

Tuesday June 20, 2006

		7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm		
Westin Miyako Northwest Hooh		9:00a - 10:50a [004] - Near-infrared spectroscopy for functional studies of brain activity in infants: Promise, prospects, and challenges			11:10a - 1:00p [013] - Age-linked Regression Periods in Human Infancy									
		7:30a - 8:50a [002] - Breakfast Roundtable - TBA (Tue.)					11:10a - 1:00p [014] - Models of Infant Development: Are We Really Serious about Environmental Interaction and Dynamics?			2:00p - 3:50p [022] - Jealousy: Early Expressions And Their Interpretation in Light of Child, Family, And Cultural Influences		4:10p - 6:00p [030] - Infants' social cognition: Perception of intentions and goal-directed actions.		
Westin Miyako Northwest Yamashiro East		9:00a - 9:50a [007] - Invited talk: Joan Stiles - Liguistic and Spacial Cognitive Development Following Early Focal Brain Injury: Evidence for Adoptive Change in Brain Cognition		10:00a - 10:50a [009] - Invited Talk: George Michel - A Developmental Psychobiological Approach to the Development of Infant Handedness		11:10a - 1:00p [017] - Invited Symposium - General Movement			2:00p - 2:50p [025] - Invited talk: David Anderson - Critical Periods in Development		3:00p - 3:50p [027] - Invited talk: Alison Gopnik - Babies and Bayes Nets: Causal learning in infancy		4:10p - 5:00p [033] - Invited talk: Hideaki Koizumi - Building bridges between brain-science and childcare	
		9:00a - 10:50a [008] - Infants' conceptual representation of intentional agent			11:10a - 1:00p [018] - Using research findings to inform policy, practice, & training on behalf of young children & families			2:00p - 3:50p [026] - The Infant's Developing Visual Brain: Dorsal and Ventral Cortical Streams in Normal and Atypical Development.			4:10p - 6:00p [034] - Autoregulatory Effects on Multiple Developmental Outcomes in Diverse High-Risk Infant Cohorts			
Westin Miyako Southeast Colonade Mezzanine & Hiei		9:00a - 10:50a [003] - Poster Session A: Communication and Language / Early Environments and Social Policy / Undergraduate Research			11:10a - 1:00p [010] - Poster Session B: Motor and Sensorimotor Behavior / Psychopathology and Developmental Delay			2:00p - 3:50p [019] - Poster Session C: Culture and Social Development / Biological Processes			4:10p - 6:00p [028] - Poster Session D: Cognition, Memory and Learning			
Westin Miyako Southeast Cosmos		7:30a - 8:50a [001] - Breakfast Roundtable - Becoming an Interdisciplinary Developmental Scientist					11:10a - 1:00p [011] - The Role of Function Words in Early Language Development			2:00p - 3:50p [020] - How the speech signal affects word learning, and vice-versa		4:10p - 6:00p [029] - The Interaction of Phonetics and Phonotactics in Infant Speech Perception		
Westin Miyako Southeast Hiei					11:10a - 1:00p [012] - Poster Symposium - Assessment and Design of Intervention Programs			2:00p - 3:50p [021] - Poster Symposium - Does input shape language and conceptual development?						
Westin Miyako Southeast Mizuho 1		9:00a - 10:50a [005] - Paper Session: Infant - Caregiver Relationship			11:10a - 1:00p [015] - Paper Session: Acquiring Linguistic Categories			2:00p - 3:50p [023] - Paper Session: Organic Disorders			4:10p - 6:00p [031] - Paper Session: Topics in Perception and Action (One Hour)			
Westin Miyako Southeast Mizuho 2		9:00a - 10:50a [006] - Paper Session: Individual Differences and Neural Bases of Early Language Acquisition			11:10a - 1:00p [016] - The effects of early experience and culture on the "other-race effect"			2:00p - 3:50p [024] - Paper Session: Vision and Object Knowledge			4:10p - 6:00p [032] - Paper Session: Topics in Complex Cognitive-Emotional Processes (One Hour)			

Wednesday June 21, 2006

	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm
Westin Miyako Northwest Hooh			9:00a - 10:50a [039] - New Perspectives on Behavioral Organization in the Preterm Infant		11:10a - 1:00p [047] - When Does Infant Negative Temperament Adversely Affect Caregiving: Typically or in High-Risk Conditions?					4:10p - 6:00p [058] - Constraints on learning mechanisms in 4 basic developmental domains: objects, music, phonology, and syntax	
Westin Miyako Northwest Minori		7:30a - 8:50a [036] - Breakfast Roundtable - TBA (Wed.)	9:00a - 10:50a [040] - Parent-Infant Goodness-of-Fit as a Relationship Predictor of Later Adaptation		11:10a - 1:00p [048] - The Role of Brain Development in Cognitive Development: Computational Models					4:10p - 6:00p [059] - Beyond infancy: Attachment representations in young childhood	
Westin Miyako Northwest Yamashiro East			9:00a - 10:50a [043] - Invited Symposium: Asian Perspectives of Infant Study - Sponsored by the Art Corporation		11:10a - 1:00p [051] - Invited Symposium - Perspectives on Emotional Development					4:10p - 6:00p [060] - Founder's Symposium - Infant Studies and Baby Science in the Future - Sponsored by the Benesse Corporation	
Westin Miyako Northwest Yamashiro West			9:00a - 10:50a [044] - Mechanisms of face perception in infancy		11:10a - 1:00p [052] - New findings on infants' understanding of false beliefs					4:10p - 6:00p [061] - Rich stimulation obtained by infants in natural contexts: Locomotion, visual attention, and word learning	
Westin Miyako Southeast Colonade Mezzanine & Hiei			9:00a - 10:50a [037] - Poster Session E: Communication and Language		11:10a - 1:00p [045] - Poster Session F: Perception and Attention					4:10p - 6:00p [055] - Poster Session G: Perception and Attention / Infant in Family Context	
Westin Miyako Southeast Cosmos		7:30a - 8:50a [035] - Breakfast Roundtable - Internationalizing Infancy Research	9:00a - 10:50a [038] - Understanding developing brain		11:10a - 1:00p [046] - Intentional Understanding and Language Development: Multiple and Reciprocal Relations					4:10p - 6:00p [056] - Lexical Representations and Representational Change	
Westin Miyako Southeast Hiei										4:10p - 6:00p [057] - Poster Symposium - Parent-Infant Interaction During the First Year: Individual, Contextual, and Cultural Differences	
Westin Miyako Southeast Mizuho 1			9:00a - 10:50a [041] - How Socio-pragmatic and Linguistic Experience Guide Infants' and Toddlers' Mapping of Novel Labels to Objects		11:10a - 1:00p [049] - Paper Session: Familial Distress and Dysfunction		2:00p - 2:45p [053] - ISIS Business Meeting	3:00p - 3:50p [054] - Presidential Address (in all of the Mizuho Ballroom)			
Westin Miyako Southeast Mizuho 2			9:00a - 10:50a [042] - Paper Session: Motor Development - Full Term and Pre-Term		11:10a - 1:00p [050] - Paper Session: Audition						

Thursday June 22, 2006

	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm
Westin Miyako Northwest Hooh			9:00a - 10:50a [067] - Is cognitive development domain-specific or domain-general? The role of environmental influences on developmental timing					2:00p - 3:50p [080] - Play, games and cultural learning.			4:10p - 6:00p [088] - What does it mean to communicate (with a person)?
Westin Miyako Northwest Minori		7:30a - 8:50a [063] - Breakfast Roundtable - TBA (Thu.)	9:00a - 10:50a [068] - Developing crossmodal representations of objects and space			11:10a - 1:00p [075] - Research Generation Symposium - Toward a Science of Functional Behavior		2:00p - 3:50p [081] - Studying Emotion Regulation from the Bottom-Up: A Focus on Questions and Methods			4:10p - 6:00p [089] - Creation of constraints in motor learning and memory in young infants
Westin Miyako Northwest Yamashiro East			9:00a - 10:50a [071] - Invited Symposium - Gaze and Attention			11:10a - 1:00p [077] - Invited Symposium - What we can learn by studying infants learning a non-European language: Phonological foundations for word learning in Japanese		2:00p - 2:50p [084] - Invited talk: Claes von Hofsten - An action perspective on early cognitive development	3:00p - 3:50p [086] - Invited talk: Catherine Best - Tuning in to native speech patterns: Infants' perception of non-native speech contrasts		4:10p - 6:00p [092] - Invited Symposium - Developmental Cognitive Robotics
Westin Miyako Northwest Yamashiro West			9:00a - 10:50a [072] - Broadening Views of Joint Attention in Mother-Toddler Interaction			11:10a - 1:00p [078] - The Role of Language in the Representation for Object Properties and Kind in Comparative Studies		2:00p - 3:50p [085] - Reasoning about others' perceptions			4:10p - 6:00p [093] - Perception and Representation of Objects through Occlusion
Westin Miyako Southeast Colonade Mezzanine & Hiei			9:00a - 10:50a [064] - Poster Session H: Cognition, Memory and Learning / Robotics			11:10a - 1:00p [073] - Poster Session I: Emotional Development / High Risk and Pediatric					
Westin Miyako Southeast Cosmos		7:30a - 8:50a [062] - Breakfast Roundtable - Breakfast with the Editors	9:00a - 10:50a [065] - Artificial language research with infants: Weighing the pros and cons			11:10a - 1:00p [074] - Developmental Issues in Visual Speech Processing		2:00p - 3:50p [079] - Representation of phonetic detail in early lexical forms			4:10p - 6:00p [087] - Invariance Detection and Speech-Language Development: What is the Mechanism?
Westin Miyako Southeast Hiei			9:00a - 10:50a [066] - Poster Symposium - Parents' Internal Working Models of Caregiving for Infants with a Congenital Heart Defect and Medical, Behavioral, and Physiologic Correlates								
Westin Miyako Southeast Mizuho 1			9:00a - 10:50a [069] - Paper Session: Categorization and Behavior					2:00p - 3:50p [082] - Paper Session: Objects and Words			4:10p - 6:00p [090] - Paper Session: Topics in Early Experience
Westin Miyako Southeast Mizuho 2			9:00a - 10:50a [070] - Paper Session: Communication and Socialization			11:10a - 1:00p [076] - Paper Session: Auditory Discrimination in Language Acquisition		2:00p - 3:50p [083] - Paper Session: Diverse Perspectives on Approaches to Infancy			4:10p - 6:00p [091] - Paper Session: Issues in Neonatal Health

001

Becoming an Interdisciplinary Developmental Scientist

Tuesday
7:30-8:50 am
Cosmos

ISIS

Organizer/Moderator:

Gedeon Deák, University of California, San Diego, United States

An informal discussion of the opportunities, challenges and benefits of taking an interdisciplinary approach to developmental research.

002

Breakfast Roundtable - TBA (Tue.)

Tuesday
7:30-8:50 am
Minori

ISIS

Organizer/Moderator:

Carl Frankel, University of California, Berkeley, USA

None Yet.

003

Poster Session A: Communication and Language

Tuesday
9:00-10:50 am
Colonade
Mezzanine & Hiei

Communication and Language

Participants

Poser Bay 01 - Birth Order Moderates Temperament-Vocabulary Relationships

*Wallace Dixon, East Tennessee State University, United States

*Courtney M snyder, East Tennessee State University

Poser Bay 02 - Can Older Infants Learn Non-Linguistic Sounds as Labels?

*Jessica Lunsford, University of Virginia, U.S.A

Vikram Jaswal, University of Virginia, USA

Poser Bay 03 - Cohort study to examine effects of perinatal exposures to methylmercury and PCBs on neurobehavioral development

*Keita Suzuki, Human Development and Disabilities, Tohoku University Graduate School of Education, Japan

Kunihiko Nakai, Environmental Health Sciences, Tohoku University Graduate School of Medicine

Toru Hosokawa, Department of Human Development, Tohoku University Graduate School of Education

Kunihiro Okamura, Department of Obstetrics, Tohoku University Graduate School of Medicine

Takeo Sakai, Miyagi Childrens Hospital

Satomi Kameo, Environmental Health Sciences, Tohoku University Graduate School of Medicine

Hiroshi Satoh, Environmental Health Sciences, Tohoku University Graduate School of Medicine

Poser Bay 04 - Continuous Ratings of Infant and Parent Emotional Expressivity

*Jessica Linick, University of Miami, USA

Daniel Messinger, University of Miami, US

John D. Haltigan, University of Miami

Poser Bay 05 - Coparenting, Children's Compliance, and Early Conscience Development Within the Family

*Allison Groenendyk, University of Michigan, United States

Brenda L. Volling, University of Michigan

Poser Bay 06 - Did sociodemographic factors associated with ID change in two birth cohorts with an interval of 20 years?

