents. Hodge and Tizard followed the same group of ex-institutionalized children at 16 years of age to examine any long lasting socio-emotional effects compared with age and gender matched controls, who had not been institutionalized. (24) When five characteristics were judged by blinded interviewers (1. more adult oriented than peer oriented, 2. having difficulty with peers, 3. not having close friends, 4. being unlikely to turn to peers for emotional support, 5. being indiscriminate in choosing friends), children from institutional settings were 10 times more likely than controls to have several of these features.

A frequently displayed behavior in institutionalized children is indiscriminate friendliness, defined by Tizard as "behavior that was affectionate and friendly toward all adults without the fear or caution characteristic of normal children."(24) Provence and Lipton postulated that children who display this trait are essentially

indicating that any adult is sufficient for the child's attentions so long as the child's needs are met. (25)

Confirming these ideas, Chisholm found that Romanian adoptees initiated more overtures to strangers (in a separation-reunion procedure) than did a group of healthy Canadian controls. (26) In Chisholm's study, this behavior did not decrease after the first two to four years in their adoptive homes. She postulates that this behavior may serve an adaptive function; amidst the competing demands of other children (competing for a lack of social resources), an indiscriminately friendly child might receive more attention from caregivers. There was an association in her study between those who were favorites in the institution and those who were indiscriminately friendly.

Kaler and Freeman observed the cognitive and social developmental status of a representative group of twenty-five Romanian orphans between the ages of 23 and 50 months. (27) Results indicated that the orphanage sample all exhibited deficits in cognitive and social functioning. The majority of children were severely delayed. Deficits were not related to length of time in the orphanage, age at entrance, apgar scores or birthweight. Children who were doing "relatively well" in one domain also tended to do well in other domains. In contrast, children who were profoundly delayed in one domain appeared to be consistently delayed across domains. Kaler and Freeman hypothesized that subtle biological risks, coupled with malnutrition and

low levels of stimulation, may have resulted in persistent developmental deficits that are evident across domains. (28)

Even the best equipped, best-staffed institutions may contribute to developmental delay. Studies in well run and well-staffed Scandinavian orphanages (15, 29) have shown that even though developmental test scores can be maintained within a normal range, a statistically significant decline still occurs in the developmental performance of children institutionalized before one year of age, compared with lower class infants reared in their biologic home or placed in foster homes from their first months of life. Children in British Institutions that were similarly well-staffed and run were found to be delayed in mental age, with particular deficits in language, compared with low-income, home-reared children. (30) Nevertheless, institutionalized children, once adopted, demonstrated resiliency and developmental gains.

D. Long-Term Improvement after Placement in Adoptive Homes

One of the most influential studies to examine the occurrence of post-adoption developmental improvement was conducted by Michael Rutter with the English and Romanian Adoptees (ERA) study team. (31) The extent of developmental deficit and gain following adoption was examined at 4 years of age in a sample of 111 Romanian children who came to the U.K. before the age of 2 years. These children were severely deprived on their arrival from Romania, 59% of the children with a

developmental quotient in the retarded range and 15% in the mildly retarded range. In the group, as a whole, the developmental quotient on the Denver Scales rose from a mean of 63 to a mean of 107. Developmental catch-up was nearly complete at the 4-year follow-up exam for the majority of those who were adopted before the age of six months. The developmental improvement was also impressive, though not as large, for those adoptees placed after six months of age. Age at entry to the U.K. was the strongest predictor of level of cognitive functioning at 4 years and correlated inversely with level of cognitive function at the 4-year follow-up. Rutter points out that this dramatic catch-up following a shift in living environment provides clear evidence that initial developmental retardation is caused by early childhood institutional deprivation and can be reversed with placement in a nurturing adoptive home. Subsequent follow-up of some of these 111 children at 6 years does not suggest further developmental catch-up anywhere near the magnitude of that exhibited before 4 years of age.

Benoit's findings (32) with a much smaller cohort also indicate that many of the initial abnormalities in growth, development, and behavior improve significantly when children are placed in a nurturing environment. Twenty-two Romanian children (age 15.5 +/- 13 months) were assessed on at least two occasions. An initial developmental quotient, obtained by use of the Gesell Developmental Scale, found that all of the subjects were in the "borderline" range at the initial visit (median time, 3 months after adoption) but were in the normal range at follow-up (median time after adoption, 12 months). Those who initially fell into the "borderline" range, with

a DQ between one and two SD's below the mean, showed the most significant improvements.

Developmental catch-up is paralleled in the rapid growth spurt that institutionalized children experience in their first year after adoption. Of Romanian children adopted at 18 months or younger whose heights on arrival were more than two standard deviations below the mean, 78% had reached a height in the normal range within 9 months of adoption. (33) Long-term follow-up confirms these findings of post-adoption catch-up growth in institutionalized children. Although nearly 60% of Romanian children adopted before the age of 6 months exhibited growth failure at the time of their arrival, only 2% of these same children were below the 3rd percentile in weight and height at 4 years old. (31) Institutionalized children who were appropriate-for-gestational-age, full-term infants and are adopted at an early age have the best prognosis. (11)

E. Adoption Agencies and the Pre-Adoption Referral

The number of adoption agencies handling international adoptions has greatly increased in the last decade. A concerning element about this recent proliferation is the lack of coherent standards for training of adoption personnel and for screening and education of pre-adoptive parents. Furthermore, adoption agencies vary greatly in the amount of pre-adoption data they seek. Because of the multiple risks for developmental delay described above, there has been an increased effort by parents

and adoption advocates to evaluate children in the pre-adoption setting more carefully.

