

MN International Adoption Project

Minnesota International Adoption Project (MnIAP)

Institute of Child Development
51 East River Rd.
Mpls, MN 55455

Phone: 612-624-9322

Fax: 612-624-6373

Website: <http://education.umn.edu/icd/iap>

Email: IAP@umn.edu

IAP Investigators and Staff

Megan Gunnar, Principal Investigator
Institute of Child Development
iap@umn.edu

Dana Johnson, Co-Investigator
International Adoption Clinic
Clinic Phone: 612-626-6777
iac@umn.edu

Harold Grotevant, Co-Investigator
Family Social Science
hgroteva@umn.edu

Wendy Hellerstedt, Co-Investigator
Epidemiology
hellerstedt@epi.umn.edu

Richard Lee, Co-Investigator
Psychology
richlee@umn.edu

Kristin Frenn, Coordinator
Institute of Child Development
fren0108@umn.edu

Meg Bale, PR Coordinator
Institute of Child Development
balex002@umn.edu

Bonny Donzella, Senior Research Fellow
Institute of Child Development
donze001@umn.edu

Shanna Mliner, Research Fellow
Institute of Child Development
newma039@umn.edu

Adriana Herrera, Graduate Student
Institute of Child Development
herre064@umn.edu

Michelle Loman, Graduate Student
Institute of Child Development
loman004@umn.edu

Kristen Wiik, Graduate Student
Institute of Child Development
wii0002@umn.edu

Dear Parents,

We are sending you this newsletter as a way of thanking you for participating, or being willing to participate, in research with the Minnesota International Adoption Project. This newsletter is being sent to all of the parents who have joined our international adoption registry as well as parents who have participated in international adoption research with their birth children.

In 2002, the Minnesota International Adoption Project began working to obtain grant funds to study the brain and behavioral development of children adopted internationally. Because early deprivation can impact brain development, we were especially interested in finding information that would help improve outcomes for children adopted from orphanages or other institutions. However, we also know that children who are from minority ethnic groups have challenges in adapting in the U.S. as they may experience discrimination. For this reason, our colleague Richard Lee is devoting considerable efforts to understand how parents can help support their internationally adopted children who are ethnic minorities in this country.

None of this work would be possible without the help of our birth families. You and your children have given very generously of your time to provide information about the brain and behavioral development of children who are born and raised in their families of origin here in Minnesota. We, as well as your friends and neighbors who have created their families through international adoption, appreciate your generosity.

I fear that this year's newsletter contains more information about what we are doing than what we have found. The types of studies we are working on take about 1 ½ years to conduct. Our typical study requires that we see 120 to 140 children for 1-3 hour sessions at the University. Once the children have participated, it takes many months to fully process the data (particularly the brain wave data) before we can do the analyses. In the next few weeks, we will have seen the last few children in 4 large studies. By next year, we will have a great many results to report. This year though, along with progress reports, we do have final results from two large projects to share with

Thank you again for your help
and on-going support,

Megan Gunnar & the International Adoption Project team



Contents of this 2007 Newsletter

- I. Stress Reactivity Study**
Page 3
- II. Stress and Growth Hormone Functions in Children from Institutional Care**
Page 4
- III. Memory Study**
Page 5
- IV. Adolescent Emotion and Reasoning Study**
Page 6
- V. Language and Memory Project**
Page 6
- VI. Attention and Attention Problems**
Page 7
- VII. Korean Adoption Project**
Page 8
- VIII. Social Communication Study**
Page 9
- IX. Exploration of Discrepancies between Pre-Adoption Expectations and Post-Adoption Experiences for Parents of Adopted Children from International Institutional Care**
Page 11
- X. International Adoption Clinic Broadens Focus**
Page 13
- XI. Predicting the Language and Academic Outcomes of Internationally Adopted Children**
Page 14
- XII. Emotion Processing Study**
Page 15
- XIII. Join the Registry**
Page 16
- XIV. Update Your Contact Information**
Page 16
- XV. International Adoption Project Fund**
Page 17

Stress Reactivity Study

Stress hormones, including cortisol and adrenaline, are important in helping us adapt to and manage difficult situations. These hormones, especially cortisol, affect brain development. One of the reasons that researchers expect that children adopted from difficult situations might be more reactive to threat information is because of evidence that prior to adoption, in order to survive, they had to use their stress hormone systems more than do children who are in the care of loving and supportive families. For the last few years, the Minnesota International Adoption Project has been examining whether children adopted from difficult situations have a more “reactive” stress biology system due to their early experiences. The answer is now pretty clear: *For most of the children, although they may have had more reactive systems when they were adopted, after several years in their adoptive families, their stress systems have settled down.*

In past years, we have studied stress hormone levels while children are at home. Parents and children helped us by collecting saliva samples when the children got up and before going to bed. This work showed us that most of the children had daytime cortisol (stress hormone) patterns that resembled those of children born and raised in loving and supportive families. Where we detected a difference was for children who were quite growth delayed at adoption: children whose height was below the 5th percentile for age at adoption had home cortisol levels that were detectably higher than the other children. Their levels were not extremely high, but higher than those of children who had better growth prior to adoption. This made sense because stress hormones “turn off or turn down” the growth system. So the children who grew very poorly before they were adopted (and then grew rapidly once they got to their families) were probably telling us by their poor pre-adoption growth that they were pretty stressed in the orphanage or foster home.