*Ulla Heikura, University of Oulu, Finland

Sirkka-Liisa Linna, Clinic of Child Psychiatry, University Hospital of Oulu

Anna-Liisa Hartikainen, Department of Obstetrics and Gynecology, University Hospital of Oulu

Anja Taanila, Department of Public Health Science and General Practice, University of Oulu

Päivi Olsen, Department of Child Neurology, University Central Hospital, Oulu

Poster Session A: Communication and Language

Lennart von Wendt, Department of Child Neurology, University Central Hospital, Helsinki
 Marjo-Riitta Järvelin, Department of Epidemiology and Public Health, Imperial College School of
 Medicine, London, UK

- Poser Bay 07** - Fundamental study of "Development of Motherhood" learning program -
 Psychological, physiological, and endocrinological evaluations of first-hand learning about infants-
 *Ayako Sasaki, Department of Maternity, Child Health Nursing, and Midwifery, Faculty of Medical
 Sciences, University of Fukui, Japan
 Akio Nakai, Department of Pediatrics, Faculty of Medical Sciences, University of Fukui, Japan
 Ken-ichi Matsuki, Department of Developmental Sciences, Faculty of Education and Regional
 Studies, University of Fukui, Japan
 Michiko Tanabe, Department of Maternity, Child Health Nursing, and Midwifery, Faculty of Medical
 Sciences, University of Fukui, Japan
- Poser Bay 08** - General Cognitive Functioning in "Fast-Mapping" and Symbolic Play
 Elizabeth A. Harkleroad, East Tennessee State University
 *Wallace Dixon, East Tennessee State University, United States
- Poser Bay 09** - Hyperarticulation in Mothers' Speech to Babies and Puppies
 *HoJin Kim, Virginia Tech
 Maria M Diehl, Virginia Tech
 Robin Panneton, Virginia Tech, USA
 Christine Moon, Pacific Lutheran University
- Poser Bay 10** - Social Referencing, But Not Temperament, is Related to Infant Habituation
 *Christine E. Carr, Georgia College & State University, USA
 *Karen Bendersky, Georgia College & State University, USA
- Poser Bay 11** - Statistical Cross-Situational Learning in Word-to-World Mapping
 *Chen Yu, Indiana University, USA
 Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University
- Poser Bay 12** - Testing the limits of statistical language learning
 *Michael Douglas Tyler, MARCS Auditory Laboratories, University of Western Sydney, Australia,
 Australia
 Elizabeth Kay Johnson, Max Planck Institute for Psycholinguistics, The Netherlands
- Poser Bay 13** - The Perception of Lexical Tones in One-year-old Mandarin-learning Infants
 *Feng-Ming Tsao, National Taiwan University, TAIWAN
 Huei-Mei Liu, Department of Special Education, Taiwan
 Yi-Ju Hsiao, Department of Psychology, National Taiwan University
- Poser Bay 14** - The "Switch" Design in Word-Learning Research: a Meta-Analysis
 *Krista N. Byers-Heinlein, Department of Psychology, University of British Columbia, Canada
 Henny Yeung, Department of Psychology, University of British Columbia, Canada
 Jeremy C. Biesanz, Psychology Department, University of British Columbia
 Janet F. Werker, Department of Psychology, University of British Columbia
- Poser Bay 15** - The Acquisition of Korean Grammatical Functions in Korean-Chinese Bilingual
 Infants
 *Kwee Ock Lee, Kyungsoong University
 *Hyoung Jai Kim, Kyungsoong University, Korea
- Poser Bay 16** - The baby cry as proto-language
 *Yulri Nonaka, Laboratory for Biolinguistics, BSI, RIKEN, JAPAN
 Noriko Kudo, Laboratory for Biolinguistics, BSI, RIKEN
 Kazuo Okanoya, Laboratory for Biolinguistics, BSI, RIKEN
- Poser Bay 17** - The Development of Gestures in the Early Communication of Korean Infants
 *Yun-Young Choi, Hansol Education Research Center, Korea
 You-Kyung Chang-Song, Hansol Educational Research Center
 So-Yeun Kim-Choi, Hansol Education HRD. Dept. Education Team 3
- Poser Bay 18** - The influence of nonwords on recognizing words
 *Kyle Chambers, University of Rochester, USA
 Kristine H. Onishi, McGill University
 Yvette Wu, McGill University
 Janice Lomibao, University of Rochester

Poster Session A: Communication and Language

- Poser Bay 19 -** The levels of maternal trait anxiety and to determine the stress hormone in pregnant women at 30 weeks of gestation
 *IKUKO MAKINO, Dep. of Infant Brain & Cognitive Development Tokyo Womens medical University, Japan
 YOSHIO MATSUDA, Departments of Obstetric and Gynecology Tokyo
 Kyoko Hirasawa, Dept of Infants' Brain & Cognitive Development Tokyo Women's Medical University, Japan
 MARIE YONEYAMA, Maternal & Perinatal center Tokyo Women's
 JUNKO SAKANO, Okayama Prefectural University
 HIROAKI OTA, Departments of Obstetric and Gynecology Tokyo
 Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's
- Poser Bay 20 -** The Neurodevelopmental Basis of Speech Discrimination in Infants and Toddlers
 *Valerie L. Shafer, The Graduate Center, City University of New York
 *Karen Garrido-Nag, The Graduate Center, City University of New York, USA
 Hia Datta, The Graduate Center, City University of New York
 Nancy Vidal, The Graduate Center, City University of New York
- Poser Bay 21 -** The relationship between Korean infants' joint attention and language development
 *Kwee Ock Lee, Kyungsoong University
 Hae-Ryoun Lee, researcher, south Korea
- Poser Bay 22 -** The role of conceptual information in early word learning - automatic or deliberative processes?
 *Eliana Colunga, University of Colorado, Boulder, United States
- Poser Bay 23 -** The Study on Korean Mothers' Knowledge about Child Development and Child-Rearing
 *Keunyoung Lee, Hansol Educational Research Center, Korea
 You-Kyung Chang-Song, Hansol Educational Research Center
 Hyunjung Lim, SookMyung Woman University
- Poser Bay 24 -** The Uniqueness of Language to Enable Pre-Linguistic Infants to Form Motion Categories
 *Micah Goldwater, University of Texas At Austin, USA
 Jason Brunt, University of Texas, USA
 Catharine Echols, University of Texas at Austin
- Poser Bay 25 -** The Vocabulary Development in Early Infancy: The short-term longitudinal study from 8-18 month
 Jiyeon Lee, Hansol Educational Research Center, Korea
 *You-Kyung Chang-Song, Hansol Educational Research Center
- Poser Bay 26 -** Tracking Attentional and Labeling Influences on Looking Behavior of 13 and 18-months olds.
 *Jason Brunt, University of Texas, USA
 Leslie B Cohen, University of Texas
- Poser Bay 27 -** Transition from pre-verbal to verbal communication. Making sense at the transition periods in two different contexts
 *Kaisa Jakkula, University of Oulu, Finland
- Poser Bay 28 -** Turning Novel Names Into Known Names: Understanding the Processes of Fast Mapping and Word Learning
 *Jessica Suzanne Horst, University of Iowa, USA
 Larissa Kathryn Samuelson, University of Iowa
- Poser Bay 29 -** Twelve- and 18-month-olds' visual and auditory communication when a partner is or is not visually attending
 *Ulf Liszkowski, Max-Planck-Institute for Evolutionary Anthropology, Germany
 Konstanze Albrecht, Universität Leipzig
 Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 30 -** U-shaped Development of Infants' Ability to Perceive Word-final Consonant Sequences
 *Laurel Fais, Department of Psychology, University of British Columbia, Canada

Poster Session A: Communication and Language

Sachiyo Kajikawa, Tamagawa University, Japan
 S. Hélène Deacon, Department of Psychology, Dalhousie University
 Shigeaki Amano, NTT Communication Science Laboratories, NTT Corporation
 Janet F. Werker, Department of Psychology, University of British Columbia

Poser Bay 31 - Variability in Infant Comprehension: Will Multiple Measures Yield More Stable Estimates?

Margaret Friend, San Diego State University professor
 *Yuri Kashima, San Diego State University graduate student, USA
 Erin Schaible, San Diego State Undergraduate student
 Jennifer Hultgren, San Diego State University undergraduate student

Poser Bay 32 - Variations in proximity between parents and infants as a function of conversation topic

*Gwenden Dueker, Grand Valley State University, USA

Poser Bay 33 - What Does It Take To Learn A Verb? A Verb Acquisition Meta-Analysis

*Julia Parish, Temple University, United States of America
 Kathy Hirsh-Pasek, Temple University
 Roberta Golinkoff, University of Delaware

Poser Bay 34 - Whole-brain Probe Cap for Mapping Brain-functions of Neonates Using Optical Topography

*Yukiko Hirabayashi, Advanced Research Laboratory, Hitachi, Ltd.; JST/CERST, Japan
 Hiroki Sato, Advanced Research Laboratory, Hitachi, Ltd.; JST/CREST, Japan
 Mariko Uchida, Japan Science and Technology Agency, CREST, Japan
 Takushige Katsura, Advanced Research Laboratory, Hitachi, Ltd.
 Takashi Ashida, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Kenji Oka, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Makoto Kanai, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Ikuo Konishi, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Akio Nakai, Department of Pediatrics, Faculty of Medical Sciences, University of Fukui, Japan
 Atsushi Maki, Advanced Research Laboratory, Hitachi, Ltd.

Poser Bay 35 - Word Learning from Reliable and Unreliable Speakers

*Jason Scofield, University of Alabama, USA
 Douglas Behrend, University of Arkansas, USA
 Katie Foster, Colorado College
 Andrea Miller, University of Alabama

Poser Bay 36 - Word Learning from Videos: Implications for Joint Attention and Word Learning

*Jason Scofield, University of Alabama, USA
 Douglas Behrend, University of Arkansas, USA
 Amie Williams, University of Alabama
 Stephanie Marsden, University of Alabama

Poser Bay 37 - 'Everyday Communication Skills in Children, up to 5 years'

*Mie Cocquyt, Vormingsdienst SIG, Destelbergen, Belgium; Hogeschool Gent, Department of Health Care, Campus Vesalius, Ghent, Belgium, Belgium
 Inge Zink, Catholic University Louvain, Faculty of Medicine, Laboratory of Experimental ORL, Belgium;
 Herbert Roeyers, University Ghent, Department of Psychology, Developmental Disorders, Belgium
 Maurice Y. Mommaerts, AZ St. John, Bruges, Cleft & Craniofacial Malformations Centre, Belgium;
 Nasser Nadjmi, Cranio-Maxillofacial Surgery Antwerp, Belgium;

Poser Bay 38 - 'Twin Language' stimulates language development in twins

*Reiko Nishihara, Osaka University, Japan
 Ritsuko Hattori, Gifu College of Nursing
 Yoko Kobayashi, Division of Health Sciences, Graduate School of Medicine, Osaka University
 Kazuo Hayakawa, Osaka University

Poser Bay 39 - Spontaneous small number discrimination in semi-free ranging domestic pigs (*Sus scrofa*)

*Wendy Bull, None - undergraduate student, United Kingdom
 Claudia Uller, University of Essex, Department of Psychology

Near-infrared spectroscopy for functional studies of brain activity in infants: Promise, prospects, and challenges

Tuesday
 9:00-10:50 am
 Hooh

Biological Processes**Organizer/Moderator:**

Richard Aslin, University of Rochester, USA

Participants

What do we know about the infant brain using NIRS?

*Jacques Mehler, SISSA, Trieste, Italy

Mohinish Shukla, SISSA, Trieste, Italy

Judit Gervain, SISSA CNS, Italy

Agnes Kovacs, SISSA, Trieste, Italy

F. Macagno, Udine Hospital

What don't we know about NIRS for studying the infant brain?

*Richard Aslin, University of Rochester, USA

Andrea Gebhart, University of Rochester

Rolf Saager, University of Rochester

Andrew J. Berger, University of Rochester

Where do we go from here to improve NIRS for studying the infant brain?

*Gergely Csibra, University of London, Birkbeck

Anna Blasi, University College London

Despite the wealth of knowledge gained by behavioral methods, the brain of the human infant defies direct scrutiny for obvious reasons: invasive studies are limited to clinical cases or to post-mortem analyses. Thus, indirect methods have been exploited to make inferences about brain activity while infants are exposed to stimulation or are engaged in a particular task. These methods include EEG and event-related potentials (ERP), functional magnetic resonance imaging using blood oxygenation level differences (fMRI BOLD), and near-infrared spectroscopy (NIRS). NIRS as a method for assessing infant brain function has several advantages and disadvantages compared to EEG/ERP and fMRI BOLD. EEG/ERP has the advantage of being a measure of neural activity, whereas both fMRI BOLD and NIRS are measures of cerebral hemodynamic responses correlated with neural activity. However, EEG/ERP has relatively poor spatial localization, even with high-density electrode arrays, unless one has a precise model of the infant skull to enable cortical source localization. Structural MRI can provide highly detailed images of brain anatomy and fMRI BOLD can localize brain activity with great spatial precision, but it requires extremely rigid stabilization of the head and exposes infants to both high magnetic fields and rapid gradients, raising safety concerns. Thus, although fMRI studies with human infants are beginning to be feasible (Dehaene-Lambertz et al., 2002), it is unlikely that MRI will become routine for measuring infant brain/skull anatomy (for EEG/ERP), or for measuring fMRI BOLD. Finally, MRI places the infant in a high-intensity acoustic environment (due to rapid gradients) that interferes with the presentation of auditory/language stimuli. An intrinsic advantage of NIRS over fMRI BOLD is that the latter only provides a measure of deoxy-Hb, whereas the former can use two (or more) near-IR wavelengths to provide separate measures of oxy-Hb and deoxy-Hb. These two measures are potentially advantageous in separating signals due to increased flow from signals due to increased oxygen consumption (an issue of considerable concern in studies of fMRI/BOLD). NIRS is also more portable and less costly than fMRI. The three presenters are active researchers in the use of NIRS to study the infant brain. Mehler pioneered the development of NIRS for use with newborns, Aslin has sponsored workshops on the use of NIRS with infants and the problems that must be overcome to render it a useful technique, and Csibra is actively combining NIRS with EEG/ERP to provide converging measures of brain function.