As part of the pre-adoption referral process, many adoption agencies provide prospective parents with photograph of the child and more extensive information about a prospective adoptee. This material often includes an adoptee's birth, immunization and medical records as well as information about the medical history of the biological family. Medical records from Russia and Eastern Europe are frequently unreliable, often containing inaccuracies, missing information, unclear neurological diagnoses as well as limited family backgrounds and incomplete medical histories. (34) In response to this need for more accurate information, some agencies have in the last few years begun to send prospective parents a video; parents may choose to have this video reviewed by an adoption medical specialist to assess the child's developmental attainments. Video review has not been systematically implemented in Central America, Africa, or Asia.

F. The Importance of Pre-Adoption Video

Pre-Adoption video offers an array of helpful developmental information. It captures a moving, interactive view of a child in his/her everyday context revealing dynamic expressions, state of alertness, neurological tone, response to novel stimuli and social interaction. Examples of language, gross and fine motor attainments on video provide valuable information to aid in the pre-adoption assessment of a child's

developmental status from thousands of miles away. Videos are relatively inexpensive to film and small enough to be sent fairly quickly for preview by prospective parents. Increasingly, pre-adoption videos have become an indispensable tool to aid in the selection of children for adoption by capturing developmental information about a child that would otherwise be invisible. For these reasons, a baseline video review by an experienced pediatrician offers a more complete picture of an adoptee for prospective parents.

To date, no study has examined the value of video review as a predictor of post-adoption developmental status. Medical records of 1,970 adoptees from Russia and Eastern Europe included a video 75% of the time. (11) When 100 randomly selected pre-adoption videos from Russia and Eastern Europe were compared with data from the pre-adoption medical records, Jenista found that videotapes confirmed concerns documented in medical records 30% of the time, showed new developmental skills 38% of the time, and raised concerns not previously documented 33% of the time. Videotapes were also noted to be of better quality than the photographs that accompanied the medical records. Although Jenista's study examined the relationship between pre-adoption video findings and the pre-adoption medical records, the study did not compare these findings with any post-adoption developmental assessment.

STUDY PURPOSE AND HYPOTHESIS

The major purpose of this study was to examine whether the assessment of pre-adoption video (pre-vid) by an experienced pediatrician accurately predicts the post-adoption developmental (post-dev) status of the adoptee on arrival and to examine any difference in the extent of developmental delay between those adoptees with and those without a pre-vid review. As part of the study, an extensive database for all adoptees seen at the Yale International Adoption Clinic was created and their demographic characteristics were analyzed.

We hypothesized that a video of adequate quality and length (possibly between two and three minutes) would enable an experienced pediatrician to assess a range of social and developmental qualities that could be used to predict a child's developmental attainments. This study is the first to test whether pre-adoption video review correlates with developmental attainments shortly after arrival. The study also examined any difference in post-adoption developmental status between those children with and without the benefit of video review. We posited that video review, if an accurate assessment tool, may contribute to the adoption of children with less significant developmental impairment than those without its benefit.

METHODS I

A. CREATION OF THE YALE INTERNATIONAL ADOPTION CLINIC (YIAC) COMPUTER DATABASE

The first component of this thesis was the creation of a computer database for all of those adoptees seen at the Yale International Adoption Clinic (YIAC). Prior to the Fall of 2000, information about adoptees was accessible only by manual extraction from individual paper-based charts. The YIAC database contents were formulated based on an extensive spectrum of information available in most of the adoptees' charts. An outline of the information included in the database is displayed below in Table 1, while a detailed duplication of the database format appears in Appendix 1. The database format was submitted to Dr. Pablo San Gabriel at Columbia University who programmed the database into Microsoft Access® for manual data entry.

TABLE 1. Outline of Information in YIAC Database

- | |
|--|
| <p>I. Basic Demographic Data</p> <p>II. Known Information about Biological and Adoptive Family</p> <p>III. Medical and Developmental Evaluation After US Arrival</p> <p>IV. Ongoing US Medical Evaluations</p> <p>V. Past Medical History</p> <p>VI. Pre-Adoption Video Review Assessment (if present)</p> |
|--|

B. ENTRY AND ANALYSIS OF YIAC DATABASE

Upon creation of the computer database, charts were manually extracted for all pertinent data. Major demographic variables (country of origin, gender, age at adoption, and pre-adoption environment) were then compiled for all adoptees seen at the YIAC between December of 1998 and December of 2001.

METHODS II

A. VIDEO REVIEW STUDY DESIGN

The second component of the study is a retrospective chart review of twenty adoptees from Russia and Eastern Europe with a pre-adoption video review who were compared with matched controls without a video review. These adoptees were selected (as described below) from the newly established YIAC computer database. Adoptees ranged in age from 6 to 45 months and came to the Yale International Adoption Clinic (YIAC) between December 1998 and September 2000. Pre-adoption videos were first reviewed and rated by a pediatrician with extensive experience in international adoption. A developmental-behavioral pediatrician, masked to the video ratings, performed a post-adoption developmental examination when adoptees presented to the YIAC for evaluation.

The major outcome of this study was evaluation of the severity of developmental delay across three developmental domains: gross motor, fine motor and expressive language skills.

B. PATIENTS AND CONTROLS

From December 1998 through September of 2000, the Yale International Adoption Clinic (YIAC) in New Haven, Connecticut evaluated 175 international adoptees, 90 of them from Russia and Eastern Europe. Twenty-six of the ninety had pre-adoption videos reviewed by a clinician (MKH). Of those, twenty adoptees who had presented to the YIAC received a developmental assessment by a developmental pediatrician (CCW). These twenty were selected for inclusion in the study cohort. Of the remaining six adoptees with a pre-adoption video (pre-vid) screening, three did not receive a post-adoption developmental (post-dev) examination, and three were excluded from the study to avoid potential bias because they had received their post-dev examination from the same clinician who had performed the pre-vid assessment.