Home or baseline activity of the stress system is important as it may affect how children put on fat (more deep abdominal fat), which in turn, may slightly increase risk of high blood pressure and type II diabetes as they age. Of course, training good eating patterns and exercise patterns will help counteract these risks, just as they do for children who are at genetic (family) risk for high blood pressure and Type II diabetes. Children with higher baseline stress hormone levels may or may not respond more to stressful experiences. The brain pathways controlling “stress reactivity” are not exactly the same ones that control baseline levels. Furthermore, stress reactivity probably has more influence on children’s emotional functioning and vulnerability to later life stressors.

Two years ago, we embarked on a complicated study to determine whether children adopted from difficult or depriving situations had more problems controlling stress hormone reactions to challenge than did children adopted from more protective/supportive situations or children who were raised in their birth families. In the **Stress Reactivity Study**, 9-, 10-, and 11-year old children came to the University and participated in a “Speech/Math Stressor” test. In this test, they stood before a panel of judges and gave a short speech for 5 minutes and then performed difficult arithmetic problems for another 5 minutes. We know that our stress systems were designed to “turn on” under these kinds of performance challenges. We needed to know whether the children with more difficult pre-adoption histories or those who were more growth delayed at adoption would show larger cortisol responses than those who experienced less difficult histories. We compared children adopted when they were over 12 months of age from orphanages or other institutions with children adopted early from foster care and children raised by their birth parents in Minnesota.

Stress Reactivity Study continued on the next page...

We were rather stunned, but also very happy with the results we found. Both the post-institutionalized children and the children adopted from foster care looked **exactly** like the birth children. They showed the same increase and then decrease in cortisol to the speech/math stressor task. They also showed the same pattern of heart rate reactions using a way of measuring heart rate that let us see the “adrenaline” stimulated heart rate reaction separately from the parts of heart rate that are controlled by the parasympathetic (calm down) part of the nervous system. As in our other study, children who were more growth delayed at adoption had higher levels of cortisol overall, but they showed the same amount of change in stress hormones to the speech/stressor task as did the other children.

What this all means is that perhaps children from more difficult circumstances are more stressed by life by the time they are adopted. But, what happens to them once they get a loving family must be very therapeutic to their stress systems. If they were highly growth delayed at adoption, they do have a higher baseline for these stress hormones. But even for these children, this doesn't mean their early experiences have made them more vulnerable to a pretty stressful task: giving a speech, performing arithmetic, and making mistakes in front of a panel of “judges.”

We think these are very hopeful findings. Now, what we need to understand is just exactly what adoptive families are doing to help get their children's stress systems functioning in this healthy kind of way. This information will help new adoptive parents. It will also, we think, help inform interventions that might help other vulnerable children, such as those in the U.S. foster care system and those not lucky enough to find a supportive adoptive family early in life. We have just learned that a grant we wrote to get the money for such a study looks like it has a good chance of being funded. Stay tuned!

Stress and Growth Hormone Functions in Children from Institutional Care

Children from institutional care experience a range of physical (food, clothing, and medical care) and social deprivation prior to adoption into the United States. Forty percent of internationally adopted children tend to be significantly shorter than their same-age peers at the time of adoption. We expect that malnutrition actually plays only a small role in this short stature. Indeed, these children do not tend to be skinny, they are merely short. We know from other work that emotional neglect activates stress biology which slows the growth system. We also know from other work by the Minnesota International Adoption Project that children who are quite growth delayed at adoption have stress systems that operate at a higher baseline for years after adoption (see Stress Reactivity Story above).

Most, but not all, children start to grow taller quite rapidly once they get to their families. It is hard to tell at the point of adoption which children will grow well and which will struggle to return to more typical growth patterns. The goal of this study is to help identify children who are at risk for poor growth AFTER adoption so that if we can identify them we will be able to intervene sooner.

Four researchers in the Department of Pediatrics and the International Adoption Clinic are working on this study: Dr. Dana Johnson, Dr. Maria Kroupina, Dr. Anna Petryk and Dr. Bradley Miller. They are examining stress hormones, growth hormone, and many “growth factors” produced by the children at adoption and over the next months and years after adoption. They are also examining how the nutrition the children receive after adoption impacts their growth patterns.

Stress and Growth continued on the next page...

The children enter this study through the International Adoption Clinic. To participate, they needed to be 8 to 48 months old at adoption and come from Eastern European orphanages. A total of 122 children were seen for their first study visit 2-3 weeks post adoption. Six months after adoption, families come back for a second clinical research visit. Currently, more than 115 families have also already been back for this second visit. Each visit includes both physical assessment (physical growth measurements, growth hormone collection, and cortisol collection) and a developmental assessment. Parents are asked to complete several questionnaires and to collect cortisol via saliva at one month and six months after their child's arrival into the U.S. Children have also begun returning for a two-year post-adoption visit. For this visit, parents are again asked to complete several questionnaires and collect their child's saliva at home. Families also are invited for a physical growth follow-up assessment at the International Adoption Clinic.