Paper Session: Infant - Caregiver Relationship

Tuesday
 9:00-10:50 am
 Mizuho 1

ISIS**Participants**

Infant-caregiver triadic relatedness and disorganized attachment

*Jessica Meyer, Institute of Child Health, UK

005

Paper Session: Infant - Caregiver Relationship

R. Peter Hobson, University College, London
Emma Beck, University College London
Karlen Lyons-Ruth, Harvard Medical School

Manipulated Infant Gender Effects on Maternal Sensory Sensitivity to Infant Affective Signaling: Signal Detection Analysis

*Wilberta Donovan, Waisman Center, University of Wisconsin, Madison, USA
Lewis Leavitt, Waisman Center, University of Wisconsin, Madison
Nicole Taylor, Waisman Center, University of Wisconsin, Madison

Predicting Disorganized Attachment: the role of early emotional development

*E. Filipa Castro, Child Study Center, Yale School of Medicine, USA

The Perception of Facial Expressions in Six month-olds: A Developmental Shift in Preferences

*Shih-Tseng Huang, National Chung-Cheng University, Taiwan, R. O. C.

Yi-Chieh Wen, National Chung-Cheng University

Young Infants' Looking Behaviors in Relation to Mothers' Behaviors During Mother-Infant Interaction

*mary jo krahn, university of northern colorado, USA

006

Paper Session: Individual Differences and Neural Bases of Early Language Acquisition

Tuesday
9:00-10:50 am
Mizuho 2

ISIS

Participants

Correlates of Individual Differences in Language Skill at 21 months

*Katie Alcock, Department of Psychology, Lancaster University, UK
Kirsty Krawczyk, Psychology Department, Lancaster University

Degrees of Neuroplasticity: Language Development in Young Children with Early Focal Brain Injury

*Judy Reilly, San Diego State University, University of Poitiers, USA
Joan Stiles, University of California, San Diego

Ruth Nass, NYU School of Medicine

ERP signatures of syntactic expectancies in French adults and 2 year-olds.

*Savita Bernal, Laboratoire de Sciences Cognitives et Psycholinguistique
Anne Christophe, Laboratoire de Sciences Cognitives et Psycholinguistique, EHESS/ENS/CNRS
Ghislaine Dehaene-Lambertz, Unité de Neuroimagerie Cognitive

Ready for structure? Neonates' brain activity for structured vs. unstructured linguistic input

*Judith Gervain, SISSA CNS, Italy

The Gesture-speech Combinations of Mandarin-speaking Children

*Hui LIAO, ICS, Hunan University
*Thomas hun-tak LEE, Chinese University of Hong Kong & ICS, Hunan University, Hong Kong
Tao ZENG, ICS, Hunan University
Aijun HUANG, Chinese University of Hong Kong & Hunan University

007

Invited Talk: Joan Stiles - Linguistic and Spatial Cognitive Development Following Early Focal Brain Injury: Evidence for Adaptive Change in Brain Cognition

Tuesday
9:00-9:50 am
Yamashiro East

ISIS

Organizer/Moderator:

Joan Stiles, University of California San Diego

The study of children with early occurring focal brain injury provides a model for exploring the dynamic nature of early brain and cognitive development. The children in the studies described in this talk suffered focal brain insult (typically stroke) in the pre- or perinatal period, long before the acquisition of higher cognitive functions. In most, though not all cases, the injuries affect substantial portions of one cerebral hemisphere, resulting in patterns of neural damage that would compromise cognitive ability in adults. However, longitudinal behavioral studies of this population of children have revealed only mild cognitive deficits, and preliminary data from functional brain imaging studies suggest that alternative patterns of functional organization emerge in the wake of early injury. It is argued that the capacity for adaptation is

007

Invited Talk: Joan Stiles - Linguistic and Spatial Cognitive Development Following Early Focal Brain Injury: Evidence for Adoptive Change in Brain Cognition

not the result of early insult. Rather, it reflects normal developmental processes which are both dynamic and adaptive operating against a backdrop of serious perturbation of the neural substrate. Data illustrating profiles of language acquisition and spatial cognitive development will be discussed.

008

Infants' conceptual representation of intentional agent

Cognition, Memory, and Learning

Participants

Inferring the goals of a robot: reenactment of the failed goal paradigm with a robot

*Shoji Itakura, Kyoto University

Humanoid Robot: Yet another tool for developmental psychology

*Kazuo Hiraki, Department of Systems Science, University of Tokyo, Japan

Akiko Arita, University of Tokyo

Kazunori Kamewari, University of Tokyo

Can a self-propelled object rearrange its parts?

*DI WU, Department of Psychology, University of Illinois at Urbana-Champaign, U.S.A

Renée Baillargeon, Department of Psychology, University of Illinois at Urbana-Champaign

Infants' concept of mentalistic agents: Who can have desires and perceptions?

*Diane Poulin-Dubois, Concordia University

Discussant:

Vincent Reid, Neurocognition and Development Group, University of Leipzig, Germany

There is considerable evidence that by the second half of the first year, infants begin to perceive and interpret human actions in a goal-directed way. By the end of the first year, infants become sensitive to a diversity of cues such as gaze direction, emotional expression, and pointing. A number of studies indicate that infants analyze and interpret human actions differently from similar motions of inanimate agents. On the basis of this evidence, it has been argued that infants have a system of knowledge that is quite specific to human behavior. Other researchers assume that reasoning about actions is based on innate specialized systems that are sensitive to abstract behavioral cues and allow "mental states" attribution to a wide range of entities. The main objective of this symposium is to present new findings in this research area that will significantly increase our understanding of this phenomenon. The papers included in this symposium report studies conducted with children aged 6 to 36 months and with a wide range of inanimate agents (box, robot). The main conclusion to draw from the papers will be that infants' concept of agent is broad when it comes to the attribution of bodily and motion properties, but that infants are more conservative in the case of attribution of mentalistic attribution. For example, we will demonstrate that the presence of cues like self-propulsion is sufficient for the attribution of appearance changes. In contrast, the presence of contingency is required for causation at a distance and desire attribution. Furthermore, we will argue that there is a developmental change in how infants conceptualize agent between 6 and 36 months of age

009

Invited Talk: George Michel - A Developmental Psychobiological Approach to the Development of Infant Handedness

ISIS

Organizer/Moderator:

George Michel, University of North Carolina Greensboro

Infant handedness development is examined from a developmental psychobiological perspective. Thus, handedness is carefully defined and identified as a species-typical trait. The contributions of phylogenetic evolution and lateral asymmetry of brain organization are examined and the role of parental influences and self-generated experiences during development are specified. The developmental psychobiological perspective avoids the typical kinds of semantic and conceptual confusions associated with both the nature-nurture controversy and behavior-genetic gene-by-environment interaction notions.

Tuesday

10:00-10:50 am

Yamashiro East

Tuesday

11:10-1:00 pm

Colonade

Mezzanine & Hiei

Motor and Sensorimotor Behavior

Participants

- Poser Bay 01** - Amount of Crawling and Walking Experience has Varying Effects on Cognitive Development During Infancy
 *Julien Gross, University of Otago, New Zealand
 Harlene Hayne, University of Otago
 Nicky Perkins, University of Otago
 Bridget McDonald, University of Otago
- Poser Bay 02** - An Attachment Research Project in Rural and Urban Mexican Dyads.
 *Sonia Gojman de Millán, Seminario de Sociopsicoanálisis A.C. México
 Salvador Millán, Seminario de Sociopsicoanálisis A.C. México
- Poser Bay 03** - Can the response device influence infants' performances in searching and categorization tasks?
 Sophie Kergoat, Université Paris Descartes
 *Roger Lécuyer, Université Paris Descartes, France
- Poser Bay 04** - Cooperative Activities in Children with Autism.
 *Kristin Liebal, Max Planck Institute for Evolutionary Anthropology, Germany
 Costanza Colombi, University of California, Davis, US
 Sally Rogers, University of California, Davis, US
 Felix Warneken, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 05** - Development of Interlimb Motor Learning in the Fetal and Infant Rat
 Scott R Robinson, University of Iowa, USA
 *Gale A. Kleven, Wake Forest University School of Medicine
 *Sarah A. Woller, University of Iowa
 *Amy Jo Marcano-Reik, University of Iowa
- Poser Bay 06** - Developmental trajectory of social cognition in infancy: Longitudinal survey from 8months to 5 years old
 *Hidehiro Ohgami, Kyushu University
- Poser Bay 07** - Do human fetuses anticipate self-oriented actions?
 Masako Yamakoshi Myowa, The University of Shiga Prefecture
 *Hideko Takeshita, The University of Shiga Prefecture, Japan
 Satoshi Hirata, Great Ape Research Institute, Hayashibara Biochemical Laboratories
 Kohki Fuwa, Great Ape Research Institute, Hayashibara Biochemical Laboratories
 Keiko Sugama-Seki, Great Ape Research Institute, Hayashibara Biochemical Laboratories
- Poser Bay 08** - Early Attachment, Maternal Depression, and Adolescent Maladjustment
 *Lisa Kestler, Institute for the Study of Child Development, UMDNJ-Robert Wood Johnson Medical School, USA
 Michael Lewis, Institute for the Study of Child Development, UMDNJ-Robert Wood Johnson Medical School
- Poser Bay 09** - Early identification of Autism Spectrum Disorder: the role of pointing gesture
 *Paola Perucchini, Università Roma Tre - Dept. Educational Science, Italy
 Antonella De Luca, Università of Rome La Sapienza
 anna paola ercolani, Università of Rome La Sapienza
- Poser Bay 10** - EEG, behavioral Inhibition and disinhibition in infants of depressed mothers
 *Nancy Jones, Florida Atlantic University, USA
 Louis Schmidt, Department of Psychology, Neuroscience & Behaviour, McMaster University.
- Poser Bay 11** - Eye scanning during reaching in 6- to 12-months old infants
 *Daniela Corbetta, The University of Tennessee, USA
 Winona Snapp-Childs, Purdue University
 Joshua Williams, The University of Tennessee
- Poser Bay 12** - Fetal movements in breech compared to cephalic position
 *Jennifer VanderMeulen, Queen's University

Poster Session B

- Gregory A.L. Davies, Queen's University
*Barbara Kisilevsky, Queen's University, Canada
- Poser Bay 13** - Infants' Looking Behaviors in Relation to Mothers' Behaviors During Mother-Infant Interaction
*mary jo krahn, university of northern colorado, USA
- Poser Bay 14** - Interlimb Coordination in an Animal Model of Perinatal Motor Learning and Locomotor Development
Amy Jo Marcano-Reik, University of Iowa
*Valerie Mendez-Gallardo, University of Iowa
*Scott R Robinson, University of Iowa, USA
- Poser Bay 15** - Manipulating the A-not-B error by making both locations more salient
*Joe Anderson, Indiana University, USA
Evelina Dineva, Indiana University
Gregor Schöner, Institut für Neuroinformatik, Bochum, Germany
- Poser Bay 16** - Mathematical Modeling of Stiffness and Impulse: Toddlers with and without Down Syndrome
*Chia-Lin Chang, University of Michigan
Masayoshi Kubo, University of Delaware
Ken Holt, Boston University
Beverly Ulrich, University of Michigan, USA
- Poser Bay 17** - Nurturing Touch is Beneficial for Depressed Mothers and their Infants
*Nancy Jones, Florida Atlantic University, USA
Chantal Gagnon, Florida Atlantic University
Krystal Mize, Florida Atlantic University
Jennifer Becker, Florida Atlantic University
- Poser Bay 18** - Older infants' Timing of Unimanual and Bimanual Percussion: Does Using Two Hands 'Cost' Anything?
*Karen Brakke, Spelman College, USA
Dorothy M. Fragaszy, University of Georgia
Kathy Simpson, University of Georgia
- Poser Bay 19** - Older Siblings Influence Their Younger Siblings' Motor Development
*Sarah Berger, The College of Staten Island, CUNY, USA
- Poser Bay 20** - Patterns of Response to Being Supported on a Treadmill: Infants Born with Spina Bifida
*Beverly Ulrich, University of Michigan, USA
Victoria Moerchen, University of Maryland-Baltimore
- Poser Bay 21** - Perception of Live Facial Expressions in Autistic Children
*Fatma Zohra Sai, UAE University, UAE
- Poser Bay 22** - Physical activity in infants with Down syndrome receiving a treadmill intervention
*Rosa Angulo-Barroso, University of Michigan, USA
Amy Burghardt, University of Michigan, USA
Meghann Lloyd, University of Michigan
Dale A. Ulrich, University of Michigan
- Poser Bay 23** - Plasticity in the development of handedness: Evidence from a case with early brain injury
*Daniela Corbetta, The University of Tennessee, USA
Joshua Williams, The University of Tennessee
Winona Snapp-Childs, Purdue University
- Poser Bay 24** - Postnatal depression and stress: effects on infant cognitive development over a three months period
*Nadja Reissland, University of Durham, UK
- Poser Bay 25** - Postural & Task-related Experiences Advance Infants' Abilities to Contact & Explore Objects
*Michele Lobo, University of Delaware, U.S.A.
*James Cole Galloway, Infant Motor Behavior Lab, University of Delaware, USA
- Poser Bay 26** - Reaching Kinematics of Precise and Imprecise Tasks in Toddlers

