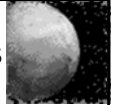


## Internationally Adopted Immigrant Children: Regional Variations

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## International Adoptions



- Increasing in numbers
- Approximately 20,000 children annually
- Children are at risk for
  - Infectious diseases
  - Malnutrition and neglect
  - Developmental delay
  - Delays in relationship development

## Communication and Relationship Development

- Children learn to communicate within a safe and secure relationship context
- Communication
  - Begins with listening
  - Comes from intention
  - Continues if successful
  - Is refined through mediation
- Children are nested within a family system (Bronfenbrenner, 1979)



## Relationship Development

- Bonding/attachment
  - The relationship development process
    - From birth: 3-4 months to 3 years
    - Post-adoption: 7-12 months
  - Framework for future relationships
  - Foundation for security and confidence for learning (Bowlby, 1969, 1988)
- Attunement
  - Family system functioning
  - Negative experiences within the first 2 years of life may negatively impact future relationships

## Types of Attachment

- Assessments
  - Strange Situation (Ainsworth et al., 1978)
  - Attachment Interview (Crittendon, 1998)
- Insecure attachment types
  - 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

## Barriers to Bonding

- Abrupt loss of parent
- Multiple caretakers
- Invasive or painful medical procedures
- Hospitalization
- Abuse/neglect
- Mother's poor prenatal care
- Prenatal alcohol or drug exposure
- Neurological problems
- Community view

## Separations

- Some children may experience multiple separations
  - From birth mother
  - Orphanage
  - Foster care (transporter)
  - Adoptive family



## Communication Issues

- Children learning birth language then adopt a new language
  - IA children learn an adopted language
  - IA children lose birth language by 3-6 months
  - Different developmental trajectory than multilingual children

## Younger than 12 months

- Parent report measures of development for Eastern European and Chinese children
  - MacArthur-Bates Communication Development Inventory (MCDI)
  - Vocabulary comprehension >20<sup>th</sup> %ile >47 DQ
  - Expressive vocabulary >20<sup>th</sup> %ile
  - Language Development Survey (LDS)
- Comprehension most predictive

(Glennen & Masters, 2002; Hwa-Froelich, Glennen, Pollock, Roberts, Scott, Krakow, 2006; Pollock, 2005)

## <6 months Post-Adoption (PA)

- CA between 11-23 mo., Eastern European
- Initial assessment:
  - CSBS-DP
    - $\geq 6$  for each subscale score
    - $\geq 80$  for total score
  - MCDI Age <24 mo:
    - Comprehended 58.11-68.40 (20<sup>th</sup>%ile) DQ of 47
    - Expressed 16.94-19.42 (20<sup>th</sup> %ile) DQ of 47
  - 85% Comparative to English speakers
  - Refer if CSBS Total scores <80
  - MCDI WC < 47 Glennen, 2005, 2007a



## 12-14 Months PA

- Assessment of Eastern European children adopted between 11-23 mo.
  - MCDI, Age >24 months
    - > 65 words expressed
    - MLU standard score equivalent >64
  - PLS-4 >80
  - -ing, -ed, plural and possessive -s similar acquisition but delayed approximately 9 months

## Communication of Chinese children

- Adopted children from China
  - 80% Catch-up within 2-3 years post-adoption (Roberts, et al, 2005)
  - Vocabulary and behavior surveys
    - Fewer social emotional delays and issues
    - Less indication of a vocabulary delay
    - Few long-term follow-up studies



## Clinical Implications-Older Children

- Preliminary findings with older IA children (2.0-4.11)
  - One year PA
  - $\pm 80$ SS Receptive on PLS-4 or CELF-P2 (Glennen, 2007b)
  - 2 years PA
  - Preliminary data indicate  $\pm 90$ SS on receptive and expressive (n=10)

## Procedures

- Recruited families prior to and immediately after adoption
- Counterbalanced hearing screening
- Tested children within 6 months post-adoption
- Retested at 12 months PA

## Study Sample at 6 mo. PA

- 28 children
  - 13 Asian; 13 Eastern European; 2 children from Guatemala
  - 9 Males and 19 females
  - 5 single parents
  - 6 were in foster care
- Evaluation Age:
  - (M=19.18, SD=8.83)
  - Older EE children
- Age at adoption:
  - M=15.57, SD=8.65
  - 2 < 12 months
- Evaluated between 1-6 months post adoption
  - (M=4.00, SD=1.61)
- Siblings M=1.43, SD=.50

## Measures at 6 mo. PA

- Speech and language measures
- MacArthur CDI
- Hearing screening
  - Otoscopic examination
  - Sound field
  - Immitance testing
- Communication and Symbolic Behavior Scale-Developmental Profile
- Play assessment

## Hearing Results at 6 mo. PA

- 7 (25%) children failed hearing screening
  - No sensory-neural hearing loss
  - 4 failed sound field and immitance
    - Uncooperative or could not condition
  - 3 failed immitance only
- Evidence of recurrent otitis media
- Children show few outward symptoms

## MCDI Results at 6 mo. PA

- Words understood (N=25)
  - M= 84.35(80.57)
- Phrases understood
  - M= 15.27(11.22)
- Words produced
  - M= 18.35(28.94)
- No Country differences
- Developmental quotients
  - Words understood 71.25(17.84)
  - Phrases 73.30(19.96)
  - Words produced 78.48(15.15)
  - One had DQ < 47