All of the children in the study with significant growth concerns after 6 months post-adoption are seen by an endocrine specialist team in the clinic and receive early intervention services.

If you would like to know more about this research project and preliminary results, please check the IAC website at <http://www.med.umn.edu/peds/iac/clinic/eustudy.html> or contact Maria Kroupina by phone at (612) 624-6609 or by e-mail at kroup003@umn.edu.

Memory Study

In last year's newsletter, we reported that internationally adopted children with difficult pre-adoption experiences were showing some difficulties with tasks that require memory for specific events. The task that was particularly challenging for them is called "Paired Associates Learning." Although we used a non-verbal form of the task, the easiest way to write about this type of task is to describe the word version. In the word version, you hear a list of words paired with other words: for example, "Dog Mountain." Then after you hear the list, you are given one of the words and asked to recall the other one. Children adopted after 12 months from institutional care scored lower on a paired associates learning task than did children adopted early from foster care overseas and children born and raised by their families in Minnesota. Furthermore, the post-institutionalized children who lived longer in institutional settings scored more poorly than those who spent less time in institutional care before adoption.

We are gearing up to conduct a study that will help us be sure that this finding can be repeated in different children with similar histories. In the study we are starting, we will also have the children perform a task that gets at a particular brain region that is critically involved in this type of memory. This memory study will also involve using sensors to detect the brain's electrical activity while the children perform the memory tasks.

This study will begin in early November and will involve children aged 9- and 10-years of age. Check out next year's newsletter for a progress report!

Adolescent Emotion and Reasoning Study

All of the studies we have conducted so far in the Minnesota International Adoption Project have involved children. As any parent will tell you, all bets are off once children become adolescents. Work by our research group, as well as work by other groups, is demonstrating that the emotional systems of the brain change with puberty. The brain becomes more “reactive” to emotional information, and brain systems that find reward in risky activities become more active.

For this reason, the Minnesota IAP team is beginning to explore changes in brain emotion system functioning at puberty in internationally adopted children as well as in birth children. The Adolescent Emotion and Reasoning Study will begin this fall and will involve children 11- to 15- years of age. In this study, we will be comparing children who are pre- and post-pubertal on simple tasks that tap different emotion and reasoning systems in the brain. Based on ours and others' earlier work, we expect, that the changes which occur during adolescence, such as puberty, will shift the ways in which these brain systems function. What we don't know is whether children with difficult early histories will show larger shifts in reactions with adolescent development.

We are looking forward to the opportunity of learning more about the developing adolescent!

Language and Memory Project

First, all of the members of the Language and Memory Project (Dr. Joann Benigno, Dr. Megan Gunnar, Dr. Jennifer Windsor, Erika Hoyt, Clare Faulhaber, and Joni Coleman) would like to extend a special thanks to all of the families who have taken time out of their very busy schedules to participate in our project. We've had the pleasure of interacting with families who live in the metro area and those who have traveled from throughout Minnesota and neighboring states. Overall, we've had a busy year with collecting and scoring the information from the more than 70 families who have participated in our study since summer 2006!

When we first launched this study back in 2006, only a handful of studies examining the language outcomes of internationally adopted children existed in the literature. Our preliminary findings are in line with those of several other groups that have published data in leading journals. The main finding is that age of adoption and duration of time spent in institutional care (e.g. orphanage care) relate to internationally adopted children's language skills during the school-age years.

Within a smaller sample of children adopted from Russia/Eastern Europe, we found that length of institutional care independently predicted children's spoken language performance on standardized testing even after we accounted for the amount of exposure to English (i.e. children's time in the adoptive home). In addition to obtaining children's outcomes based on standardized tests, we are also interested in examining how children use and interpret language when communicating with others. Our preliminary findings suggest that parents' ratings of their children's language skills, children's standardized language scores, age of adoption, and duration of institutional care relate to the total amount of language children use during conversations with their parents and their understanding of

Language and Memory Project continued on the next page...

figurative language (e.g., having a frog in one's throat). These preliminary findings have been presented at the Society for Research in Child Development, the Society for Research in Child Language Development as well as the Minnesota Undergraduate Research Fair.

At this point, we are still seeking the participation of more families with both internationally adopted and non-adopted children between **8 - 12 years of age**. Our recruitment to this point has focused on children adopted from institutional settings (e.g. orphanages or hospitals). However, we would like to compare language and memory outcomes across care settings (institutional versus foster care) and how adopted children's performance relates to their peers' performance. Thus, we would like to include 2 more groups of children in our study: 1. children who are adopted from foster care settings prior to age three and 2. a community sample (children born in the state of MN who are between 8-12 years of age). We hope to have this study complete by the end of spring 2008, so your participation would be greatly appreciated! If you or someone you know has children who fit these criteria, please contact Dr. Benigno's associates at 612-624-0321.