Poster Session B

- *Yu-ping Chen, Department of Psychology, University of Massachusetts, USA
 Rachel Keen, Department of Psychology, University of Massachusetts
 Kerstin Rosander, Department of Psychology, Uppsala University
 Claes von Hofsten, Department of Psychology, Uppsala University
- Poser Bay 27** - Sensory experiences in the posterior part of the mouth during infancy
 *Régis Brunod, SUPEA, Switzerland
- Poser Bay 28** - Social interaction and hidden object search in autistic, normally developing and developmentally delayed young children
 Antoine Perier, Université Paris Descartes
 Jean-Louis Adrien, Université Paris descartes
 *Roger Lécuyer, Université Paris Descartes, France
 Kelley Kaye, Hôpital St Anne, 75674 Paris
 Véronique de Portzamparc, Institut Jérôme Lejeune, 75116 Paris
 Céline Pluvinaige, Centre Serge Lébovici, 75013 Paris
 Fabienne Tanguy, Polyclinique Ney, 75018 Paris
- Poser Bay 29** - Social referencing & categorical perception of emotions in toddlers with autism: A look at fear and disgust
 *Richard Griffin, Center for Cognitive Studies, Tufts University, USA
 Simon Baron-Cohen, Autism Research Centre, University of Cambridge
- Poser Bay 30** - Spontaneous Movements in Ape and Human Neonates
 *Sonia Ragir, College of Staten Island/CUNY, USA
 Satoshi Hirata, Great Ape Research Institute, Hayashibara Biochemical Laboratories
 Sue Savage-Rumbaugh, Great Ape Trust of Iowa
 Bernard Z Karmel, Institute for Basic Research of New York
 Judith M Gardner, NYS Institute for Basic Research in Developmental Disabilities, USA
 Patricia Kabitzke, Graduate Center, City University of New York
- Poser Bay 31** - The Antecedents of Disruptive Behaviors of Infants of Depressed Mothers
 *Yoon Lee, The University of Chicago, USA
 Sydney Hans, The University of Chicago
 Matthew Thullen, The University of Chicago
- Poser Bay 32** - The development of intentional imitation - a comparative study
 Eszter Somogyi, Paris V University, France, Hungary
 Ildiko Kiraly, Institute of Psychology of the Hungarian Academy of Sciences
 Jacqueline Nadel, Centre Emotion, Hôpital de la Salpêtrière
 George Gergely, Institute of Psychology of the Hungarian Academy of Sciences
- Poser Bay 33** - The development of locomotor planning in a 'river crossing' task
 *Dorothy Cowie, University of Oxford, UK
 Liam Smith, University of Oxford
 Oliver Braddick, Oxford University
- Poser Bay 34** - The development of the Postural Control Support System and the Multilocomotor
 *Junichi Takashio, Daiichibiwakogakuen Hospital, JAPAN
 *Ichiro Uchiyama, Doshisha University
 *David Anderson, San Francisco State University, USA
 *Joseph J. Campos, University of California, Berkeley
- Poser Bay 35** - The effect of movement training on spontaneous kicking and learning in preterm infants
 *Jill Heathcock, University of Delaware, USA
 David Paul, Christiana Hospital Neonatal Research
 Amy Mackley, Christiana Hospital Neonatal Research
 James Cole Galloway, Infant Motor Behavior Lab, University of Delaware, USA
- Poser Bay 36** - The First Bites: Development and Variability of Oral-Motor Functioning during the Weaning Period
 *Sabine Hunnius, Tilburg University, The Netherlands
 Marijn van Dijk, Open University of the Netherlands
 Paul van Geert, University of Groningen
- Poser Bay 37** - The Relationship between Motor Development and Cognitive Development

Poster Session B

Michael McCarty, Texas Tech University, USA

Vandita Vasudevan, Texas Tech University

*Sybil Hart, Texas Tech University

Poser Bay 38 - Three- to eight-month-old infants' catching under monocular and binocular vision

*geert savelsbergh, human movement science, free university, Netherlands

Paulion van Hof, Free University

john van der Kamp, Free University

Poser Bay 39 - Trade-offs in the Acquisition of Locomotor and Language Milestones

*Sarah Berger, The College of Staten Island, CUNY, USA

Poser Bay 40 - Variability and the Development of Coordination in Infant Crawling

*Paul Loseby, School of Psychology, Curtin University of Technology, Australia

Poser Bay 41 - Verbal communication in children with Williams syndrome

*Kosuke Asada, Kyoto University, Japan

Shoji Itakura, Kyoto University

Poser Bay 42 - Goal-directed imitation in 16-month-old infants: The influences of movement path, spatial compatibility and intention reading

*Chi-Tai Huang, Department of Human Development, Tzu Chi University, Taiwan

Shin-Ru Jiang, Tzu Chi University, Taiwan

Poser Bay 43 - A Style of Imitation Deficit in Children with Autism: A Longitudinal Observation

*Chin-Chin Wu, Department of Psychology, National Chung Cheng University, R.O.C

Chung-hsin Chiang, Department of psychology, National Chung Cheng University

Yuh-Ming Hou, Department of Psychiatry, Chia-Yi Christian Hospital

Poser Bay 44 - Reevaluation for Physical Growth Curves and Features of Twins' Growth

*YOSHITOMI MORIKAWA, National Institute of Advanced Industrial Science and Technology (AIST), JAPAN

Syuichi Ooki, ISHIKAWA PREFECTURAL NURSING UNIVERSITY

The Role of Function Words in Early Language Development

Tuesday

11:10-1:00 pm

Cosmos

Communication and Language**Participants**

Processing of Articles in Noun Phrases by 11-Month-Olds

*Pierre André Hallé, Laboratoire de Phonétique et Phonologie, CNRS & Paris III

Bénédicte de Boysson-Bardies, Laboratoire de Psychologie Expérimentale, CNRS-Paris V

Phonetic Encoding of Functors and How Functors Facilitate Word Segmentation

*Rushen Shi, Department of Psychology, University of Quebec in Montreal, Canada

Anne Cutler, Max Planck Institute for Psycholinguistics

Janet F. Werker, Department of Psychology, University of British Columbia

The Lexicon / Syntax Interface in Developing Grammar: The Role of Function Words in the Acquisition of Content Words

*Barbara Höhle, University of Potsdam

Michaela Schmitz, University of Potsdam

Anja Müller, Humboldt University Berlin

Jürgen Weissenborn, Humboldt University Berlin

Function Words Allow 23-month-olds to Establish the Syntactic Category of Unknown Content Words

*Anne Christophe, Laboratoire de Sciences Cognitives et Psycholinguistique, EHESS/ENS/CNRS

Savita Bernal, Laboratoire de Sciences Cognitives et Psycholinguistique

Séverine Millotte, Laboratoire de Sciences Cognitives et Psycholinguistique, EHESS/ENS/CNRS, France

Jeff Lidz, University of Maryland

The Acquisition of Function Morphemes in Dutch

*Elizabeth Kay Johnson, Max Planck Institute for Psycholinguistics, The Netherlands

Marieke van Heugten, Max Planck Institute for Psycholinguistics

Marieke van Heugten, Max Planck Institute for Psycholinguistics

Discussant:

Virginia Valian, Dept of Psychology, Hunter Coll and CUNY Grad Ctr

Function words are important for language development. One question concerns whether infants initially treat "functor+content word" sequences as whole words, or analyze functors as autonomous morphemes. In sentence comprehension and production tasks, Gerken and colleagues (e.g., Gerken, et al., 1990) demonstrated that 2-year-olds are sensitive to the well-formedness of functional morphemes. Whereas young children's spontaneous utterances often omit function words (Brown, 1973), they often contain "filler syllables" (Peters, 2001) that are possibly precursors of functors (Lleó, 2001). Children thus may begin analyzing functors long before producing them accurately. The symposium presents several studies shedding light on function word processing. Recent research indicates that preverbal infants segment functors after a familiarization phase (Höhle & Weissenborn, 2003). This does not necessarily tell whether infants have retained functors in long-term memory but shows they are learned easily after brief exposure. Other studies tested infants' recognition of "untrained" function words (without a familiarization phase) and showed that 11-month-olds parse simple noun-phrases (Hallé et al., 2006; Shi et al., 2003). Furthermore, function words facilitate segmentation of adjacent nouns from about 8 months (Höhle, 1998; Shi & Lepage, 2005; Shi et al., 2004). They assist syntactic categorization of nouns and verbs shortly after one year of age (Höhle et al., 2006; Mintz, in press). Christophe and colleagues show that functors help 23-month-olds' identification of nouns and verbs in a word-learning task. Johnson and colleagues, using a gaze-tracking procedure, show that 2- to 3-year-olds process gender information of determiners in online comprehension of adjacent nouns. These studies demonstrate early syntactic parsing capacities. Function words are not obstacles for discovering the limits of a word but, rather, play an important role in lexical bootstrapping. The symposium attempts to sort out findings from various experimental approaches and accounts of the role of functional morphemes in lexical and syntactic acquisition.

Tuesday
11:10-1:00 pm
Hiei

Early Environments and Social Policy**Organizer/Moderator:**

M Calheiros, ISCTE and CIS

Participants

Program design and evaluation for at-risk infants: preventing developmental impairment.

*M Calheiros, ISCTE and CIS

Abuse Incidence and Prevalence in Portuguese Infants: Risk Context and Social Policy

*Leonor Rodrigues, ISCTE and CIS

M Calheiros, ISCTE and CIS

Needs assessment of infants in emergency care: developing contexts and current institutional practices

*Margarida Garrido, ISCTE

M Calheiros, ISCTE and CIS

Carla Moleiro, ISCTE

Specific children require specific practices: finding institutionalized infants with different needs

*Carla Moleiro, ISCTE

M Calheiros, ISCTE and CIS

Margarida Garrido, ISCTE

Development in space: Early development in emergency care physical settings

*Susana Batel, ISCTE

M Calheiros, ISCTE and CIS

Leonor Rodrigues, ISCTE and CIS

New practices in emergency care setting: promoting early development.

*Ana Martins, ISCTE

Salomé Santos, FPCE-UL

M Calheiros, ISCTE and CIS

Leonor Rodrigues, ISCTE and CIS

The present symposium integrates a set of presentations which bring together the issue of consistent and effective assessment and design of intervention programs, as applied to the specific developmental context of infants in emergency care. The first presentation focuses more broadly on "Program design and evaluation for at-risk infants", and constitutes the theoretical grounds/methodological framework upon which all others are based on. The following presentation "Abuse incidence in Portuguese infants" studies the extent of child ill-treatment/neglect in Portugal, and develops a consistent characterization of this phenomenon with special emphasis on infant abuse as a risk factor for institutionalization. Presentation 3 "Needs assessment in emergency care" identifies the needs of infants within one major Portuguese institution, making use of systematic and internationally-validated methodology, along with the services currently provided. Presentation 4 highlights that "specific children require specific practices" through the identification of clusters of infants with similar needs. This presentation calls attention to the importance of tailoring interventions to specific sets of infants' developmental needs. Presentation 5 "Development in space" focuses on a specific and often neglected aspect of residential care, considering how early development is impacted by physical setting. It assesses the adequacy of several spatial dimensions of an emergency care unit, and sets forward recommendations for future unit development. Finally, the last presentation "New practices in emergency care settings" describes a new service for abandoned newborns, including intervention programs for the assessed needs. A quasi-experimental research design is proposed to evaluate this new service, through a set of standardized measures, comparing it with two control groups. The present symposium defends as its take-home message the idea that the definition of social policies and the development of children services have to be child-centred, based on a logical model considering all the key variables underlying design evaluation.

Tuesday
11:10-1:00 pm
Hooh

Biological Processes

Participants

The link between regression periods and transition periods

*Marta Sadurni, Department of psychology. University of Girona (Spain), Spain

Carlos Rostan, Department of Psychology, University of Girona, Spain

Regression periods, maternal depression and the development of insecure attachment

*John Richer, Paediatric Psychology, John Radcliffe Hospital, Oxford, UK

Observations on 'regressive periods' in a sample of Swedish infants followed from birth to one year of age

*Mikael Heimann, Centre for Child & Adolescent Mental Health, University of Bergen, Bergen, Norway

The 4 WHY's of age-linked regression periods in human infancy

*Frans Plooi, Int. Research-inst. on Infant Studies (IRIS), Netherlands

Discussant:

Ken Aitken, Learning Disability and Mental Health Service, Greater Glasgow Primary Health Care Trust, Scotland

The contributions to this symposium grew out of a loosely formed European project, the intercultural study of infantile regression periods (ISIRP), with the aim to test if indicators of regression can be found at similar ages in a number of different countries and cultures. The idea that motivated this project was initially put forward by Hetty van de Rijt-Plooi and Frans Plooi (1992, 1993) who claimed that 10 periods of regression could be identified during the first 20 months of life, periods that they suspected to be biologically anchored and, thus, valid across cultures. The term 'regression' is used here in a very restricted sense, in that it only refers to the return to a high frequency of mother-infant contact, characteristic of the earliest period, and the phenomenon regression period is positive in the sense that it announces progress. Three of the four presentations concern replication studies in Spain, England, and Sweden. Their results warrant the conclusion that regression periods ought to be considered as a real phenomenon and dealt with accordingly whenever developmental processes in infancy are discussed. Age-linked regression periods may even play a central role. On the one hand, there is a temporal link with brain changes. On the other hand, each regression period signals forthcoming periods of developmental advance and the emergence of an array of new skills as a consequence of parent-infant conflict and

renegotiations of old privileges, and might be linked to increased risk of pathology. Because brain changes are not directly observable and the emergence of new skills shows tremendous individual differences, the age-specific regression periods stand out as unique hallmarks to direct the study of developmental change. The fourth presentation presents an overview and suggestions for further research in terms of the 4 WHY's adopted from behavioural biology.