Controls were selected based upon *a priori* matching criteria, including gender, length of time (LOT) institutionalized (within 4 months acceptable), age at developmental examination (within 6 months acceptable), duration of time between US arrival and developmental examination (within 4 weeks acceptable), and country of origin (same or bordering country). Nineteen children who matched on all four criteria were assembled. A paired t-test was used to compare patients and controls for significant differences in demographic variables such as age at adoption, age at examination, country of origin, length of time in orphanage prior to adoption, and length of time in U.S. prior to developmental examination.

C. PRE-ADOPTION VIDEO SCORING

The pre-adoption videos were assessed in three areas (fine motor, gross motor and expressive language skills) by an experienced pediatrician, based on Denver Developmental II Scoring Test criteria. (35) The Denver II is used to screen the development of infants and young children (birth through age 6). (35) It consists of 125 items in 4 domains; personal-social, fine motor-adaptive, language and gross motor. The Denver II has been widely used in primary care settings throughout the world. A great strength of the DDST is the one-page record form that highlights the infant's successes and failures, providing a summary of the child's skills at a glance. Skills in each of three areas (fine motor-adaptive, language and gross motor) were observed on the video examination, compared with the child's known chronological age, and then scored from 0 to 3 as in Table 2.

The amount of "expected developmental delay" was calculated using data from previous work (37) that suggests that children in Chinese, Russian or Eastern European orphanages lose approximately one month of linear growth and development for every 3 months of institutionalization. Thus, a child institutionalized for 18 months would have an expected developmental delay of six months and an observed developmental age of 12 months. Personal-social skills were not assessed, because social interaction was not consistently observable. A written medical referral with all known medical, social and birth history frequently

accompanied the videos and when present, were reviewed by the clinician assigning ratings (MKH) prior to video review.

No formal inclusion criteria about the necessary duration of the video tape was established, although all tapes included were at least thirty seconds in length and of sufficient visual and aural quality to provide adequate information for assessment of fine motor, gross motor and expressive language skills. Information regarding the number of previous video consultations was not obtained.

TABLE 2. Pre- and Post-Adoption Scoring Systems

PRE-ADOPTION VIDEO		POST-ADOPTION EVALUATION	
Denver Developmental II	Score	Bayley	Composite Score*
No delay	0	85-100 normal	0
Expected delay	1	70-85 mild delay	1
Delay greater than expected in one domain	2	55-70 moderate delay	2
Delay greater than expected in two domains	3	<55 significant delay	3

*Composite score was calculated by averaging the scores on the MDI and PDI then rounding to the nearest higher integer.

E. POST-ADOPTION DEVELOPMENTAL EXAMINATION

A developmental-behavioral pediatrician administered the Bayley Scale of Infant Development – Second Edition [BSID-II (38)], a widely accepted tool to assess the development of children aged 1 to 42 months with acceptable psychometric properties. Because of the complexities of testing newly adopted children, formal Bayley administration guidelines were modified to use those testing items in each age-specific set that required less verbal input. A translator assisted with administration of the Bayley to children above twelve months of age. Scores of 0 to 3 were assigned to performance in the Mental Developmental Index (MDI) which assesses cognitive and communicative ability, and to performance in the Psychomotor Developmental Index (PDI) which assesses fine and gross motor skills. Scores on the MDI and the PDI were then averaged to the nearest integer to derive a composite score based on the traditional Bayley categories (**Table 2**).

The BSID-II MDI and PDI index scores are a “smoothed,” normalized distribution of the standardization sample’s raw scores converted to a scale with a mean of 100 and a standard deviation of 15. The existing Bayley index of three categories was expanded in this study to include four categories (using the existing standard deviation) as shown in Table 1. Test-retest reliability on a large normative sample is .83-.91 for the MDI and .77 to .79 for the PDI. Concurrent validity of the MDI is greater than .70. Inter-rater reliability is greater than .75 for both the MDI and the PDI. (38)

When the full Bayley could not be completed at a single sitting, scores were derived from an adapted scoring system that adhered to the Bayley scoring methodology as closely as possible. Peak performance (ceiling) in the MDI and PDI domains was determined, and raw scores corresponding to that developmental age were noted and converted to an approximate index score. Based on this index score, a child was assigned a rating of 0, 1, 2 or 3 in both the MDI and PDI domain, as explained above. All aspects of this study were approved by the Human Investigations Committee of Yale University.

RESULTS

A. Entire Database Patient Demographics

Between December of 1998 and December of 2000, 271 total adoptees from 17 countries received medical and developmental evaluation at the YIAC. Their demographics are displayed in **Table 3**. Russia (105 adoptees), China (60 adoptees), Korea (18 adoptees) and Romania (17 adoptees) were the most frequently represented countries of origin. Forty-one percent (N = 110) of the international adoptees were female. The mean age at the time of adoption was 20.7 months (range 1 month to 114 months). Children adopted at earlier ages were from Paraguay (6.0 months), Colombia (6.5 months) and Korea (7.0 months) while older adoptees came from Bulgaria (50.2 months), Ukraine (38.5 months), and Hungary (31 months). Two hundred and twenty-one children came from an orphanage, thirty-seven children from foster care and thirteen children from both a foster family and an orphanage.

