Adopted Chinese Infant Communication Development

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Demographics

- 1939 U.S. international adoptions began
- Between 1971-2001 265,677 children were adopted
- 2004-2005 over 43,000 child immigrant visas
- The last decade, foreign adoptions increased 300%
- From war-torn, impoverished, or politically unstable situations
- Including, Asian, Eastern European, African, and South and Central American countries

(Adoption.com, 2004, Adoption Institute, 2004)
Most children develop and catch up with their peers

Medical Risks

- Little medical history, difficulty reading medical information
- Fetal exposure to alcohol or other substances
- Un-repaired medical problems
- Exposure to toxins such as lead, PTSD, environmental hazards
- Lack of medical care and immunizations
- Malnutrition and institutional diseases
- General developmental and social-emotional concerns
- More medical clinics than developmental in the U.S.

Last count 7 developmental clinics

(Gindis, 1999; Judge, 1999; Nelson, 2000; Reaney, 2002)
Factors affecting Development

- Pre-adooption environment
  - Institution
  - Foster care
- Pre-adooption experiences
  - Nutrition
  - Stimulation
  - Socialization
  - Culture/language
- Transition experiences vary
  - Orphanage visit
  - Foster family visit
  - No visit
- Disrupted development
  - Adoption age
  - Institution environment
  - Number of transitions
  - Ethnic-identity
  - Family or sibling history
Separations

- Some children may experience multiple separations
  - From birth mother
  - From orphanage caregiver
  - From foster parent(s)
  - From transporter
Children in foster care improve dramatically
- Physical growth and development
- Cognitive development
- May continue to have social and behavioral delays (Fox, 2006 citing Johnson, et al.)
- Communication significantly different between children in foster care and institutional care
- Children in foster care were similar to nonadopted children (Windsor & Glaze, 2006; Koga, Windsor & Glaze, 2005)
Development of Attunement

- Insecure attachment
  - Avoidant:
    - ignores, turns away, or avoids
  - Resistant:
    - stays close, distressed upon separation, angry/resistive upon return
  - Disorganized:
    - confused about approach or avoids, distressed at separation, confused/dazed upon return

- From birth: attachment 7-9 months
- Post-adoption: clinically reported 7-12 months
  (Gray, 2002)
Bonding/Attachment/Attunement

- Bonding/attachment
  - The process of creating a close relationship from which the child builds a framework for future relationships
  - Foundation for security and confidence for learning

- Attunement
  - Family system functioning-relationship circles
  - Negative experiences within the first 2 years of life negatively impact future bonding/attachment/attunement
Other Barriers to Bonding

- Abrupt loss of parent through death or illness
- Multiple caretakers
- Invasive or painful medical procedures
- Hospitalization
- Abuse/neglect
- Mother’s poor prenatal care
- Prenatal alcohol or drug exposure
- Neurological problems
Feeling Safe and Secure

“Real communication happens when people feel safe.”
Ken Blanchard, The Heart of a Leader.

Communication
- Begins with listening
- Comes from intention
- Continues if successful
- Is refined through mediation
Growth and Motor

- 1 month of growth delay for every 3.4 (2.86) months in an institution
- Stature more than weight
- Head growth
- Prematurity, SGA, LBW, VLBW
  (Johnson & Dole, 2000; Miller & Hendrie, 2000)

Gross motor
- 70% Romanian >12 months

Fine motor
- 82%

Sensory motor
- Tactile defensiveness
- Pain agnosia
- Oral motor-omnivorous
  (Cermak & Daunhauer, 1997; Haradon, Bascom, Dragomir, & Scripini, 1994; Johnson & Dole, 2000)
Hearing and Vision

- Otitus media often untreated
- Hearing loss often undetected
- Not the same hearing experiences
  - Often diagnosed with CAPD and/or ADHD
  - Unknown developmental profile
- Need to test hearing
  - (English, 2000)

- Prematurity - Biologic risk
- Unmonitored oxygen intake
- Strabismus common
  - (Johnson & Dole, 2000)
Cognitive Development

In country vs. international adoptions:
- No differences in cognitive abilities for in-country adopted and typical children
- < 6 months institutionalized - no difference between non-adopted Romanian children
- > 6 months - 15-25 point difference
- Persisting delays at age 11 (Rutter, 2006)

Post-adoption development
- 2 months cognitive growth/each month during 1st year PA
- After 3rd year PA less progress for older children
- Indian children had increased deficits in preschool and school
- Korean children had no cognitive differences (Frydman & Lynn, 1989; Goodman & Kim, 1997; Johnson & Dole, 2000; Wadsworth, DeFries, & Fulker, 1993)
Social-emotional Development

- IA children better adjusted than domestic adoptions
  - Adopted before 6 months of age
- Eastern European adopted children
  - 25% ADD/ADHD
  - 6.8% Attachment disorder
  - 59.1% received one or more special services
- Maternal sensitivity and child temperament predicted later socioemotional and cognitive development
  - At 3 not 7
  - Increased behavioral and learning problems at age 7-8 (Glennen & Bright, 2005; Juffer & van IJzendoorn, 2005; Stams, Juffer, & van IJzendoorn, 2002)
General Trends-Eastern European