Tuesday
11:10-1:00 pm
Minori

Robotic Simulation/Reproduction of Infant Capabilities

Organizer/Moderator:

Christopher George Prince, University of Minnesota Duluth

Participants

Epigenetic Robotics and Environmental Interactions and Dynamics

*Christopher George Prince, University of Minnesota Duluth

Lakshmi Gogate, SUNY Health Science Center at Brooklyn, USA

Nathan A Helder, University of Minnesota Duluth

George Hollich, Purdue University

Models of Infant Development: How to make sense of environmental interaction and dynamics

*Katharina J Rohlfing, University of Bielefeld

Britta Wrede, University of Bielefeld

Yukie Nagai, NICT, Japan

Taking infants and development seriously

*Sylvain Sirois, School of Psychological Sciences, University of Manchester

Epigenetic robotics, a recent advance in formal modeling (e.g., Lungarella et al., 2003), shows promise for the study of infant development. Epigenetic robots use a collection of techniques (e.g., connectionist models) in combination with sensors (e.g., cameras) and effectors (e.g., robot arms) to model the behavioral development of infants. Through the grounding provided by sensors and effectors, these robots can approximate the dynamics of a child's interaction with the physical world. Thus, the advantage for researchers in infant psychology in using such models lies in having access to theoretical and methodological tools to further our understanding of the influences of environmental interactions and dynamics on the developing organism. In this symposium, we argue that if we are serious about understanding the influences of environmental interaction and dynamics on child development, more researchers need to look to epigenetic robotics. While models, by their nature, abstract away from the specifics of what they model, it is also true that there is a fine line between abstraction and modeling that is *too simple*. Certainly, knowledge can still be gained with models that don't explicitly interact with the physical world. However, much of contemporary theorizing in developmental psychology implicates the importance of the dynamics of an organism's environmental interaction (e.g., Thelen & Smith, 1998). Given a need for methodologies in developmental psychology spanning empirical study, theories, and formal modeling, how can we progress in contributions to the formal modeling of environmental interactions and developmental dynamics by stopping short of the physical world? For example, connectionist models often take as inputs symbolic representations, which are highly abstracted in their relation to the physical world (e.g., see Quinlan, 2003). However, because psychological development involves ongoing nonlinear interaction of the organism's properties with its world, even slight changes in organism or environment properties can change the developmental trajectory. Robotic models of infant development are promising because of their high fidelity regarding the dynamics of interaction with the physical world, which should more closely approximate the developmental trajectories of the infants being modeled. For example, models of word learning can use the dynamics of the gaze of an adult (e.g., Yu & Ballard, 2004), models

Models of Infant Development: Are We Really Serious about Environmental Interaction and Dynamics?

of swinging can use body-environment dynamics (Berthouze & Lungarella, 2004), and models of self-other discrimination can utilize sensory-motor interaction with the world (e.g., Edsinger-Gonzales, 2005). Because a child's interactions with her physical and social world are crucial to her development, the place to bolster (not simplify!) our formal models of infant development is in these dynamics. We note that epigenetic robotics research is in its infancy, and is just starting to address these questions. Many further models and infant-model comparisons are needed.

Justification for panelist selections: Christopher Prince has helped organize a series of workshops on epigenetic robotics held since 2001. He publishes on sensory-oriented models of infant audio-visual synchrony perception, and on theoretical issues in epigenetic robotics.

Katharina Rohlfing's research focuses on the interface between language acquisition (including gestural communication) and conceptual development. She recently organized a symposium on multimodal behavioral modifications in parents. Yukie Nagai's research is in cognitive developmental robotics. With M. Asada, she has published robotic learning models for joint visual attention. Britta Wrede studies speech processing in the domain of human-robot interaction where she models prosodic aspects of dialog and investigates multi-modal integration. Sylvain Sirois' research has involved neural network models of learning and development since 1995. His collaborations with Thomas Shultz and Denis Mareschal have involved modeling and empirical studies of category learning and infant habituation. His recent modeling involves robotics. He has been a Programme Committee member of the Epigenetics Robotics workshop since 2003.

Paper Session: Acquiring Linguistic Categories

Tuesday
11:10-1:00 pm
Mizuho 1

ISIS
Participants

Cat-dog: Links in the lexicons of 18- & 24-month-olds.

*Suzy Styles, Dept. of Exp. Psychology, University of Oxford, UK

Kim Plunkett, University of Oxford

Characterizing the Object Labeling Context

*Gwenden Dueker, Grand Valley State University, USA

Dog is a dog is a dog: Infant rule learning is not specific to language

*Rebecca Lynn Seibel, University of Wisconsin - Madison, USA

Jenny R. Saffran, University of Wisconsin-Madison

Seth Pollak, University of Wisconsin - Madison

Anna Shkolnik, University of Wisconsin - Madison

Evidence for linguistic categorisation abilities in 10-month-old infants

*Loukia Taxitari, University of Oxford, UK

Kim Plunkett, University of Oxford

Linguistic Input Directs Infants' Attention to Facilitate Word Learning

*Rachel Pulverman, University of Michigan, USA

Amanda C. Brandone, University of Michigan

Roberta Golinkoff, University of Delaware

Kathy Hirsh-Pasek, Temple University

Rebecca Seston, University of Delaware

Book Reading Program Using Origami Ehon (Picture Book) for a Cohort of Mothers and Babies

*Nana Mirai, JSBS, Japan

The effects of early experience and culture on the "other-race effect"

Tuesday
11:10-1:00 pm
Mizuho 2

Perception and Attention

Participants

Three-month-olds, but not newborns, prefer own-race faces

*David J. Kelly, Department of Psychology, University of Sheffield, Sheffield, UK

Paul C. Quinn, Dept. of Psychology, University of Delaware, USA

Alan Slater, University of Exeter

Kang Lee, Department of Human Development & Applied Psychology

A Gibson, University of Sheffield

M Smith, University of Sheffield

Liezhong Ge, Zhejiang University of Science

Olivier Pascalis, Department of Psychology, University of Sheffield, Sheffield, UK

Nature, nurture, and the other-race effect: A study of Israeli and Ethiopian infants

*Bar-Haim Yair, Department of Psychology, Tel-Aviv University, Tel-Aviv 69978, Israel

Dominique Lamy, Department of Psychology, Tel-Aviv University, Tel-Aviv 69978, Israel

American and African infants show differential face-processing of own- and other-race faces: The experience-dependent nature of the other-race effect

*Cara H. Cashon, University of Louisville, USA

Kim Ferguson, Cornell University, USA

Sarah Kulkofsky, Department of Human Development, Cornell University, Ithaca, NY

Marianella Casasola, Cornell University, United States

The face processing tool is shaped by the faces present in the environment during infancy and childhood. But the effect is reversible up to age 9 years.

*Scania de Schonen, Neurocognitive Development Group, CNRS, Paris, France

Sandy Sangrgoli, University Rene Descartes

Christophe Pallier, University Rene Descartes

Anne-Marie Argenti, University Rene Descartes

Valerie Ventura, University Paris 6

The effects of early experience and culture on the "other-race effect" Cara H. Cashon University of Louisville Department of Psychological & Brain Sciences The other race effect (ORE), having more difficulty recognizing or processing other-race faces than one's own-race faces, is a robust finding with adults. Arguments have been made that the difference in perception is due to having more experience with one's own race over other races. Arguments have also been made that differences in the mode of processing when viewing own- vs. other-race faces might play an important role in ORE. The origins of ORE, however, are just beginning to be understood. The present collection of papers demonstrates not only that ORE is an early-emerging phenomenon, but also that: (1) it is present as early as 3 months and can be found in several different cultures at this age, (2) it is not innate and begins to lay a foundation between birth and three months, (3) it is reversible if given certain experiences, (4) is associated with holistic processing of own-race faces, but not of other-race faces, and (5) while there may be some cross-cultural similarities in the development of ORE, the effect still appears to be subject to cross-cultural differences. This collection of papers highlights the importance of experience, particularly early experience, on the developing specialization for own-race faces. But, the collection also suggests that the face processing system maintains at least some of its flexibility beyond infancy. No discussant has been scheduled for this symposium, rather, 30 minutes will be allotted for a Q&A session after the talks. We expect these findings to elicit quite a bit of discussion and, thus, felt that a discussant was not necessary.

Tuesday
11:10-1:00 pm
Yamashiro East

ISIS

Participants:

Andrea Guzzetta, Department of Developmental Neuroscience, Stella Maris Scientific Institute

Mariko Yuge, Medical University of Kyoto

Yayohi Nakajima, Japanese Red Cross Medical Center, Japan

Hisako Nakano, Tokyo Women, JAPAN

Dynamical complexity of spontaneous movements in young infants

Gentaro Taga, University of Tokyo / JST

The effect of positioning on spontaneous movements of preterm infants

Hanako Nakano, Dept. of Infants' Brain & Cognitive Development, Tokyo Women's Medical University;

Hideki Kihara, Nagano Children's Hospital; Junji Nakano, The Institute of Statistical Mathematics; Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's

Comparison Of GM Assessment With Other Methods Of Movement Analysis And With Brain Imaging In Newborns And Young Infants

Giovanni Cioni, Universita di Pisa; Andrea Guzzetta, Department of Developmental Neuroscience, Stella Maris Scientific Institute; Christa Einspieler, Center for Physiological Medicine, Medical University of Graz

The assessment of general movements (GMs) based on Prechtl's method of observation has been largely used in the last 20 years as a diagnostic tool for neurological evaluation of the newborn and the young infant. Many different populations of high and low risk infants have been involved in clinical trials aimed at assessing the reliability and prognostic power of this method, and a wide agreement on the clinical value of this tool has been shown, in particular concerning the correlation between the quality of GMs and the neurological outcome. Comparison of GMs and traditional neurological examination A systematic comparison of the qualitative assessment of GMs and the traditional neurological examination in preterm and term infants reveals the superior predictive power for the assessment of GMs during all age groups, but particularly at the younger ages. In preterm infants, the sensitivity of the GM assessment is very high at all ages, whereas the specificity is low during the preterm, term, and early postterm period. This is due to a consistent number of infants with abnormal GMs who normalize during the fidgety movements' period and show a normal outcome. Thus, specificity gets higher at around three to four months. The sensitivity of the neurological examination, on the contrary, is quite low at preterm and term age, because of infants with apparently normal neurological examination who develop a cerebral palsy. In particular, at term age some infants who will later develop a cerebral palsy may show a normal neurological examination, due to transient normalization of the muscle tone while changing from preterm hypotonia to post-term hypertonia. Specificity with regard to the outcome is as well low until 4 months. As in preterm infants, also in fullterm infants the GM assessment is superior to the neurological examination. In fullterm infants with hypoxic-ischaemic encephalopathy, the first comparisons between GM assessment and neurological examination indicate a slightly higher prognostic value of GM assessment in the first two weeks postterm and of neurological examination at about four to six months. GM assessment and neurological examination shows good sensitivity values, slightly better for the former at all age periods. Specificity is usually low for both techniques at term age, because some subjects with poor repertoire GMs or mild neurological abnormalities at that age are eventually normal at 2 years. During the first two months post-term the specificity for GM assessment improves, showing higher values than the neurological examination. According to these data normalization of transient disorders might be earlier assessed by GM observation. However, there are limitations to the application of GM assessment. In infants with severe hypoxic-ischaemic encephalopathy in their first hours of life neuroimaging, electrophysiological techniques, and some subtests of traditional clinical assessment have a prominent role in detecting the severity of brain impairment and indicating the prognosis. Moreover, traditional neurological assessment provides a more comprehensive picture of the various neural subsystems, some of which (e.g. the oculo-motor system or peripheral nerves) cannot be tested by GM observation. GM assessment clearly should complement but not replace the neurological examination techniques. Both have different properties and diagnostic tasks. Comparison of GMs and neuroimaging Brain ultrasound is the most frequently used imaging technique for the early detection of structural changes in the newborn's brain, and is still considered one of the best predictors of neurological outcome. Several studies on the relationship between ultrasound findings, developmental trajectories and neurological outcome showed that GM assessment have a higher predictive value than ultrasound findings. The so far largest longitudinal study on GM assessment was carried out on 130 infants. The sensitivity for the GM assessment during the first weeks of life (94%) and of the assessment of fidgety movements (95%) was higher than that of brain ultrasound imaging, which was 80%. Specificity for GM assessment during the fidgety movement period was 96% whereas for brain ultrasound it was 83%. Of course, GM assessment can never replace neuroimaging techniques but is a worthwhile method to be combined with. This has

also been illustrated by two studies on GM assessment and neonatal magnetic resonance imaging. Another recent study on term infants with hypoxic ischaemic encephalopathy demonstrated that the combined use of GM assessment and proton magnetic resonance spectroscopy (1H MRS) increases the prognostic value. Within the 15 cases with signs of moderate to severe hypoxic-ischaemic insult at 1H MRS the four with normal outcome had normal GMs. Within the 18 cases with abnormal GMs, the seven who had a normal outcome had lower ratio lactate/creatine and a higher ratio N-acetylaspartate/creatine at 1H MRS. Comparison of GMs with EMG and 3D Analysis During term age and during the first two months post-term, GMs are commonly referred to as writhing movements. They are characterised by small to moderate amplitude and by slow to moderate speed. Typically, they are elliptical in form, which creates the impression of a writhing quality. EMG recordings reveal that the burst duration is significantly longer during preterm GMs than during writhing movements. However, burst amplitude values and tonic background data do not change from preterm GMs to GMs of writhing quality. At six to nine weeks postterm age, writhing movements gradually disappear while fidgety GMs gradually emerge. They are circular movements of small amplitude, moderate speed and variable acceleration of neck, trunk and limbs, in all directions continual in the awake infant, except during fussing and crying. EMG characteristics change with age. Phasic burst duration shortens progressively with increasing age. The amplitude of the phasic bursts and the tonic background activity decrease during the transformation from writhing to fidgety movements. What both GM characters have in common is the variation in onset of muscle activity and the large amount of co-activation (up to 80 %) in antagonistic muscle groups.. The main kinematic aspects of the transformation from writhing to fidgety movements can also be seen by means of 3D-motion analysis. We have recently studied the distribution of movement velocity and amplitude of GMs in a group of healthy fullterm infants recorded from seven to twelve weeks of age, demonstrating a clear progressive decrease of movement velocity and amplitude, with a clear difference between the features of writhing and fidgety period. Moreover, interesting data have been collected in a small group of infants with focal brain lesions, recorder in 3D motion analysis in their first months of life. In conclusion, the assessment of GMs has been shown to be a reliable and highly prognostic tool for the evaluation of infants at risk for neurological disorders. Its predictive value is further increased by the combined use of this technique with all the other diagnostic tools, and in particular the traditional neurological examination, the neuroimaging and electrophysiological techniques. It is important to underline the role of the GM assessment as a longitudinal tool, to be used serially during the first months of life, and never in replacement of the other well established methods of investigation.