Table 3. Demographics of All Adoptees Presenting to the Yale International Adoption Clinic, 1998-2002

Country	No. of Children	Female # (%)	Mean Age at Adoption, mo. +/- SD	Adoption Source #, O and/or F
Russia	105	46 (44)	23.6 (18.4)	104 O. 1 O/F
Romania	17	10 (59)	21.7 (11.3)	8 O 9 O/F
Lithuania	11	4 (36)	27.5 (18.0)	11 O
Ukraine	9	3 (33)	38.5 (23.0)	9 O
Bulgaria	6	2 (33)	50.2 (18.9)	6 O
Kazakstan	6	3 (50)	28.9 (25.0)	6 O
Moldova	4	1 (25)	24.3 (4.3)	4 O
Hungary	2	1 (50)	31.0 (7.0)	2 O
China	60	59 (98)	14.4 (8.7)	57 O 3 O/F
Korea	18	8 (44)	6.7 (1.6)	18 F
Vietnam	13	9 (69)	9.8 (11.6)	8 F 5 O
Cambodia	4	2 (50)	20.0 (4.2)	4 O
India	2	1 (50)	30.5 (41.7)	2 O
Guatemala	10	5 (50)	16.9 (13.3)	9 F 1 O
Colombia	2	1 (50)	6.5 (3.5)	2 F
Paraguay	1	1 (100)	6.0 (0)	1 O
Brazil	1	0 (0)	17.0 (0)	1 O
TOTALS	271	110 (41)	20.7 (17)	221 O 37 F 13 O/F

Note: O = Orphanage; F = Foster Care

B. Study Subjects and Controls

Of the twenty adoptees with pre-vid assessments, there were 14 males and 6 females. (See **Table 4**). Eighteen (13 male, 5 female) were adopted from Russia, one (female) from Romania, and one (male) from Bulgaria. The mean age at the time of adoption was 17.0 months (range 6.5 months to 45 months), and the mean age at the developmental examination was 18.1 months. The mean length of time the children had spent in an institution was 15.5 months (range 7 months to 41 months). A high correlation between the children's age at adoption and their total time in an institution [$r(20) = .95, p < .0001$] underscores that these adoptees had spent nearly their entire lives in institutions. The mean time spent in the U.S. before assessment was 4.6 weeks (range 2 weeks to 12 weeks), and the mean time between the pre-vid and the post-dev assessment was 5.7 months (range 2.5 months to 10.5 months). Seventy percent of the children were assessed in the Yale International Adoption Clinic within four weeks of arrival in the United States, 80% within six weeks, 90% within eight weeks, and all within three months.

TABLE 4. Demographic Characteristics of Subjects

<u>Data</u>	<u>Video Group (n=20)</u>	<u>Control Group (n=19)</u>
Males/Females	14/6	13/6
Adoption Source		
Foster Home	0	0
Orphanage	20	19
Age at Adoption, months (SD)	17.0 (10.8)	19.0 (8.7)
Age at Exam, months (SD)	18.1 (10.6)	20.4 (8.6)
LOT in Orphanage, months (SD)	15.5 (10.0)	17.1 (10.5)
LOT in US Pre -Exam, weeks (SD)	4.6 (2.9)	5.3 (3.3)
LOT from Pre -Vid to Post-Dev (months)	5.7	

Note: LOT = length of time; Pre-Vid = pre-adoption video review; Post-Dev = post-adoption BSID-II Exam. A paired t-test showed no significant differences between groups.

The control group was composed of 13 males and 6 females with twelve (10 male, 2 female) from Russia, three (1 male, 2 female) from Lithuania, two (male) from Romania, one (female) from the Ukraine, and one (female) from Bulgaria. There were no significant differences in demographic variables between subjects and controls (**Table 4**). The mean age at the time of adoption was 19 months (range 7.5 to 36.5 months) and the mean age at the developmental examination was 20.4 months. Mean length of time in an institution (17.1 months; range 0 to 36 months) correlated strongly with age at adoption, $r(19) = .95$, $p < .0001$. A mean of 5.3 weeks

(range 2 weeks to 12 weeks) was spent in the US before assessment. of 5.3 weeks (range 2 weeks to 12 weeks) was spent in the US before assessment. At the time of developmental assessment, controls had resided in the U.S. for approximately one week longer than subjects. Sixty percent were assessed at YIAC within four weeks of arrival, 70% within six weeks, 85% within eight weeks and all within three months. Among the 19 control subjects was one pair of fraternal twins, adopted at the same time by one family.

C. Pre-Adoption Video Ratings

Pre-adoption video ratings are shown in **Table 5**. There was no significant association between the assigned video rating and the adoptee's gender, length of time institutionalized or age at video review. Four children (4 male) showed no visible delay in any area. Of the eleven subjects whose delay was within expected limits for their length of institutionalization, eight (6 male, 2 female) showed both fine motor (FM) and gross motor (GM) delays with normal expressive language (EL), two (male) demonstrated only FM delays (with normal EL/GM skills) and only one (female) exhibited delays within the expected range in all three areas. Of the three subjects whose delay was more than expected in one area, one (male) showed delays in EL while the remaining two (1 male, 1 female) showed delays in GM skills. For two children whose delay was more than expected in two areas, one (female) showed GM and FM delays while the second (female) showed delays in EL and FM development.

Table 5. Pre-Adoption Video Ratings

<u>Developmental Delay in Three Areas</u> (Fine Motor, Gross Motor, and Language)	<u>Video Group (n=20)</u> n (%)
No Visible Delay - 0	4 (20)
Delay Within Expected Range in any Area(s) - 1	11(55)
Delay More than Expected in One Area - 2	3 (15)
Delay More than Expected in Two Areas - 3	2 (10)

D. Post-Adoption Developmental Examination Ratings

Ratings for the post-adoption developmental examination are shown in **Table 6**. Of those twenty in the video group, the post-dev exam designated two subjects (1 male, 1 female) with a composite rating of 0 indicating no visible delay, eleven (8 male, 3 female) with a 1 indicating mild delay, four (3 male, 1 female) with a 2 indicating moderate delay and three (2 male, 1 female) with a 3 indicating a significant delay. There were no significant associations between these ratings and demographic variables including age at adoption, gender, country of origin, or length of institutionalization.