Attention and Attention Problems

Children adopted internationally are at increased risk of being diagnosed with attention problems. There isn't just one attention system in the brain. Rather, our ability to regulate our attention and use attention to solve problems involves the smooth integration of several attention systems of the brain. No one is sure whether children adopted internationally, especially those who come from more deprived situations, are at risk for general problems with attention (all of the brain's attention systems have been affected) or whether they are at risk for problems with only some of the brain's attention systems. One of the goals of the Minnesota International Adoption Project is to hone in on how the different attention systems are operating in internationally adopted children with different pre-adoption histories.

The Flanker/Go-No Go Study is one of the studies we are conducting to try to get more specific information about how the attention systems of the brain are functioning in internationally adopted children compared to children of the same age who were born and raised in their families in Minnesota. The children in this study are 10 and 11 years-of-age. The children play two games that tap different aspects of "executive" attention. We use our executive attention system to effortfully pay attention and effortfully control our behavior. In the Flanker game, the child's job is to pay attention to one piece of information on a computer screen and ignore the "flanking" information. The child sees a row of five arrows on the computer screen and is told to pay attention to the center arrow and push one button if the arrow points left and the other button if the arrow points right. When the flanking arrows are going the same direction (congruent trials), this is really easy. When the flanking arrows point in the opposite direction of the center arrow (incongruent trials) our brain has to suppress attention from them in order to make the correct response. This is more difficult and requires more "executive" attention. While the children are playing the Flanker game, we are measuring the electrical signals the brain gives off as it works. We are looking for the size of the electrical signal, or peak brain wave, which indicates how much more effortful attention the child's brain is recruiting during incongruent trials compared to congruent trials.

Attention and Attention Problems continued on the next page...

The other game, Go-No Go, is a bit like Simon Says or Red Light/Green Light. It assesses the ability to employ our attention in order to help us stop, or inhibit, a response that we are all geared up to perform. In the Go-No Go game, the child sees letters appearing one at a time on the computer screen. The task is to press a button every time a letter appears, EXCEPT for the letter X. In this task, children don't need to suppress their attention to irrelevant information, but must keep the rule about the letter X in mind and use that rule quickly whenever the X appears. Because there are many more other letters than there are X's in the game, it is hard to stop, or inhibit the pressing response, when the X appears. The brain needs to send a very strong "stop" message, and we can measure the size of the brain wave associated with attending to the "X." We have already seen many children in this study and hope to have all of the information collected in the next month. In next year's newsletter, we look forward to sharing what we have found!

The Emotion Go-No Go study is completed. We saw 140 children in the course of this study. However, we are still working through the mountains of brain wave information we collected. This study was conducted with the help of 9- to 12-year-old children who had different pre-adoption care arrangements and who got to their families at different ages. We have all had the experience that it is easier to control our behavior when we are dealing with non-emotional information and harder when the information we are dealing with is emotional. In the Emotion Go-No Go study, the children play the Go-No Go game three different ways: one time they play it with letters (just like in the Flanker/Go-No Go study); one time they play it with faces that have neutral expressions; and one time they play it with faces that are showing different emotional expressions. In the emotion version, they must press the button to happy faces, but not to sad faces. We are looking at differences in accuracy and speed in these different versions of the game. We are also looking at brain waves that reflect attention and effort in these different versions of the game.

Together, these two studies will help us discover whether some internationally adopted children have problems with "executive" attention in general (both Flanker and Go-No Go), or whether they tend to perform well when emotion isn't involved, but struggle more when they must effortfully control their attention while also handling "emotional" information. We look forward to sharing our results!

Greetings from the Korean Adoption Project!

In March of this year, we launched the largest-ever study of Korean adoptees and their families in the United States. To date we have received over 60% of the approximately 1000 surveys we sent to adoptive families and adoptive teens, and more surveys are returned daily.

We know that the strong response to this survey is an indication of a mutual interest in the development and well-being of Korean adoptees. Nearly one-third of all children adopted internationally are from South Korea, and yet we know very little about the development and well-being of these children, especially as they grow older. This project provides us with an opportunity to learn more about the life experiences of Korean adoptees and their families: specifically, what it means to raise a Korean child and to grow up as a Korean adoptee. This sort of knowledge will help us to increase awareness, educate, and advocate for adoptive families and for those professionals who work with these families.

Korean Adoption Project continued on the next page...

If you have already returned a completed survey, we want to sincerely thank you. For those who have not yet returned surveys, there is still time to complete either an on-line or paper version of the survey. Participants receive a \$20 gift card from Target for completing surveys.

For more information about the project or to request a survey please email us at koradopt@umn.edu or contact Richard Lee, the principal investigator, directly at 612-625-6357.

We also encourage you to update your personal information on the International Adoption Project registry so that we can keep you informed of study results and developments as well as keep you apprised of future projects. Thanks again!

Social Communication Study

Children who start their lives in orphanages or other institutions or who live with a foster family who may not spend much time loving, cuddling, and talking with them have a lot of social experience to catch up on once they get to their adoptive families. Several years ago, we started following a group of children who were 18 months the first time they came into the University for testing. Some of these children had been adopted for only a few months and had lived in institutions before they came to their families. Some were adopted from overseas, but from foster care, and some were growing up in their birth families in Minnesota. We checked up on these children when they were 2-year-olds, and then saw them at the University again when they had just turned 3 years old. These children are turning 5 years old now, and we will begin to see them again when they are about 5 ½ years old.