Using research findings to inform policy, practice, & training on behalf of young children & families

Early Environments and Social Policy

*Tuesday
11:10-1:00 pm
Yamashiro West*

Participants

Using research findings to inform policy on behalf of young children & families

*Penny K. Knapp, M.D., California Dept of Mental Health & University of California, Davis

Using research findings to inform clinical practice on behalf of young children & families

*Marie Kanne Poulsen, Ph.D., Univ of Southern California, Keck School of Medicine

Using research findings to inform training on behalf of young children & families

*Karen Moran Finello, PhD, Univ of Southern California, USA

Ancillary Discussants:

Ann Mastergeorge, Ph.D., MIND Institute, Univ. of California, Davis

Todd Sosna, Ph.D., California Institute of Mental Health

Barbara (Cricket) Mitchell, California Institute of Mental Health

Sylvia Mendoza, LCSW, Los Angeles County Dept of Mental Health

This symposium will focus on the need to use emerging research related to infant mental health and development to continuously develop new approaches to clinical work with very young children and their families; for education and training at both pre-service and in-service levels; and for advocacy and policy development on behalf of young children and families. The first presenter, a psychiatrist and pediatrician with a background as an academic researcher, teaching professor and leader in providing infant/preschool mental health advocacy within California, will address utilization of research findings to influence public

Using research findings to inform policy, practice, & training on behalf of young children & families

policy and advocacy; the second presenter, a clinical psychologist with a background as Chief Psychologist within a large children's hospital outpatient mental health program and chair of California's Quality Improvement Committee of the U.S. IDEA Part C Interagency Coordinating Council, will address research potential for impacting and changing clinical practice; and the third presenter, a developmental psychologist with an academic background in training graduate students in psychology and education at the pre-service level and community professionals at the in-service level, will address training applications. Concrete examples of research applications for development of innovative training and commercial clinical products will be shared with the audience. Discussants, representing individuals with primarily research responsibilities and others with responsibility for direct clinical applications in infant mental health, will address responsibilities of researchers to make findings accessible to a variety of target audiences, including other researchers, practitioners, policy makers, and the lay public. Attention to cultural and ethnic variations in study participants, with significant implications for interpretation and application of research findings will be discussed. Finally, the concept of research designed to be narrowly focused on known applications as opposed to research designed to be more general and open to new findings with applications that are not yet known will be debated.

Poster Session C
Culture and Social Development
Participants

Poser Bay 01 - A Content Analysis of Picture Books in Japan and The U.S.

*Rie Toriyama, Department of Psychology, Kyoto University

Yukiko Uchida, Department of Psychology, Koshien University, Hyogo, Japan

Sean E. Duffy, Rutgers University

Shoji Itakura, Kyoto University

Poser Bay 02 - Affordance Learning, Motivation And Understanding Others' Intentions In 12-Month-Olds

Peter Kennedy, University of Queensland

*Mark Nielsen, University of Queensland, Australia

Poser Bay 03 - Baby Girls Fill Pakistan's Public Cradles

*Shah Faisal, SWOM, PAKISTAN

Poser Bay 04 - Baby's Socialization Process at the Meal Scene (2)

*Masaru Haruyama, Toyo University Graduate School, Japan

Poser Bay 05 - Behavioral reactivity and perceptual processing: An ERP study

*Shannon Ross-Sheehy, University of Maryland, USA

Peter J. Marshall, Temple University

Nathan A. Fox, University of Maryland

Poser Bay 06 - Brazilian children social representations of power

*Sergio Kodato, Universidade de São Paulo - Brazil, Brazil

Poser Bay 07 - Correlation between hemodynamic signals and EEG amplitude oscillation during sleep in neonates

*Mariko Uchida, Japan Science and Technology Agency, CREST, Japan

Yukiko Hirabayashi, Advanced Research Laboratory, Hitachi, Ltd.; JST/CERST, Japan

Hiroki Sato, Advanced Research Laboratory, Hitachi, Ltd.; JST/CREST, Japan

Makoto Kanai, Department of Obstetrics and Gynecology, Shinshu University School of Medicine

Takashi Ashida, Department of Obstetrics and Gynecology, Shinshu University School of Medicine

Ikuo Konishi, Department of Obstetrics and Gynecology, Shinshu University School of Medicine

Takayuki Otobe, Japan Science and Technology Agency/CREST

Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's

Atsushi Maki, Advanced Research Laboratory, Hitachi, Ltd.

Poser Bay 08 - Determinants of peer detection in infancy: Face and motion

*Wakako Sanefuji, Kyushu University, Japan

Hidehiro Ohgami, Kyushu University

Tuesday
2:00-3:50 pm
Colonade
Mezzanine & Hiei

- Kazuhide Hashiya, Kyushu University
- Poser Bay 09** - Development of contingency: How infants become sensitive to contingency?
*Mako Okanda, Kyoto University, JAPAN
Shoji Itakura, Kyoto University
- Poser Bay 10** - Developmental Links of Infant Temperament to Attachment Security and Behavioral Adjustment Assessed in Toddlerhood
*Ji Hyun Sung, The University of Georgia, U.S.A.
Jaime L. Dice, The University of Georgia
Hui-Chin Hsu, University of Georgia, USA, USA
- Poser Bay 11** - Differences between Conflict and Non-conflict Interaction within Triads of Two-year-old Peers
*Fumiko Ishikawa, Cambridge University, United Kingdom
- Poser Bay 12** - Infant Categorization Of Male Faces
*Jennifer L Ramsey, University of Nevada Las Vegas
Rachel Simmons, University of Nevada Las Vegas, USA
- Poser Bay 13** - Infant EEG as a Predictor of Toddlerhood Behavior Problems
*Cynthia L. Smith, Virginia Tech, USA
Martha Ann Bell, Virginia Tech
Christy D. Wolfe, College of Charleston
Katherine C. Morasch, Virginia Tech
- Poser Bay 14** - Infant Interest In Male Faces
*Jennifer L Ramsey, University of Nevada Las Vegas
- Poser Bay 15** - Infant visual preferences within the modified-oddball ERP paradigm
Greg Reynolds, Appalachian State University
Mary Courage, Memorial University
*John Richards, University of South Carolina, USA
- Poser Bay 16** - Infants from prenatally stressed mothers habituate less well to a stressor
*Carolina de Weerth, Developmental Psychology - Radboud University Nijmegen - The Netherlands, The Netherlands
Jan K. Buitelaar, Department of Psychiatry - University Medical Center Nijmegen - The Netherlands
- Poser Bay 17** - Infants Have More Experience with Female than Male Faces
*Rachel Simmons, University of Nevada Las Vegas, USA
Jennifer L Ramsey, University of Nevada Las Vegas
- Poser Bay 18** - Infants' Brain Signatures of Processing Emotion in the Voice
*Tobias Grossmann, Centre for Brain and Cognitive Development, Birkbeck College, University of London
- Poser Bay 19** - Infants' understanding of what others have and have not heard
*Henrike Moll, Max Planck Institute for Evolutionary Anthropology, Germany
Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology
Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 20** - Maternal Iron Deficiency Alters Mother/Child Interaction
*Laura E. Murray-Kolb, Psychology Dept., Penn State University, USA
Rick O. Gilmore, Psychology Dept., Penn State University
Douglas M. Teti, Department of Human Development & Family Studies, The Pennsylvania State University
John L. Beard, Dept. of Nutritional Sciences, Penn State University
- Poser Bay 21** - Neural representation of voice onset time in infants and children
*Katrina Agung, University of Texas at Dallas, USA
- Poser Bay 22** - Obtaining Saliva from Toddlers for Cortisol Concentration Determination
Andrea D. Clements, East Tennessee State University
*Wallace Dixon, East Tennessee State University, United States
Brenda J. salley, Virginia Polytechnic Institute and State University
- Poser Bay 23** - Origins of smile and laughter: Two intensive longitudinal case studies
*Kiyobumi Kawakami, University of the Sacred Heart, Japan
Kiyoko Takai-Kawakami, Japan Women's University
Masaki Tomonaga, Kyoto University

Poster Session C

- Juri Suzuki, Kyoto University
 Fumiyo Kusaka, Showa University
 Takashi Okai, Showa University
- Poser Bay 24** - Peripartum Depression, Mother-Infant Interaction, and Infant Cortisol Levels
 *Lisa Kestler, Institute for the Study of Child Development, UMDNJ-Robert Wood Johnson Medical School, USA
 Patricia Brennan, Emory University Department of Psychology
 Elaine Walker, Emory University Department of Psychology
 Zachary Stowe, Emory University Department of Psychiatry and Behavioral Sciences
- Poser Bay 25** - Pointing Out New News, Old News, and Absent Referents at 12 Months
 *Ulf Liszkowski, Max-Planck-Institute for Evolutionary Anthropology, Germany
 Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 26** - Realistic head models for cortical source analysis in infant participants
 *John Richards, University of South Carolina, USA
- Poser Bay 27** - Role Emergence in Triads of Two-year-old Peers
 *Fumiko Ishikawa, Cambridge University, United Kingdom
- Poser Bay 28** - Self Regulation and Individual Differences in Infant Cognition
 *Martha Ann Bell, Virginia Tech
 Christy D. Wolfe, College of Charleston
 Katherine C. Morasch, Virginia Tech
 Annie M. Cardell, Virginia Tech
- Poser Bay 29** - Spontaneous eye blinking: links to temperament and attention
 *Leigh F. Bacher, SUNY Oswego, USA
 Kara Wallace, SUNY Oswego, USA
 Katie Lewis, SUNY Oswego
 Joshua Norton, SUNY Oswego
 Leigh Ann Hubbard, SUNY Oswego
 Kate Wynkoop, SUNY Oswego
 Nancy Zielinski, SUNY Oswego
- Poser Bay 30** - Synchronic imitation as a key to infants' understanding of hands
 *Virginia Slaughter, University of Queensland
 Petrina Bolles, University of Queensland
 *Mark Nielsen, University of Queensland, Australia
- Poser Bay 31** - Temperament and Parental Responding Effects to Child Vagal Reactivity
 *Rachael Kelleher, The Pennsylvania State University, USA
 Cynthia A. Stifter, Pennsylvania State University
- Poser Bay 32** - Temperament Moderates Gaze Following in 11- and 14-Month-Old Infants
 *James Todd, University of Toledo
 *Wallace Dixon, East Tennessee State University, United States
- Poser Bay 33** - The development of children's mental representations of family relationships
 *Hana Song, Department of Child Psychology and Education, Sungkyunkwan University, South Korea
 Kyoungsook Choi, Department of Child Psychology and Education, Sungkyunkwan University, South Korea
- Poser Bay 34** - The Development of Reciprocity among Infant Peers: A Process-Oriented and Prospective Longitudinal Approach
 *Shannon Lipscomb, University of California, Davis, United States
 Lenna Ontai-Grzebik, University of California, Davis
- Poser Bay 35** - The Role of Early Experiences in the Development of Face Processing
 *Margaret Moulson, Institute of Child Development, University of Minnesota; Children's Hospital Boston, USA
 Robert W Shannon, Department of Neuroscience, University of Minnesota
 Charles A Nelson, Harvard Medical School; Children's Hospital Boston
- Poser Bay 36** - The sources of normativity in ontogeny - children's spontaneous protest against violations of game rules

- *Hannes Rakoczy, Max Planck Institute for Evolutionary Anthropology, Germany
 Felix Warneken, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 37** - Theory of Mind and Family Environment: Developing a Richer Model
 *Kathleen Cain, Gettysburg College, U.S.A.
 Nathalie Goubet, Department of Psychology, Gettysburg College
 Sharon Birch, Gettysburg College
- Poser Bay 38** - Three-year-olds understand that an object can have different statuses in different contexts
 *Emily Sara Wyman, Max Planck Institute, Leipzig, Germany
 Hannes Rakoczy, Max Planck Institute for Evolutionary Anthropology, Germany
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 39** - Toys for Me? Which Gender Category?: Toddlers' Gender Stereotype Knowledge in a Sequential Touching Task
 *Maya G. Sen, Northern Michigan University, USA
 *Amanda J. Rosenburg, Northern Michigan University, USA
 *Erin L. Fettes, Northern Michigan University, USA
 *Lindsay A. Weymouth, Northern Michigan University, USA
 *Matthew J. Blazek, Northern Michigan University, USA
 *Megan L. Johnson, Northern Michigan University, USA
- Poser Bay 40** - Validation of an Instrumented Sleep-Wake Assessment Against a Biobehavioral Assessment
 *Debra Brandon, Duke University School of Nursing, USA
 *Diane Holditch-Davis, University of North Carolina Chapel Hill
- Poser Bay 41** - Visual Monitoring, Imitation, Joint Focus and Activity in 7 to 13-Month-Old Twins
 *Sonia Ragir, College of Staten Island/CUNY, USA
 Bernard Z Karmel, Institute for Basic Research of New York
 Judith M Gardner, NYS Institute for Basic Research in Developmental Disabilities, USA
 Felicia Blakes, College of Staten Island-CUNY
 Renne Reddick, College of Staten Island-CUNY
- Poser Bay 42** - Who's That in the Picture?: Toddlers' Knowledge of Gender Identity in a Sequential Touching Task
 *Maya G. Sen, Northern Michigan University, USA
 *Amanda J. Rosenburg, Northern Michigan University, USA
 *Lydia M. Adams, Northern Michigan University, USA
 *Leslie M. Lemanek, Northern Michigan University, USA
 *Anna C. Culik, Northern Michigan University, USA
- Poser Bay 43** - Quantitative Insight Into Maturation of the Autonomic Nervous System in Premature Infants
 *Sungho Oh, College of Nursing, University of Florida, Gainesville, FL
- Poser Bay 44** - Toddler's Friendship Making in Daycare Environment
 *Misuk Kim, Chung-Ang University, Korea