## CSBS-DP at 6 mo. PA

- Social M= 10.96(3.42)
- Speech M= 8.52(1.75)
- Symbolic M= 8.00(2.56)
- CSBS-Total M= 91.52(10.85)
- No country differences

## CSBS-DP Results

- 19/21 (91%) children scored  $\geq 80$  total
  - 3 children were < 12 months old
- 17/21 (81%) scored >6 on all subtests
  - 5 children scored a 5 or 6 in symbolic area
    - 2 Guatemalan, 2 Eastern European, 1 Asian
  - 1 Asian child: 2 scores < 6 & 73 total
  - 1 Eastern European child: 1 score < 6 & 80
  - 1 Latino child: 1 score < 6 and total < 81
  - 1 was ill, 1 had oral/sensory motor issues

11 months



24 months



## Older Children

- 5 children older than 24 months
  - PLS-4 scores: 3 < 36 mo., 1-4 mo. PA
    - Asian Receptive 81, Expressive 89, Total 84
    - EE Receptive 102, Expressive 68, Total 84
    - EE Receptive 84, Expressive 85, Total 83
  - 2 > 36 months, 6 months PA
    - CELF-P2 scores both Eastern European
      - 59 Receptive, 63 Expressive, 59 Core\*
      - 85 Receptive, 79 Expressive, 71 Core

## Attachment at 6 mo. PA

- 0= no behavior change when parents left or returned
- 1= behavior change only when parents left or returned
- 2= increased behavior change when parents left and returned
- 3= awareness parents left, some self-regulation occurs, shows positive behavior when they return, returns to play

## Attachment Results

- 0 rating=6 cases
- 1 rating=7 cases
- 2 rating=5 cases
- 3 rating=10 cases
- 22/28 (79%) children show emerging attachment development
- Scores were not related to months PA or age

## 0-1 ratings



## 2 rating



## 3 rating



## 3 rating



## 12 months post

- 20/28 (71%)
- 7 Males, 13 females
- Seen 12-14 mo. PA (M=12.60, sd=.681)
- Eastern Europe (11)  
CA M=34.18, sd=10.46
- CA M=29.70(9.41); range 19-60 mo.
- Asia (8)  
CA M=24.88, sd=3.09
- Latin America (1)  
CA=19.00

## Language Results

- Standard Scores
  - M=97.10, sd=11.78
  - Eastern European M=93.55, sd=11.00
  - Asian M=102.25, sd=12.36
- Group language differences not significant
  - Z=-1.659, p=.097
- Group age differences significant
  - Z=-2.617, p=.009

## Children Needing Help

- E2: <47 DQ on words comprehended, CSBS-DP Symbolic < 6
  - 12 mo PA continued delays
  - A 81, E 91, Total 85
  - Insecurely attached
- E9 <80 CELF-P2 expressive
  - Continued delays and behavior problems
  - R 88, E 67, Total 86
  - Insecurely attached
- E7 PLS-E 68 other + 80 & E13 + 80 PLS attention/behavior problems
- E1 scored 80 total, 5 symbolic on CSBS-DP, received help
  - No 12 mo PA data
  - 24 mo PA continued sensory and social-emotional problems
- A11 scored <80 on CSBS-DP (III)
  - 12 mo PA caught up with peers
  - A 109, E 91, Total 100
  - Securely attached

## Regional Differences

- Children from Eastern Europe
  - Older for the 12 mo. PA sample
  - 5/11 (45%) language or social-emotional issues by 12 or 24 months PA
- Early indicators include
  - low symbolic score on CSBS-DP
  - < 47 DQ on MCDI-WC
  - <80 on PLS-4 or CELF-P2

## Discussion

- 5 children at 1-6 mo PA
  - below 47 DQ on MCDI WC
  - 80 on CSBS-DP, <6 on CSBS-DP subtest
  - <80 on PLS-4 or CELF-P2
- 4/5 children had continued problems
- 1 developed social-emotional issues
- Differences may be
  - gender-related
  - Related to a later adoption age
- Need to research attachment, caregiver sensitivity, and relationships with communication

## Clinical Implications

- Adoptive parents unaware of presence of otitis media early post-adoption
- Most of the hearing issues resolved by 12 mo. PA
- No differences found between country of origin in communication development at 0-6 or 12 mo. PA

## Clinical Implications-Language

- IA children adopted 12-24 months
  - Identify children with communication disorders within 6 months PA using
  - CSBS-DP + MCDI words understood
  - PLS-4/CELF-P2
- Referral indicators confirmed
  - Refer if CSBS-DP speech subtest <6
  - CSBS-DP total < 80
  - DQ for MCDI words understood <47
  - PLS-4 or CELF-P2 falls below 80

## Clinical Implications-Social-Emotional

- 5 children from Eastern Europe demonstrated social-emotional problems by 12 mo PA
- 2/5 had comorbid communication deficits
- 1/5 had comorbid sensory and social-emotional problems
- 1/5 is female

## Future

- With these data
  - Children needing services can be identified earlier
  - Early intervention can be provided
- More research is needed to understand
  - The relationship of social-emotional development and communication development
  - The relationship of attachment/attunement with adoption and development
  - Early indicators for later language delays

## Collaborators

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