What we have learned so far:

- **Individual Differences:** At 18 months and 3 years of age, we saw many differences among the adopted children in our study. For every area of development that we assessed – including brain activity, nonverbal social communication, language, attachment, overly friendly behavior, and parent-child interaction – some of the children adopted from deprived conditions struggled, while others performed very similarly to the birth children. By seeing the children repeatedly over several years, we hope to learn more about the reasons for these individual differences and the connections between early abilities and later abilities.
- **Brain Activity:** At 18-months, we measured brain wave patterns and found that the children who had experienced deprived conditions before adoption showed patterns that were “young” for their age. In other studies, similar patterns have been seen for children who develop attention problems. But, since the children had only recently arrived in their families, it may be that most of them will catch up in the maturity of their brain activity patterns with time. *This is one thing we are going to follow up on when the children are 5 ½ years old.* We have a new system for measuring brain activity that children of this age don’t mind wearing. It is much more comfortable than our old system and by 5 ½ years of age, children understand what is going on so they have fun completing the brain wave parts of our research. The children also receive many little toys and prizes during the task, which makes it enjoyable.
- **Social Communication:** At 18 months, children recently adopted from deprived conditions did remarkably well on tests of nonverbal social communication. Nonverbal social communication involves looking where other people are looking, showing things to other people for no other

Social Communication Study continued on the next page...

reason than wanting to share the experience with them, and using looking and pointing to get adults to do what you want. We did find that children adopted from institutions were delayed compared to the birth children on one specific social communication skill, using pointing and showing for the purpose of sharing an experience with other people. In birth children, this particular social communication skill predicts the child's later ability to understand other people's thoughts and beliefs. Coming to understand that other people have minds and thoughts that may differ from one's own is a critical part of social understanding that develops over the preschool years. Three year olds think that you can see what they see (that you can see their dreams, for example). By age five, most children know that they have to tell you what they are thinking before you can understand them. They also know that two people can think and feel differently about the same thing. It is very hard to get along smoothly with other people if you don't develop this basic understanding of "others' minds." In birth children, parent-child talk about thoughts and feelings helps children develop this social understanding. We recorded parent-child conversations at age 3 years, which we are currently analyzing. *At 5 ½ years of age, we will see whether our early measures of nonverbal social communication and of parent-child talk about thoughts and feelings help identify children who are still struggling with these social understanding concepts.*

- **“Overly Friendly” Behavior:** Children who are adopted from difficult situations, especially those adopted later, sometimes are overly friendly with strangers. In the extreme, they are willing to happily go off with a friendly person they have never met before. Clearly, this poses a danger to them. Often this type of “overly friendly” behavior is interpreted as reflecting a problem in the child's attachment to their adoptive parents. We aren't sure this is a correct conclusion. *We have been following the development of overly friendly behavior in these children. At 5 ½ years of age we will be able to see whether the children are curbing their willingness to approach nice people they have never met and whether their patterns of friendliness with strangers are related to patterns of interactions with their parents or to other aspects of their functioning.* In a previous study, we found that friendliness to strangers was actually related to how children did on a Go-No Go test of attention and behavioral control. *We think this is a very critical part of this study because if overly friendly behavior isn't part of the attachment relationship, but instead is related to attentional and behavioral control problems or other aspects of how the child thinks and acts, this may really change what parents are told and how we intervene with overly friendly children.*
- **Parent-Child Interaction:** When the children were 3 years of age and we saw them in the laboratory, we examined patterns of parent-child interaction. There is, of course, a lot of concern about whether parents and children can develop supportive patterns of relating to one another when children have been adopted from difficult circumstances, especially if they are adopted later. So far, we have only analyzed a portion of the data. *We found no differences between internationally adopted children and their parents in how they played and worked together compared to children raised in their birth families in Minnesota.* As a group, the internationally-adopted children and parents had established patterns of relating to one another that worked as smoothly (or not) as birth children and their parents.

The follow up study when children are 5 ½ years of age is critical to our understanding of how children are functioning at the cusp of their entering the school system. It will also allow us to dig into the months and years after adoption to find measures that might allow parents and practitioners to spot children (adopted or not) who might need a little extra help to get on track by the time they start school.

Social Communication Study continued on the next page...

In the 5 ½ year assessment we will be measuring brain waves while children's brains are at rest and while they complete tasks requiring attention. We will also be interviewing parents about their child's development. In addition, we will assess the children's IQ and language development and will play games with them that get at their ability to control their emotions and their understanding of "other people's minds." Throughout the session, children will receive prizes and fill a prize bag as a reward for their participation.

We are currently working with children we have not seen before to make sure that 5 year old children enjoy the session (even though it is long) and that we are doing the tasks correctly. By December, we hope to be seeing the children we saw when they were younger. For all the families who have been helping with this study, we are very grateful. We look forward to seeing you and your child when he/she is about 5 ½ years of age.