Of those nineteen in the control group, the post-dev exam designated four subjects (2 male, 2 female) with a composite rating of 0 indicating no visible delay, seven (6

male, 1 female) with a 1 indicating mild delay, three (male) with a 2 indicating moderate delay and five (2 male, 3 female) with a 3 indicating a significant delay. There were no significant associations between these ratings and demographic variables including age at adoption, gender, country of origin, or length of institutionalization.

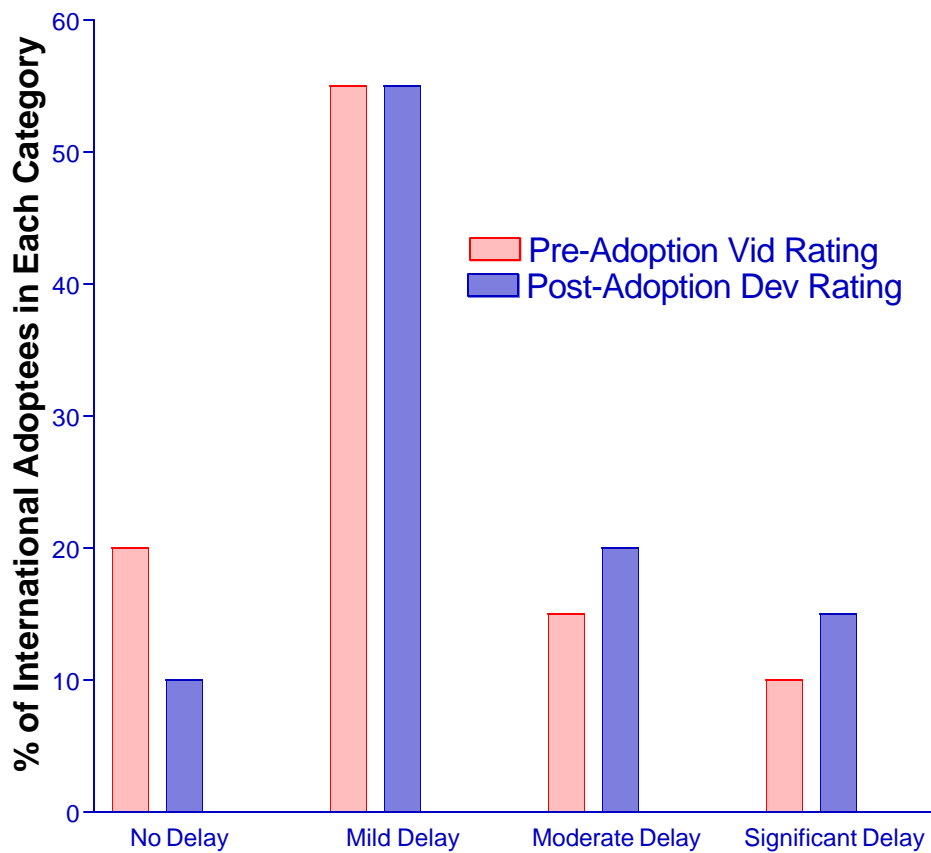
For those twenty adoptees with a pre-vid review, the mean MDI was 71.3 (with a range from 32 to 98, SD = 18.0) and mean PDI was 73.7 (range from 35 to 101, SD = 16.1). For the nineteen matched controls without a pre-vid review, the mean MDI was 70.8 (range from 39 to 96, SD = 20) and mean PDI was 71.1 (range from 35 to 98, SD=18). For the total of 39 subjects, there was a high correlation between the MDI and PDI ($r = 0.7$, $p < 0.001$). This finding is consistent with those in American samples (14).

TABLE 6. Post-Adoption Developmental Exam Ratings

Delay Rating	<u>Video Group (n=20)</u>	<u>Control Group (n = 19)</u>
(MDI/PDI Composite)	N (%)	N (%)
No Delay - 0	2 (10)	4 (21)
Mild Delay - 1	11 (55)	7 (38)
Moderate Delay - 2	4 (20)	3 (16)
Significant Delay - 3	3 (15)	5 (26)

Figure 3 compares the distribution of developmental delays in the four rating categories between the pre-vid rating (light gray) and the post-dev rating (dark gray) for the twenty adoptees with a video review.

FIGURE 3. Comparison of Pre-Vid and Post-Dev Rating for 20 Study Subjects with Video Review



F. Correlations between Pre-Vid and Post-Dev Ratings

Figure 4 shows the relationship between the pre-vid and composite post-dev ratings for each adoptee. The Pearson r coefficient indicated a significant correlation,

$r=0.53$ and two-tailed $p = 0.01$, between the two ratings. Ratings were particularly strong between the pre-vid rating and MDI, ($r=0.53$, two-tailed $p=0.01$) and less pronounced between the pre-vid and PDI rating, ($r = 0.40$, $p = 0.07$). There was exact agreement between the two rating systems for eight subjects. Scores of the pre-vid assessment and post-dev ratings were within a single integer in 11 of 20 subjects (55%). One subject was discrepant; the pre-vid rating was 1 and the post-dev rating was 3. However, for 19/20 subjects (95%) the video and examination ratings were within a single integer.