Tuesday
2:00-3:50 pm
Cosmos

Communication and Language

Participants

- Object naming and categorization in 6- and 12-month-old infants: Consistency in naming counts
 *Anne Fulkerson, University of Toledo, USA
 Sandra R Waxman, Northwestern University
 Jennifer M. Seymour, The University of Toledo
- Infants' use of lexical stress in word learning
 *Suzanne Curtin, University of Calgary
- Mapping sounds to meanings: The role of native-language phonotactics
 *Katherine Graf Estes, University of Wisconsin - Madison

How the speech signal affects word learning, and vice-versa

Jenny R. Saffran, University of Wisconsin-Madison
 Infants of 14 months use phonetic detail in novel words placed in naming phrases
 *Christopher Fennell, University of Ottawa, Canada
 Sandra R Waxman, Northwestern University

Discussant:

James Morgan, Brown University

The aim of this symposium is to increase understanding of how infants use the speech signal to learn about words and referents by thematically tying together the latest research from diverse subject areas (object categorization, phonotactics, phonetics), fields (cognitive and developmental psychology, linguistics), and methodologies. Fulkerson, Waxman, and Seymour showed that infants as young as 6 months can use consistent naming (which requires them to track the same word and object over multiple instances) to form an object category, a key feature of word learning. When variable names are presented (i.e., different words), infants do not form an object category. Moving ahead developmentally to 12 months of age, Curtin asked what level of detail can be encoded in early words. Curtin found that infants' early sensitivities to stress in speech perception are carried over into word-object associative learning, in that they treat two labels that differ in stress as two different words. Graf-Estes and Saffran investigated how speech perception influences infants' ease of word learning. They found that 19-month-old infants can associate sound sequences with high phonotactic probabilities to objects more easily than low probability sequences. The research presented thus far has clearly demonstrated how the speech signal and its detail facilitates word (and referent) learning. The final study found the complementary effect: word learning facilitates use of speech information. In previous research, infants of 14 months failed to use phonetic detail in isolated novel words. However, isolated labels may not even be treated as referential in infancy. By presenting the novel labels in context-rich naming phrases in order to clarify their nature as true words, Fennell and Waxman show that 14-month-old infants do notice fine phonetic detail. Taken together, the research in this symposium demonstrates the intricate ties between the speech signal and word learning.

Does input shape language and conceptual development?

Tuesday
2:00-3:50 pm
Hiei

Communication and Language**Organizer/Moderator:**

Marianella Casasola, Cornell University, United States

Participants

Infants' and Parents' Spatial Constructions During Play: A Bias for Containment?

*Marianella Casasola, Cornell University, United States

Jui Bhagwat, Cornell University

Keri Ann Cavaluzzi, Cornell University

Felicia Regina Fojas, Cornell University

Mothers' input during spatial tasks: A crosslinguistic study in English and Korean

*Soonja Choi, San Diego State University

Katharina J Rohlfing, University of Bielefeld

Early Word Learning And Joint Attention In Ngas Infants In Nigeria

*Jane B. Childers, Trinity University

Julie Vaughan, Trinity University

Daniel Burquest, University of Texas at Arlington

Comprehension And Production Of Nouns And Verbs: Data From The CDI Norming Studies In English, Mandarin, And Cantonese

*Twila Tardif, University of Michigan

Paul Fletcher, University College, Cork, Ireland

Virginia Marchman, Stanford University

Each of these four presentations explores the role of input in shaping the acquisition of relational concepts and relational language in infants and toddlers. Although some studies in this poster symposium include

Does input shape language and conceptual development?

cross-linguistic comparisons, their main focus (and their unifying theme) is in documenting whether differences in infants' experiences may account for differences in conceptual and linguistic development. Two presentations explore the role of parental input in the development of spatial concepts and spatial language. One presentation explored whether parents model particular relations (e.g., containment) more frequently than other relations (e.g., support). Results indicate that parents did not model particular relations more frequently while playing with their infants. However, infants demonstrated a strong preference for placing objects in other objects (i.e., containment), providing an interesting link between infant play behavior and their earlier acquisition of containment relative to support. A second presentation documented cross-linguistic differences in Korean and English-speaking mothers' instructions to their toddlers in a spatial construction task. Although English and Korean toddlers did not differ in their performance on the spatial task, the study revealed how mothers adapt their speech to suit their child's understanding and demonstrated cultural differences in mother's instructions to their child. The remaining presentations document the acquisition of nouns and verbs in infants from various language groups. Specifically, one presentation explored Ngas infants' comprehension and production of nouns and verbs and its relation to joint attention. Episodes of joint attention in the Ngas parent-infant dyads were found to be similar to those previously reported for US dyads. Furthermore, joint attention was related to both noun and verb development at different developmental times, with an earlier relation between joint attention and nouns than verbs. The final presentation documented developmental changes in the comprehension and production of nouns and verbs in infants learning English, Mandarin, or Cantonese. This study reports clear differences across language groups in the comprehension and production of nouns versus verbs, challenging the notion of the universality of the noun bias. Together, the results provide examples of how differences in input can, but do not always, lead to differences in conceptual and linguistic development. The results also explore a range of inputs, including infants' play behavior, joint attention, maternal language, and more generally, cultural differences.

Jealousy: Early Expressions And Their Interpretation in Light of Child, Family, And Cultural Influences

Tuesday
2:00-3:50 pm
Minori

Emotional Development

Participants

The Development of Jealousy

*Sybil Hart, Texas Tech University

Exploration of Conceptual Links Among Jealousy, Attachment, and Amai

*Kazuko Behrens, Texas Tech University, U.S.S.

Evidence of Early Jealousy And Implications for the Understanding of Self-Other Differentiation And Attachment

*Ricardo Draghi-Lorenz, University of Surrey

Discussants:

Tatsuo Ujiie, Nagoya University

Joseph J. Campos, University of California, Berkeley

The first presenter on the panel, Sybil Hart, will discuss 6- and 12-month-olds' responses to loss of exclusivity versus other conditions of maternal unresponsiveness and present findings of longitudinal research on the ontogenesis of jealousy in 3, 6, and 9 month-old infants. This synthesis of a recent line of work with infants will be followed by the offering of a theoretical framework in which sensitivity to loss of exclusivity, or jealousy, and individual differences in its expression and trajectories may be understood as phenomena which are driven by internal and external influences. Following argument for taking child factors into account, the contribution of familial and cultural influences will be discussed by the next two presenters. The second presenter will be Kazuko Behrens. She will present findings of a qualitative study on Japanese children's responses to loss of exclusivity and interpret them on the basis of the concepts of attachment and amae, as well as cultural norms which support and frame intra-familial relationships and expectations. The third presenter, Riccardo Draghi-Lorenz, will present empirical data on 4/5 month-old infants' responses to observing mother and a stranger direct affectionate attention to another child. The results will be discussed in terms of their implications for the understanding of the emergence of attachment and cognitive functioning during infancy.

023

Paper Session: Organic Disorders

Tuesday
2:00-3:50 pm
Mizuho 1

ISIS

Participants

A computational study of the impact of the autistic brain growth pattern

*John Lewis, UCSD, USA

Jeff Elman, University of California in San Diego

Stress Tolerance in Young Children with Autism

*Philip Roman Zelazo, McGill University and Montreal Autism Centre, Canada

Cheryl-Lynn Rogers, McGill University

Caroline Reid, McGill University

The nature of hyperacusis in infants with Williams Syndrome

*Mayada Elsabbagh, Neurocognitive Development Unit, Institute of Child Health, London, UK, UK

Mazal Cohen, Institute of Child Health, University College London, London, UK

Henri Cohen, Cognitive Neuroscience Center, Université du Québec à Montréal

Annette Karmiloff-Smith, Neurocognitive Development Unit, Institute of Child Health, London, UK

Prevention and Early Detection of Communication Problems in Children with Cleft Lip and Palate' (up to 5 years)

*Mie Cocquyt, Vormingsdienst SIG, Destelbergen, Belgium; Hogeschool Gent, Department of Health Care, Campus Vesalius, Ghent, Belgium, Belgium

024

Paper Session: Vision and Object Knowledge

Tuesday
2:00-3:50 pm
Mizuho 2

ISIS

Participants

Exploration of Upright and Upside-Down Faces by 4-month-Old Infants: An Eye-Movement Study

*Mathieu Gallay, Laboratoire Cognition & Développement, UMR CNRS 5022, Paris V, France

Jean-Yves Baudouin, University of Burgundy, France

Karine Durand, CESG, UMR-CNRS 5170, Université de Bourgogne, Dijon, France

Comparing apples and oranges: The problem of inter-dimensional salience in infancy research

*Zsuzsa Kaldy, University of Massachusetts Boston, Dept. of Psychology, USA

Erik Blaser, University of Massachusetts Boston, Dept. of Psychology, USA

Infants' multisensory representation of number

*Kerry Jordan, Duke University, USA

Elizabeth Brannon, Duke University

There are many ways to solve an occlusion task: the role of experience and long-term memory

*Olga Kochukhova, Uppsala University, Department of Psychology, Sweden

gustaf gredeback, Uppsala University, sweden

When is an object that is released in contact with another object stable? Learning about support events in young infants

*Jie Li, Department of Psychology at University of Illinois at Urbana-Champaign, USA

Renee Baillargeon, University of Illinois, USA

Amy Needham, Duke University, USA

025

Invited Talk: David Anderson - Critical Periods in Development

Tuesday
2:00-2:50 pm
Yamashiro East

ISIS

Organizer/Moderator:

David Anderson, San Francisco State University, USA

The theory of critical periods originated in the early 1900s with the discovery that various chemical, surgical, or environmental insults to embryos produced drastically different effects depending on the stage in development at which the insult was applied. However, it was the ethologists, led by the work of Konrad Lorenz on primary social bonding (imprinting) in birds, who popularized the critical period

concept and who spurred its application to an extremely diverse range of physiological and behavioral changes that occur during human and animal development. After a brief hiatus, critical periods are once again in fashion. Contemporary study of critical periods is being led by neuroscientists and clinicians who have shifted the focus of research away from documenting the existence of critical periods to examining the factors that regulate plasticity in neural and behavioral systems across the lifespan. The purpose of this presentation is to highlight some of the important changes in the critical period concept that have occurred over the last several decades and to draw attention to recent research findings that are beginning to shed more light on the common and basic mechanisms that underlie development. Though the critical period concept is still controversial, I argue that a deeper appreciation of critical periods has the potential to considerably advance our understanding of the relations among multiple levels of analysis during development and to encourage collaborative thinking about the developmental process. Finally, I argue that research on critical periods holds considerable promise for devising new strategies to prevent age-related declines in performance and to facilitate lifelong learning and recovery from disabling conditions.

Tuesday
2:00-3:50 pm
Yamashiro West

Biological Processes**Participants**

Infant visual brain development: Global motion and form sensitivity as indicators of normal development and vulnerability of dorsal and ventral streams in developmental disorders.

*Janette Atkinson, University College London

*Oliver Braddick, Oxford University

The development of biological motion perception in typical and atypical populations

*Janine Spencer, Centre for Research in Infant Behaviour, School of Social Sciences and Law, Brunel University, Uxbri

Justin O'Brien, Centre for Cognition & Neuroimaging, School of Social Sciences and Law, Brunel University, Uxbridge,

Integrative motion processing in infancy

*So Kanazawa, Department of Psychology, Shukutoku University

Masami K Yamaguchi, Department of Psychology, Chuo University

Ancillary Discussants:

Oliver Braddick, Oxford University

Masami K Yamaguchi, Department of Psychology, Chuo University

Justin O'Brien, Centre for Cognition & Neuroimaging, School of Social Sciences and Law, Brunel University, Uxbridge,

The elucidation of distinct 'ventral' and 'dorsal' streams of cortical visual processing - concerned with shape processing and object and shape recognition on the one hand, versus motion, spatial layout, and visually guided action on the other - has been a major insight from neuropsychological and neurophysiological studies. The symposium will consider how far evidence from infancy and childhood has enabled us to chart the relative developmental course of these two streams and their interaction, and provided insights into atypical brain development. Data to be reviewed will include: relative sensitivity of infants and children to matched displays depending on global form and motion processing; interaction of form and motion information in normal and atypical development of the processing of facial images; development in infancy of high-level aspects of motion processing; evidence for 'dorsal stream vulnerability' as a developmental aspect of a range of atypical developmental conditions and disorders, including early brain damage, Williams syndrome, autistic spectrum disorder (ASD), and very premature birth. The participants come from leading laboratories investigating early development of vision and visual cognition in UK and Japan, all of whom have considered their data, including multiple aspects of development of motion processing in infancy, within the framework of the dorsal/ventral distinction. Atkinson and Braddick are the originators of the 'dorsal vulnerability' hypothesis, with extensive studies of the development of global form and motion processing. Spencer and O'Brien pioneered the application of this concept in ASD, and have also investigated processing of facial motion by infants. Yamaguchi and Kanazawa and colleagues have examined many aspects of integrative pattern and motion processing in

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The Infant's Developing Visual Brain: Dorsal and Ventral Cortical Streams in Normal and Atypical Development.

infancy. Several of the participants have also been involved in adult neuroimaging studies of the organization of dorsal and ventral streams, and in non-invasive measures (ERP, Near IR spectroscopy) of visually related cerebral activity in infants.