Exploration of Discrepancies between Pre-Adoption Expectations and Post-Adoption Experiences for Parents of Adopted Children from International Institutional Care

What happens when a parent's adopted child or parenting experiences are different than the parent expected they would be? Which of these differences are particularly stressful for parents? What types of pre-adoption preparation strategies help parents frame realistic expectations? These are questions that Mary Chesney, a doctoral candidate from the University of Minnesota's School of Nursing and a pediatric nurse practitioner at the International Adoption Clinic explored during a recent qualitative parent interview study conducted in November and December of 2006.

Chesney conducted in-depth, interviews with thirteen parents who had adopted children from either an Eastern European or Chinese orphanage during the preceding 15 months. Parents were recruited from the International Adoption Project's Parent Registry. The parent who spends the most time with the child took part in the interview which lasted for between 45 and 60 minutes. They described their expectations and experiences with their children who were between 9 and 51 months when they arrived in the U.S. and had lived most of their lives in orphanages. Then interview transcripts were analyzed for common themes and categories using a qualitative research analysis process called *content analysis*.

The interview results showed that most of parents were prepared for many of the physical and developmental concerns for children coming from institutional care. Many described having realistic expectations about possible growth delays or small size for their children due to being either malnourished or stressed in the orphanage environment. Parents also tended to expect developmental delays in motor skills or speech-language skills because of lack of stimulation or one-to-one care while in the orphanage. Some parents had opted to adopt children with mild to moderate special health care needs and were expecting their children to need medical care or therapies once they arrived home. Most parents reported expecting possible minor health issues such as colds, scabies or intestinal parasites. There were very few differences noted between parents' pre-adoption expectations about their children's health, developmental, or growth status and the children's actual conditions after adoption. Where differences were noted, most tended to be positive, with children's health, growth, or development

Adoption Expectations and Experiences continued on the next page...

reported as better than first expected. All but one parent had consulted with some type of health care professional regarding their children's referral information. Eleven of the 13 parents (84.6%) had consulted with at least one international adoption health professional and this was reported to have been very helpful to parents in setting realistic expectations for health, growth, and development.

The majority of parents in this study reported reading a great deal and attending agency-offered pre-adoption classes regarding the effects of institutional care on children. Many parents stated that talking to other experienced adoptive parents and using adoptive parent websites to communicate with other parents were very helpful preparation strategies. Despite considerable preparation by most parents, the greatest number of unanticipated differences between pre-adoption expectations and post-adoption experiences were in the areas of behavior, parent-child relationship, or the extent of change in parents' lifestyles. Not surprisingly, these differences were also described as being particularly stressful for families. In analyzing these differences, two over-arching categories emerged. First, there were differences noted where behaviors or lifestyle changes had been somewhat expected but the severity or intensity of the behaviors or changes had not been anticipated. Examples of where parents had expected problems but had not expected the degree of severity of the problems included very high activity levels for some of the children, frequent and intense temper tantrum behaviors, frequent or strong physically aggressive behaviors such as biting or hitting, significant sleep disruptive behaviors, or rejection behaviors by the children toward the parents' attempts to nurture them, as described by one of the parents below.

"I so desperately want to be able to just cuddle and nurture him and smother him with, you know, hugs and kisses, and he's just not able to take that right now. And so when, that means that a lot of our relationship is boundary setting, I mean, it's playing, but there's (long pause), but there's (long pause), kind of there's a hole in my (long pause), in the giving of my full heart to him because there's a part of our, a connection between us that feels like it would be so enhanced if we could just be more, if I could just feel like I was able to do more nurturing kind of stuff."

Although most parents described expecting their lifestyle to change dramatically, many parents were surprised by how busy they felt in their new role as parents. Most parents were also surprised by the level of physical fatigue they had felt during the first few months of transition. Fatigue and being in demand 24/7 was particularly challenging for single mothers.

The second category included unexpected problems. In this category, two types stand out. First, the overwhelming majority of parents described great difficulty or frustration with trying to figure out when a behavior was simply a typical toddler or preschooler behavior that warranted a typical disciplinary response or when a behavior was linked to the child's adjustment from orphanage to family life and required a more understanding or attachment-fostering approach. Second, while about half of the parents described emotionally connecting to their child at first sight by picture or in-person, the other half described being surprised by initial doubts about their decision to adopt their child or delay in feeling any sense of parental love or emotional connection to their adopted child, as described by three parents in the following transcript excerpts.

"But, oh, there were so many times I'd go 'We have to take her back... Oh my God, how do we get out of this?'...Ummm. And you feel like a terrible person for having those thoughts... You can never voice these thoughts out loud to other people."

Adoption Expectations and Experiences continued on the next page...

“Well, the not feeling like his mom was, I felt so very guilty...And so very stressful. I guess stressful, I just felt guilty that I wasn't attached to him as fast as I could. As fast as I wanted to be.”

“And then we met him, and it was like, well here you are and I have no idea who you are, and I have no idea what you're going to want, and what you're going to be like, and it wasn't until we were actually holding him, that, that, how unfamiliar, not at a heart level, but just on a practical level, we were to each other. And so I and my husband, who was really nervous about connecting to him, was just, it was just instantaneous for him, and they just hit it off...So that was really surprising to me, that I didn't have an instantaneous deep connection to him, because I thought it was his attachment to us that we were going to really worry about, and it ended up being my own attachment to him that was predominant initially.”