Figure 4. Correlations between Pre- and Post-Adoption Ratings

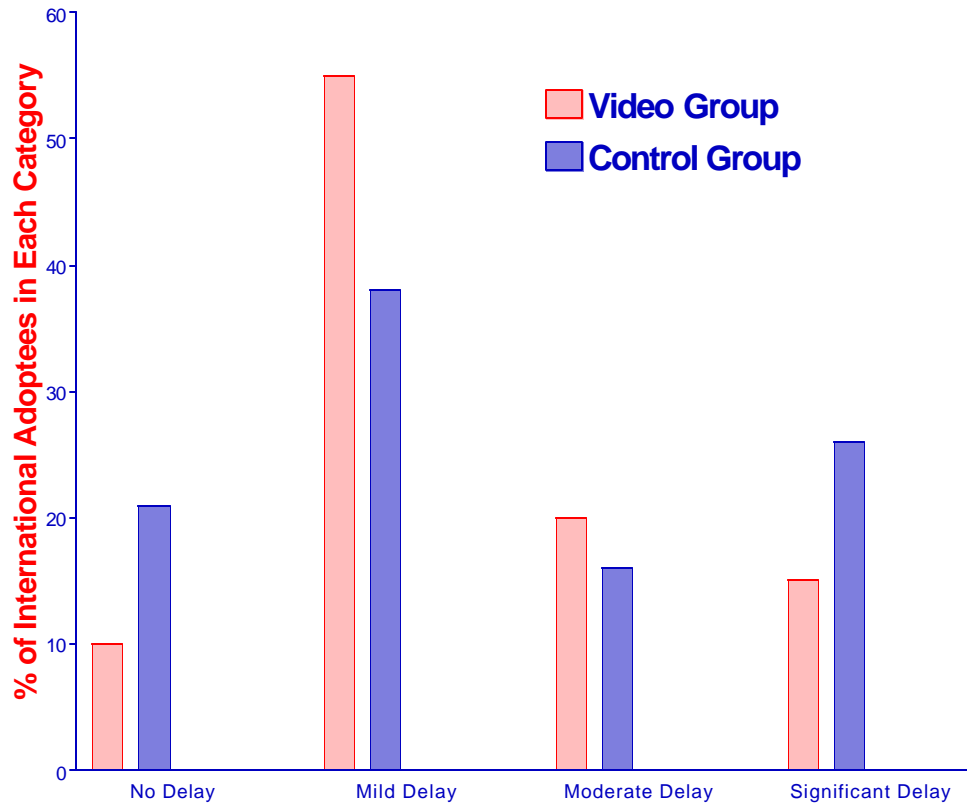
Post-Adoption Developmental Rating	"3"	0	1	1	1
	"2"	0	3	0	1
	"1"	3	6	2	0
	"0"	1	1	0	0
		"0"	"1"	"2"	"3"
		Pre-Adoption Video Rating			

The sensitivity and specificity of pre-vid review was calculated using the post-dev examination as “the gold standard.” Of the thirteen children judged to have no delay or mild delay (a rating of 0 or 1) on post-dev assessment, pre-vid review identified 11, for a sensitivity of 85%. Of seven adoptees who had a score of 2 or 3 on the post-dev assessment, pre-vid identified three, for a sensitivity of 43%. Video Review therefore more effectively detected developmentally appropriate children than those with pronounced developmental delay.

F. Comparison of Delay between Video and Control Groups

For those nineteen controls without a pre-vid review, the post-dev examination assigned four subjects (21%) a composite rating of 0 indicating no visible delay, seven (36.8%) with a rating of 1 indicating mild delay, three (15.8%) with a 2 indicating moderate delay and five (26.3%) with a 3 indicating a composite significant delay. Comparison between the post-dev ratings of those 20 subjects with and those 19 controls without a video review is illustrated in **Figure 5**. While there does appear to be variation between groups from rating to rating, Chi-Square and Fisher test analysis examining the extent of significant developmental delay between the cohort and control groups were not significant, with p values of .2638 and .3431 respectively. This effectively indicates no statistical difference in delay between those adoptees with and without a pre-adoption video assessment.

FIGURE 5. Comparison of Post-Adoption Delay between Video and Control Group



DISCUSSION

Foreign Adoption by American families has become an increasingly common phenomenon in the last decade. Of all the children currently adopted from abroad, more than half are from Russia, Eastern Europe and countries of the former Soviet Union. Numerous studies of these children have demonstrated that they frequently display delays in gross and fine motor skills, language and social development in addition to common medical problems. (18, 32, 39)

Given the higher incidence of developmental delay in this population, accurate pre-adoption information is particularly important. Parents with more accurate information about a potential adoptee are better able to assess their own preparedness to adopt while adjusting expectations and parenting strategies. When an internationally adopted child has moderate to severe developmental delay, collaboration between the parents, primary care physician and consultant can help provide both accurate assessment of developmental status and directives for helpful educational and rehabilitative environments that allow the child to make progress. The inaccuracies associated with pre-adoption medical records underscore the importance of a pre-adoption assessment method – such as video review -- which enables more direct observation. However, no study has yet examined the value of the pre-adoption video as a predictor of post-adoption developmental status.

Important findings of this study show that pre-adoption video review is an important tool to predict the post-adoption developmental status of an adoptee. Of twenty children with a pre-vid review, the video rating correlated exactly with the post-adoption rating 40% of the time. The ratings were shared exactly or fell within one (of four) categories of each other 95% of the time. These statistically significant correlations ($p = 0.01$) confirm the value of video as an accurate reflection of global developmental status when video review ratings are assigned on the basis of age appropriate Denver (DDST) gross motor, fine motor and expressive language attainments. A comparison of the developmental status of those adoptees with and those without a video review showed there to be no statistically significant difference between the two groups. Video Review therefore held no clear benefit, in our study, as a tool to screen for less developmentally delayed children. The overall sensitivity of 43% and specificity of 85% indicate that video review more accurately detected developmentally appropriate children than those with more developmental delay.