- Adopted children from Eastern Europe
  - More research available
  - Increased risk of fetal alcohol exposure or syndrome
  - Earlier age of adoption - less risk
  - Higher incidence of later special education needs (55%)
    - Social-emotional delays or issues
    - Communication delays

Asian and Latin American Children

- **Chinese and Korean**
  - Higher IQs particularly in nonverbal areas
  - Industrialized nations provide better care
  - Adaptive social maturity
  - Increase in foster care
    (Clark & Hanisee, 1982; Frydman & Lynn, 1989; Stams, Juffer, Rispens, & Hoksbergen, 2000)

- **Latin American**
  - (Guatemala, El Salvador, Columbia, Chile, Brazil, or Paraguay)
  - Better medical care
  - More foster care
  - Prematurity, exposure to substance abuse
  - Increased genetic problems
    (Federici, 2000)
Eastern European Communication

- Adopted at 12-24 months
- Comparative to English-speaking children’s normative data by 12-14 months PA
  - CSBS-DP: Total score ≥ 81, Subtest score ≥ 6
  - MCDI
    - At least 1 word by 12-18 months
    - > 6 words by 19-24 months
- CELF-P and CELF-4
- Brown’s morpheme acquisition similar but delayed approximately 9 months (Glennon, 2005, Pollock, 2005)
Communication of Chinese children

- Adopted children from China
  - Less available research
  - Less risk of substance abuse
  - Age of adoption + exposure to English
  - Vocabulary and behavior surveys
    - Fewer social emotional delays and issues
    - Less indication of a vocabulary delay
    - No long-term follow-up studies
  - 80% Catch-up within 2-3 years post-adoption
    (Roberts, et al, 2005)
Research Questions

- What is the monthly vocabulary comprehension and expression development in infants adopted from China?

- What is the monthly communication and symbolic behavior development in infants adopted from China?
Sample

- 4 children
  - 3 followed from 1 month post through 12 months post adoption
  - 1 followed from 6 months post to 12 months post-adoption
  - C1, C3, & C4 from 2 parent homes
  - C2 from a single parent home
  - C1, C2, C3 had older adopted sisters
  - C4 was an only child
# Participant Characteristics

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
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</thead>
<tbody>
<tr>
<td><strong>Adoption age</strong></td>
<td>13 months</td>
<td>11 months</td>
<td>12 months</td>
<td>13 months</td>
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<tr>
<td><strong>Parents</strong></td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Older Sibling</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
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<tr>
<td><strong>Months of testing post-adoption</strong></td>
<td>6-12 months</td>
<td>1-12 months</td>
<td>1-12 months</td>
<td>1-12 months</td>
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Measures

- MacArthur CDI
- CSBS-DP
- Hearing Screening
CSBS-DP

- CSBS-DP Social Composite:
  - emotion and eye gaze (face-object-face, affective states, gaze-point follow)
  - communication functions (regulate behavior, draw attention, joint attention, unclear)
  - gestures for intention

- CSBS-DP Speech Composite:
  - sounds (CV)
  - words

- CSBS-DP Symbolic Composite:
  - understanding labels/names & body parts
  - object use
Procedures

- All children passed a hearing screening
- Each month caregivers completed the MCDI
- The CSBS-DP was administered
- The mother was present during all procedures.
Results

- ¾ children achieved
  - categorical scores of 6+ and Total Scores 81+ by 6 months
  - 50+ expressive vocabulary by 12 months
  - Great monthly variability in performance
  - Parent questionnaires subscale and total scores were >6 and 81 by 6 months PA
- 2/4 received early intervention
MCDI Words Understood

![Graph showing the mean words understood over months post adoption for different IDs.]

- **Y-axis**: Mean words understood
- **X-axis**: Month post adoption
- **Legend**:
  - ID 1
  - ID 2
  - ID 3
  - ID 4
MCDI Phrases Understood
MCDI Words Expressed
MCDI Gestures

![Graph showing mean total gestures over months post adoption for different IDs](image)
CSBS-DP Total Scores

Mean total score (behavior sample)

Time of Assessment

ID
1
2
3
4
CSBS Social Composite

![Graph showing mean social composite over time](image-url)
CSBS Speech Composite
CSBS Symbolic Behavior Composite

Mean symbolic composite (behavior sample) over time for different ID groups.
2 Years Post

- **CELF-P2**
  - C1 received treatment for phonological delays
    - Receptive scores 96, SD 7, CI 89-103
    - Expressive scores 87, SD 6, CI 79-93
  - C2
    - Receptive scores 79, SD 8, CI 71-87
    - Expressive scores 83, SD 7, CI 76-90
  - C3
    - Receptive scores 92, SD 7, CI 86-98
    - Expressive scores 85, SD 6, CI 79-91
  - C4 received EI services for social and gross motor delays
    - 23 months PA -5 word utterances reported
Implications for Practice

- Great variability across time
- By 6 months PA, ¾ children met Glennen’s pass guidelines for Eastern European children
- Receptive acquisition progressed rapidly & consistently
- Expressive acquisition initiated around 10-12 months PA
- All showed declined at 7 months PA when motor skills and attachment were developing
- Communicative functions and symbolic behaviors seem to develop regardless of culture or language
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