All of the parents who had experienced initial doubts or delays in developing loving, parental relationships with their children were feeling much better or completely comfortable about their relationships by the time of the interviews. However, most who had experienced this initial delay described the experience as completely unexpected, panic or guilt-inducing, extremely stressful, and something about which they did not feel comfortable expressing to friends or family members. A number of parents discussed how much children's attachment issues had been the focus of books and preparation classes, yet the range of possible initial parental feelings had been completely ignored. Some of the parents stated that preparation for possible feelings of doubt or lack of connection to their children during initial transition would have helped to lessen their sense of guilt and reduce their stress level. In addition to recommending that agencies include parental feelings in discussions about attachment, the parents made many wonderful suggestions for improving pre-adoption preparation for parents planning to adopt a child from international institutional care. These suggestions and a more detailed look at this study's findings will be forthcoming in a future publication.

INTERNATIONAL ADOPTION CLINIC BROADENS FOCUS

Please note the new name for the only organization in the five-state area that provides health, development and medical services specifically for international adoptees. Formerly known as the U of MN International Adoption Clinic, we have changed our name to the International Adoption Medicine Program to better reflect the breadth of our program. We provide preadoption consultations, travel consultations, medical resident education, and parent education in the community. All of this in addition to the outpatient specialist clinic services that we have always provided. Here are some additional highlights from the past 12 months:

Expanded Clinic Services

In 2007, the Clinic introduced a four-visit series of clinic appointments set to occur within the first 24 months of your child's life in the U.S. What we've learned in the past 20 years is that children and families are still adjusting and transitioning in critical ways, even after two years together in their new home. We have learned that close clinical monitoring allows us to detect--and treat--small issues before they become big problems. We have added sensitive psychological testing services and preschool screening for older children, too. Please call 612-626-6777 to schedule these visits. As always, we can tailor the visit to the needs of your child.

International Adoption Clinic continued on the next page...

Research

In November 2007, we will begin a new research protocol that includes children from Eastern European and African countries. This research strives to continue to define the commonalities among children who have suffered periods of neglect in institutional care. Look for more information coming soon on our website!

Orphanage Outreach

This year our director, Cynthia Howard, M.D., and pediatrics specialists Diana Cutts, M.D. and Betsy Murray, M.D., partnered with our colleagues at Children's Home Society and Family Services to travel to Ethiopia. Ethiopian adoptions have increased dramatically in the past year; we reviewed records for more than 100 Ethiopian children in preadoption consultations and saw more than 50 of the same children in the clinic so far in 2007. Our mission in the orphanages in Addis Ababa is to foster a physician exchange to ensure good medical care for the orphans left behind in Ethiopia, and to provide an exchange of resources for ongoing, consistent care and treatment, drawing on the expertise of the physicians there as much as on the providers in our program.



Dr. Cynthia Howard meets a young orphan in Ethiopia.

Dana Johnson continues to work with Half the Sky Foundation, whose goal is to ensure that every orphaned child in China has a caring adult in his/her life and a chance at a bright future. A new partnership with the Ministry of Social Welfare will permit placement of Half the Sky infant nurture and preschool programs, personalized learning for older children and permanent foster care programs for disabled children in over 300 institutions throughout the country.

Thank you for your continued support of the International Adoption Medicine Program at the University of Minnesota. Check our website often for news and updates:

<http://www.med.umn.edu/peds/iac/home.html>.

Predicting the Language and Academic Outcomes of Internationally Adopted Children

Many of you might remember completing a very long survey where you answered all sorts of questions about your children's pre-adoptive and post-adoptive history and your children's academic and behavioral outcomes at the time of the survey. For the past year, Dr. Joann Benigno, Erika Hoyt, Dr. Megan Gunnar, and Dr. Jennifer Windsor have been conducting further analyses on this data set specific to speech-language and academic outcomes.

Predicting Language and Academic Outcomes continued on the next page...

Of the sample of 1,059 children in this study, approximately 23% of children have received special services in the schools and 18% have been placed in gifted services. When we looked more closely and compared the effects of the type of care setting prior to adoption, we found that children from institutional settings were placed in special services more often than children from other care settings (e.g., foster care); children who did not live in institutional care were also more likely to be placed in a gifted program than children from institutional settings. However, the amount of time spent in orphanage or foster care and age of adoption also predicted academic placement. Children who were adopted after 12 months of age were less likely to be placed in gifted programs and were more likely to be identified for special services. Interestingly, 10.7% of the 1059 children in this sample were reported to receive language services (e.g., for speech-language impairments, specific learning disability, articulation, language, or reading services) relative to the rate of 6.1% across all Minnesota children age 6-17. So, overall, the important message from our findings is that the vast majority children appear to be succeeding or excelling in school and learning the English language by the 1st - 6th grades! At this point, we are in the final stages of our analyses and we are writing up this important information for publication in a leading journal. We hope this information will be published by the time you receive your newsletter next year!