However, there are limitations to our approach. First of all, the sample size is very small, and significant differences in important demographic variables may not have been apparent. Secondly, a two- to three-minute videotape (range 30 seconds to 10 minutes) permits only a partial assessment of the child's capabilities, and many of the 125 items in the four domains of the Denver Developmental II Scoring Test (personal-social, fine motor-adaptive, language, and gross motor) could not be scored for each child. There is also an unclear influence of the pre-adoption video assessment upon the parent's ultimate decision to adopt.

Complexities in developmental testing of newly arrived adoptees also exert an influence. Because 70% of the children were tested within 3 weeks of arrival, their adjustment to the culture, time zone, adoptive parents and surrounding objects was not yet complete. Objects such as blocks or toys were unfamiliar to many children coming from deprived orphanage environments. Furthermore, there are intrinsic difficulties in conducting a developmental assessment through a translator. Because the children evaluated in this study were referred by their parents, they may not be representative of the entire population of adoptees of this region. Parents who perceived their children as more severely impaired may have been more likely to request evaluation in our clinic. There is also an unclear influence of the pre-adoption video assessment upon the parent's ultimate decision to adopt, therefore making assumptions about its ultimate role in the adoption process difficult.

Nevertheless, despite these limitations, this research represents the first attempt to examine the predictive accuracy of video review. Future studies with a larger sample size will be essential to confirm the findings presented by this study. Video review unquestionably offers a tool of great value to prospective adoptive parents, adoption agencies and pediatricians in their evaluation of children for adoption.

Please specify the reasons for adoption:

new marriage infertility wanted child of precise age/sex other [_____]

What kind of support does the adoptive family have?

Family in area: yes no uk

Pediatrician: yes no uk

Support Group: yes no uk

Religious Community yes no uk

Friends yes no uk

Other: [_____]

C. PRE-ADOPTION RECORDS AND CONTACT

Did Parents look at other adoptees before deciding to adopt this child?

yes no uk

If yes, how many others? [_____]

Were more than one child adopted by this family?

yes no uk

If yes, how many others? [_____] twins siblings unrelated unknown

Did parents visit the pre-adoption facility? yes no uk

If yes, indicate which of the following characterization best characterizes their impression?

Staff: plenty of staff/attentive moderate staffing understaffed/inattentive uk

Cleanliness: impressively clean marginally clean dirty uk

Number of children: over 100 50 to 100 25 to 50 under 25 uk

Which of the following biological parent issues, if any, are mentioned in the medical records?

poverty single parent involuntary termination of parental rights for abuse or neglect

parental incarceration parental death abandonment of child

Indicate if any of the following were included in the pre-adoption information? (can be multiple)

- photograph video opportunity for conference call with pediatrician none

Please describe the pre-adoptive medical records?

- complete/coherent marginal with missing information incomplete/incoherent

Which of the following categories do the pre-adoptive records place the child in?

- low risk (no worrisome data present, growth and development within normal range confirmed by photo or video, complete data to eliminate maternal etoh use, drug use or mental illness)
- moderate risk (one or more factors could impair future functioning, VSD, growth or developmental delay, small for gestational age)
- high risk (known diagnosis of FAS or other irreparable defect, premature delivery less than 30 weeks, birth weight less than 1000g, severe growth or developmental retardation [less than 5th percentile for child of same chronological age])

II. MEDICAL EVALUATION AFTER U.S. ARRIVAL

1. Date of First Examination in U.S. by YIAC [mm/dd/yy]

2. Current growth parameters recorded on date of exam

height: [_____]

weight: [_____]

head circumference: [_____]

3A. Did the child have a BCG scar? yes no unknown

3B. If yes where? right arm left arm both arms
 right thigh left thigh both thighs

4. **Current Developmental Assessment**

Date of Screening [mm/dd/yy]

Was a Bayley Scale of Infant Development Exam completed? yes no uk

If not, why not? child was fussy

child is too recently arrived in U.S.

o other [_____]

If yes, report the findings below:

MDI (Mean Developmental Index) Score [_] o sig. delay o mod/expected delay o no delay

PDI (Psychomotor Developmental Index) Sc [] o sig. delay o mod/expected delay o no delay

Was a thorough neuro-developmental exam performed? o yes o no

If yes, it was: o normal o mildly abnormal o significantly abnormal

Was the child recommended to receive Early Intervention? o yes o no

If yes, specify why: [_____]

Was a follow-up developmental exam with Dr. Weitzman recommended? o yes o no

5. **Laboratory test results obtained during evaluation at YIAC.**

5A. Results of Newborn Screening

Were results available in the chart? o yes o no

5B. HIV/AIDS Testing

Were results found in the chart? o yes o no

ELISA Screen o positive o negative o inconclusive o not done

PCR Probe o positive o negative o inconclusive o not done

5C. Thyroid Testing

Were results found in the chart? o yes o no

TSH [____]

Thyroxine [____]

T-4 [____]

5D. Complete Blood Count

Were results found in the chart? o yes o no

WBC [] HGB [] HCT [] MCV [] PLT []

5E. Hemoglobinopathies

Were results found in the chart? o yes o no

Hgb A1 [____] Hgb A2 [____] Hgb F [____]

G6PD: o normal o abnormal

5F. Syphilis serology

Were results found in the chart? yes no

RPR: reactive non-reactive not done

FTA-ABS: reactive non-reactive not done inconclusive

5G Liver Function Tests

Were results found in the chart? yes no

ALT: [____] AST: [____] Alpha-Feta Protein: [____]

5H. Lead:

Were results found in the chart? yes no

Level [____]