Emotion Processing Study

How we process information about threats in the world can have a big effect on how we handle ourselves in social situations. In this study with 8- and 9-year old children, we are getting at “threat” processing in two ways. The first game the children play is a “Find the Dot” game. All the children do is view pictures on a computer screen of faces expressing different emotions: happy, neutral, or angry. Two faces are shown on the screen: one on the left and one on the right. Immediately following the faces, a dot is presented on either the left or right side of the screen and children respond by pushing a button to indicate the location of this dot (right or left side). Angry faces trigger “threat processing” pathways in the brain and capture our attention more strongly than do happy or neutral faces. When the dot is on the same side of the screen where an angry face just appeared, we are quick to see the dot and push the button. When the dot is on the opposite side of the screen, we have to pull our attention away from where we just saw the angry face. Two regions of the brain are involved: one called the amygdala that is important in reflexively responding to threat and one called the medial frontal cortex that is important in regulating the amygdala’s response. Many researchers expect that experiences early in life affect these threat processing regions of the brain, thus increasing children’s sensitivity to threat information. If so, then we may see that the children adopted after more difficult pre-adoption experiences will have a harder time pulling their attention away from the angry faces.

In addition to the “Find the Dot” game, in this study we are also examining how strongly emotional stimuli prime the reflexive emotion system. When something sudden happens, we startle. If we are feeling calm and happy, we don't startle as much as when the threat system is primed. To prime the threat system, in this study children watch brief clips from G-rated movies. Some of the clips are happy, some neutral, and some a bit scary. While they are watching the clips, they periodically hear a burst of white noise that causes them to blink. These blinks are typically bigger when the white noise occurs during scary video clips. What we are trying to learn is whether the size of the blinks (which we measure using sensors placed near the eye) are greater for children with more difficult pre-adoption histories.

Emotion Processing Study continued on the next page...

Parents are providing us with information about the child's pre-adoption history and stresses in the child's life during the past year. Both children and parents are telling us about the children's typical emotional reactions. Together, the information in this study will help us learn whether internationally adopted children, especially those with more difficult early histories, react more strongly to mildly threatening events. Data collection on this project was completed this fall, with more than 100 children and their families participating in this research. Thank you to everyone who participated in this project! Analysis of this data is currently underway and we look forward to reporting the results of this study in next year's newsletter.

Join Your Friends!

The IAP registry was established in 2002 to encourage researchers to write more grants and conduct research regarding issues of concern to families who had adopted internationally. More than 4100 children have been registered to participate in future adoption research. It is important that we continue to gather families who have recently welcomed home a child so that our registry continues to represent the current international adoption community.

If you know any family whose child has just come home or has yet to join our registry, we would appreciate your making them aware of this registry. The families do not have to live in Minnesota, nor do they have to have adopted in Minnesota in order to be included in this registry. Any family with a child up to the age of 18 is welcome.

To learn more about this registry, please contact us at 612-624-9322 or email us at IAP@umn.edu. Families can also now join the IAP registry online at <http://www.education.umn.edu/icd/IAP/enroll.htm>.

Please update your contact info!

We want to ensure that we maintain current information for all of our registry families so that we can keep you apprised of new studies and results. If you've recently moved or have a new e-mail account address, please update your registry info by e-mailing IAP@umn.edu, calling 612-624-9322, or completing the enrollment form online at <http://www.education.umn.edu/icd/IAP/enroll.htm>.

If you want to access this and other past newsletters, they can be found on our website: <http://education.umn.edu/icd/iap>. We are also still happy to provide a paper copy of the newsletter upon request. Thanks for your help in keeping our registry current!



The International Adoption Project Fund

An opportunity to support our work through your tax deductible contribution

The University of Minnesota's International Adoption Project is dedicated to providing answers to families created through international adoption. Our registry currently holds more than 4100 internationally adopted children, giving researchers opportunities to explore questions specific to families created through international adoption. We have been very successful obtaining grants to cover the cost of research with internationally adopted children.

Unfortunately, those grants do not cover the costs of maintaining the registry and sending out the newsletter. If you would like to contribute to the support of these activities, please visit the University of Minnesota's foundation website for the International Adoption Project to make a tax deductible contribution: https://www.foundation.umn.edu/pls/dmsn/online_giving.frames_broker?owner=IAP

Any amount that you are willing to give is greatly appreciated. Because the University Foundation is overseeing this account, 100% of your donation will go directly to maintaining the registry and providing the newsletter. Your contribution will be anonymous. We feel that providing this research information to families and adoption professionals is worth the cost and we hope you feel the same. Thank you for considering supporting our work through your tax deductible contribution. If you have any further questions about this fund, please feel free to contact us at 612-624-9322 or by email at IAP@umn.edu. Thank you to all of you who contributed in the past!

Sincere thanks to the International Adoption Project Parent Board!

We would like to express our gratitude to the members of the IAP Parent Board, for their input and support of our research projects over the last four years:

Dave Casey
Patti Bower
Kate Brady

Peg Helminski
Cari Lee
Catherine Swensen