5I. Hepatitis Testing

Were results found in the chart? yes no

Indicate Results: [____]

5J. Alkaline phosphatase: yes no [____]

Serum Calcium: yes no [____]

Serum Phosphate: yes no [____]

6A. Testing on stool specimens: yes no

Indicate Positive Results [____]

6B. Urine Analysis:

WBC : [____] Nitrites : [____] Blood: [____]

Protein: [____] Glucose:[____] LE: [____]

7. As a result of this first U.S. medical evaluation was child diagnosed with:

Anemia: yes no unknown

Asthma/Bronchitis/Reactive Airway Disease: yes no unknown

Blindness: yes no unknown

Bronchiolitis: yes no unknown

CMV: yes no unknown

Chronic Diarrhea:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Deafness:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Developmental Delay:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Dysmorphism:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Eczema:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Fetal Alcohol Syndrome:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Fungal Skin Infection:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Genetic Disease:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Hemoglobinopathy:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Hepatitis B:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Hepatitis C:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Hepatitis, Other:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Hypothyroidism:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Lead poisoning:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Malnutrition:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Mental Retardation:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Microcephaly:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Pneumonia:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Premature Birth:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Psycho-social dwarfism:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Rickets-clinical:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Rickets-chemical:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Scabies:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown
Syphilis/Lues Disease:	<input type="radio"/>	yes	<input type="radio"/>	no	<input type="radio"/>	unknown

III. Ongoing Medical Evaluation

1. Where will the child get pediatric care in the US?

Doctor's Name [_____]

Doctor's Address [_____]

Doctor's Phone [_____]

How many appointments has the child had with this provider since arrival in the U.S.? [__]

2. Has the child received any immunizations since arrival in the U.S.? o yes o no o uk

If yes, please indicate them below:

[] Polio OPV/IPV 1.....Date [mm/dd/yy]

[] Polio OPV/IPV 2 Date [mm/dd/yy]

[] Polio OPV/ IPV 3 Date [mm/dd/yy]

[] Polio OPV/IPV 4 Date [mm/dd/yy]

[] DTP/DtaP1 Date [mm/dd/yy]

[] DTP/DtaP2 Date [mm/dd/yy]

[] DTP/DtaP3 Date [mm/dd/yy]

[] DTP/DtaP4 Date [mm/dd/yy]

[] DTP/DtaP5 Date [mm/dd/yy]

[] MMR 1 Date [mm/dd/yy]

[] MMR 2 Date [mm/dd/yy]

[] HBV 1 Date [mm/dd/yy]

[] HBV 2 Date [mm/dd/yy]

[] HBV 3 Date [mm/dd/yy]

[] Pneumo Date [mm/dd/yy]

[] Hib Date [mm/dd/yy]

[] Varicella Date [mm/dd/yy]

IV. PAST MEDICAL HISTORY

1. Are copies of medical records from birth country in chart? yes no uk
- 2A. Who was the child's primary care taker before U.S. adoption?
 parents other relatives resided in orphanage foster care
 agency facility refugee camp other [_____]
- 2B. If the child was in an orphanage, approximately how many children resided in the facility?
 [#] children unknown
 What was the location of the orphanage? [_____] (city, country) unknown
- 2C. The child resided in the birth home for approximately [__] months. unknown
 The child resided in the pre-adoption setting (question #2) for approximately [__] months.
- 3A. Specify Immunizations the Child Received in the Country of Origin as well as dates given.
 [same as Section III, question #2 above]
- 3B. If given before arrival in the U.S., are the above viewed as adequate? yes no
- Maternal Information***
- 4A. The mother's age at the time of delivery was [____] years old. uk
- 4B. Did the mother have pre-natal care? yes no uk
- 4C. Were there any known complications during pregnancy? yes [_____] no uk
- 4D. The child's delivery was: full-term pre-mature [# of weeks of gestation] uk
- 4E. This delivery was the mother's: first second third fourth fifth sixth uk
- 4F. Did the mother have a history of using any of the substances below? yes no uk
 If yes, please specify: tobacco alcohol substance abuse other [_____]
- 4G. Did the mother have any known medical illness? yes no uk
 If yes, please specify: syphilis TB Cancer mental illness other [_____]

Birth Information

- 5A. What was the method of birth? nsvd cesarean section uk
- 5B. What were the apgars at birth? [___] and [___] uk
- 5C. Were there any complications reported at birth? no yes [_____]
6. Growth Parameters at Birth. Please specify below:
- Weight [_____] HC [_____]
- Length [_____]

V. Pre-Adoption Video Assessment

- 8A. Did child receive a pre-adoption video screening by Dr. Hostetter? yes no
- If yes, please proceed with review below:
- 8B. What was the child's age at the time of the video? [___] (in months) unknown
- 8C. What was the child's approximate developmental age in the following categories?
- Gross Motor [___] (age in months)
- Fine Motor [___] (age in months)
- Language [___] (age in months)
- Please comment on the following:*
- Child's strength: normal weakened inconclusive/unknown
- Gross Motor Skills: delayed age appropriate inconclusive/unknown
- Fine Motor Skills: delayed age appropriate inconclusive/unknown
- Tone: normal abnormal inconclusive/unknown
- Language: delayed age appropriate none present
- Social skills: normal engagement minimal/abnormal engagement inconclusive
- Expression : normal expression minimal/abnormal expression inconclusive
- 8C. Are concerning facial features present? yes no
- If yes, are features consistent with FAS? yes no
- 8D. General Nourishment/Size: good moderate poor

- 8E. Overall Impression: Please choose one which characterizes the video.
- concerning elements are clearly present, exercise caution if adopting
 - child's video looks good
 - video is inconclusive (because of poor quality or brevity)

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