027

Invited Talk: Alison Gopnik - Babies and Bayes Nets: Causal learning in infancy

Tuesday

3:00-3:50 pm

Yamashiro East

ISIS

Organizer/Moderator:

Alison Gopnik, UC Berkeley

Recently there has been a great deal of interest in new ideas about fundamental learning mechanisms in cognitive development. We have been exploring ideas from computer science that allow accurate learning of abstract hierarchical structures, such as grammars or intuitive theories, from statistical information. This formalism involves probabilistic graphical models - more commonly called Bayes nets. These theories provide a rigorous computational account of learning that bridges the divide between nativist and empiricist theories in development. I'll describe these new theoretical ideas and suggest how they may be applied to several very lively areas of recent infancy research including statistical learning, imitation, the conflict between looking-time and action methodologies, and recent work on infants understanding of goal-directed action. The new theoretical ideas may help to explain how statistical learning takes place, how infants integrate action and observation, and how infants learn about the world around them.

028

Poster Session D: Cognition, Memory and Learning

Tuesday

4:10-6:00 pm

*Colonade
Mezzanine & Hiei*

Cognition, Memory, and Learning

Participants

Poser Bay 01 - A discourse-based account of young children's understanding of a false belief problem

*Mikkel B. Hansen, Roskilde University, Denmark, Denmark

Poser Bay 02 - A New Version of an Old Hypothesis about Why Nouns Matter for Learning Adjectives

*Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University
Hanako Yoshida, Psychological and Brain Sciences, Indiana University, U.S.A.

Poser Bay 03 - A novel technology for studying the A-not-B error

*Jing Feng, Indiana University, USA
John Spencer, University of Iowa, U.S.A.
Gregor Schöner, Institut für Neuroinformatik, Bochum, Germany
Christopher Smethurst, IPS company
Esther Thelen, Indiana University

Poser Bay 04 - Action context modulates infants' memory for object location and identity

*Jennifer Yoon, Stanford University, USA
mark johnson, University of London, UK
Gergely Csibra, University of London, Birkbeck

Poser Bay 05 - Action-effect learning and action control in infants

*Maaïke Weidema, Cognitive Psychology Unit, Leiden University, Leiden
Szilvia Biro, Leiden University, Netherlands
Rena M. Eenshuistra, Cognitive Psychology Unit, Leiden University
Birgit Elsner, University of Heidelberg
Bernhard Hommel, Cognitive Psychology Unit, Leiden University

Poser Bay 06 - Audience effect in infants' pointing gestures

*Takeshi Kishimoto, Department of Comparative and Developmental Psychology, Graduate School of Human Sciences, Osaka University, Japan

Poster Session D: Cognition, Memory and Learning

Yasuhiro Shizawa, Department of Comparative and Developmental Psychology, Graduate School of Human Sciences, Osaka Uni

Toshihiko Hinobayashi, Department of Comparative and Developmental Psychology, Graduate School of Human Sciences, Osaka Uni

Tetsuhiro Minami, Department of Comparative and Developmental Psychology, Graduate School of Human Sciences, Osaka Uni

Poser Bay 07 - Can 10-month-olds utilize information from TV in a real-world task?

*Naoko Dan, University of Tokyo, Japan

Kazuo Hiraki, Department of Systems Science, University of Tokyo, Japan

Sotaro Shimada, University of Tokyo

Masahiro Hirai, University of Tokyo

Poser Bay 08 - Categorization of hybrid toy stimuli by 18-month-olds: Partonomies, Taxonomies, or "Ad hoc" categories?

*Denis Mareschal, School of Psychology, Birkbeck University of London, UK

Seok Hui Tan, National University of Singapore

Poser Bay 09 - Cognitive Development of Rational and Irrational Causality in Childhood; The Influence of Information from Others

*Nobushi Matsushima, Graduate School of Human Environment Studies, Kyushu University, JAPAN

Poser Bay 10 - Configural information in face processing: an eye-movement study

*Jean-Yves Baudouin, University of Burgundy, France

Mathieu Gallay, Laboratoire Cognition & Développement, UMR CNRS 5022, Paris V, France

Karine Durand, CESG, UMR-CNRS 5170, Université de Bourgogne, Dijon, France

Poser Bay 11 - Cortisol, Mother-Infant Synchrony, and Learning in 6-month-old Infants

*Laura Thompson, New Mexico State University, USA

Wenda R. Trevathan, New Mexico State University

Poser Bay 12 - Counting in 4 month olds: Evidence for a system of Numerical Knowledge in infancy

*Fatma Zohra Sai, UAE University, UAE

Poser Bay 13 - Decalage in infants' reasoning about color information in occlusion and containment events

*Weiting Ng, University of Illinois, Urbana-Champaign, USA

Renée Baillargeon, Department of Psychology, University of Illinois at Urbana-Champaign

Poser Bay 14 - Development of Language and Memory in 3-Year-Olds

*Annie M. Cardell, Virginia Tech

Martha Ann Bell, Virginia Tech

Poser Bay 15 - Development of object concepts in pigtailed macaque monkeys

*Cynthia Hall-Haro, Center for Neural Science, New York University

Tracy A. Price, Center for Neural Science, New York University

Jayme A. Vance, Center for Neural Science, New York University

Scott P. Johnson, NYU

Lynne Kiorpes, Center for Neural Science, New York University

Poser Bay 16 - Development of reasoning about other's desires: modification of the food-request procedure

*Takahiro Hisazaki, Kyushu Lutheran College, Japan

Nobushi Matsushima, Graduate School of Human-Environment Studies, Kyushu University

Misa Kuroki, Graduate School of Human-Environment Studies, Kyushu University

Poser Bay 17 - Developmental Change in the Specificity of Causal Representations

*Paul Muentener, Harvard University, USA

Susan Carey, Harvard University

Poser Bay 18 - Developmental changes in mimicry and emulation learning in object-related imitation

*Chi-Tai Huang, Department of Human Development, Tzu Chi University, Taiwan

Poser Bay 19 - Differential Patterns of Frontal EEG and Novelty Preferences in 10-Month-Old Infants

*Katherine C. Morasch, Virginia Tech

Poster Session D: Cognition, Memory and Learning

- Martha Ann Bell, Virginia Tech
- Poser Bay 20** - Disoriented 18-24 month olds' use of colour to find hidden objects
 *Marko Nardini, Oxford University, United Kingdom
 Janette Atkinson, University College London
 Oliver Braddick, Oxford University
- Poser Bay 21** - Do 7-months-old infants pay attention to causality in ambiguous dynamic events?
 *Birgit Traeuble, University of Heidelberg, Germany
 Sabina Pauen, University of Heidelberg
- Poser Bay 22** - Do 9-month-olds track discrete quantity?
 *Marian L Chen, Rutgers University, USA
 Alan M Leslie, Rutgers University Psychology and Center for Cognitive Science
- Poser Bay 23** - Does infants' early action understanding predict later Theory of Mind abilities?
 *Tanja Hofer, Max Planck Institute for Human Cognitive and Brain Sciences, Germany
 Bianca Jovanovic, University of Giessen
 Gisa Aschersleben, Max Planck Institute for Human Cognitive and Brain Sciences
- Poser Bay 24** - Dynamic interactions between behavioral history and task structure in infants' imitative behaviors
 *Shin Maruyama, Indiana University Bloomington USA, USA
 Gregor Schöner, Institut für Neuroinformatik, Bochum, Germany
 John Spencer, University of Iowa, U.S.A.
 Virgil Whitmyer, Eli Lilly and Company, Indianapolis, IN USA
 Esther Thelen, Indiana University
- Poser Bay 25** - Early Referential Understanding in Toddlers: Evidence from Vocal Clues
 *Chung-Hsin Chiang, Dep of Psychology, National Chung Cheng University, Taiwan
 Min-Hsiang Chang, Dep of Psychology, National Chung Cheng University
- Poser Bay 26** - EEG Correlates of Featural Information Retention in Infancy
 *Victoria Southgate, University of London, Birkbeck
 Gergely Csibra, University of London, Birkbeck
 Mark Johnson, University of London, UK
- Poser Bay 27** - Effects of naming on intermodal transfer in 24-month-olds.
 *Thierry Nazzi, Laboratoire Psychologie de la Perception, Paris
 Arlette Stréri, CNRS - Université Paris5
 Louise Goyet, Université Paris5
 Mongin Sandrine, Université Paris5
- Poser Bay 28** - Fitting objects into holes: On the development of spatial cognition skills
 *Helena Örnkloo, Department of Psychology, Sweden
 Claes von Hofsten, Department of Psychology, Uppsala University
- Poser Bay 29** - From Attention to Intention: 18-month-olds use Others' Focus of Attention for Action Interpretation
 *Tanya Behne, Max Planck Institute for Evolutionary Anthropology, Germany
 Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 30** - Generalization from Picture Books by 18- and 24-Month-Old Children
 *Gabrielle Simcock, University of Queensland, Australia
 Megan Dooley, University of Queensland
- Poser Bay 31** - Gravity Bias in Young and Adult Chimpanzees (Pan troglodytes)? Test with Opaque Tubes Task
 *Masaki Tomonaga, Kyoto University
 Masayuki TANAKA, Kyoto University, JAPAN
 Yuu Mizuno, Chugoku University, Japan
- Poser Bay 32** - Helping and Cooperation at 14 Months of Age
 *Felix Warneken, Max Planck Institute for Evolutionary Anthropology, Germany
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 33** - How do infants represent physical variables? Connections between the object-recognition and physical-reasoning systems
 *Jie Li, Department of Psychology at University of Illinois at Urbana-Champaign, USA

Poster Session D: Cognition, Memory and Learning

- Renee Baillargeon, University of Illinois, USA
 Daniel J. Simons, Department of Psychology at University of Illinois at Urbana-Champaign
- Poser Bay 34** - How Does Infant's Brain Respond to Televised Action? : A Near-infrared Spectroscopy Study
 *Sotaro Shimada, Department of General System Studies, The University of Tokyo, JAPAN
 Kazuo Hiraki, Department of Systems Science, University of Tokyo, Japan
 Michiko Miyazaki, The University of Tokyo
 Sayaka Hondo, The University of Tokyo
- Poser Bay 35** - How infants integrate attentional and emotional cues in order to regulate their imitative responses.
 *Betty Repacholi, University of Washington, USA
 Berit Ruth Olsen, University of Washington
 Andrew N Meltzoff, University of Washington
- Poser Bay 36** - How Infants Measure Quantitatively: Encoding Extent
 *Charlene Dunkley, Rutgers University, USA
 Sean E. Duffy, Rutgers University
- Poser Bay 37** - Infants Attribute Goals to Biologically Impossible Actions
 *Victoria Southgate, University of London, Birkbeck
 mark johnson, University of London, UK
 Gergely Csibra, University of London, Birkbeck
- Poser Bay 38** - Infants' Learning and Inferences About Object Function and Structure
 *Stella Christie, Northwestern University, US
 *Lori Markson, University of California, Berkeley
 Julie Crisp, University of California, Berkeley
 Alexa Romberg, University of Wisconsin-Madison
- Poser Bay 39** - Infants' Responses to Maternal Imitation
 *Janet Olson, Northern Illinois University, USA
 *Elise Frank Masur, Northern Illinois University
- Poser Bay 40** - Infants' Understanding of Non-Cohesion as a Projectable Property of Material Entities
 *Rebecca D. Rosenberg, Harvard University, USA
 Susan Carey, Harvard University
- Poser Bay 41** - Infants' Generalization of Information between Picture Books and the Real World
 *Megan Bloom, University of Virginia, USA
 Patricia Ganea, University of Virginia
 Judy DeLoache, University of Virginia
- Poser Bay 42** - Infants' Knowledge of the Human Body Shape: The Role of Symmetry
 *Michelle Heron, University of Queensland, Australia
 Virginia Slaughter, University of Queensland
- Poser Bay 43** - Registration and interpretation of possible and impossible objects in infancy.
 *Sarah Shuwairi, New York University, Department of Psychology, USA
 Jennifer Knestruck, Columbia University
 Scott P. Johnson, NYU
- Poser Bay 44** - Investigating early language: event-related potentials as a window into semantic memory in children at the age of 24 months.
 *Gro Syversen, University of Oslo
 Lars Smith, University of Oslo
 Janne von Koss Torkildsen, University of Oslo
 Magnus Lindgren, University of Oslo
- Poser Bay 45** - The development of infants' use of body information when forming categorical representations of humans and non-human animals.
 *Emma Axelsson, University of East London, United Kingdom
 Derek G Moore, University of East London, UK
 Julia Goodwin, University of East London
 Brian R Clifford, University of East London
 Gavin Nobes, University of East London

Tuesday
4:10-6:00 pm
Cosmos

Communication and Language**Participants**

Phonotactic Constraints on Phonetic Discrimination

*Jessica Maye, Northwestern University; Northwestern Institute on Complex Organization, USA

Adult and infant perception of the English nasal-place asymmetry

*Chandan R Narayan, Linguistics Dept., University of Michigan; Infant Studies Centre, University of British Columbia

Perception of Phonotactic Violations by Japanese Adults and Infants

*Laurel Fais, Department of Psychology, University of British Columbia, Canada

Sachiyo Kajikawa, Tamagawa University, Japan

Ryoko Mugitani, NTT Communication Science Labs., Japan

Shigeaki Amano, NTT Communication Science Laboratories, NTT Corporation

Janet F. Werker, Department of Psychology, University of British Columbia

A Single Statistical Mechanism Can Learn Both Segments and Phonotactics

*Robert Daland, Department of Linguistics, Northwestern University

Matthew Goldrick, Department of Linguistics, Northwestern University

Jessica Maye, Northwestern University; Northwestern Institute on Complex Organization, USA

The field of developmental speech perception has largely focused on infants' ability to discriminate pairs of speech stimuli that differ by a single phonetic segment (e.g., [ba] vs. [pa] or [i] vs. [y]). Discrimination is generally tested in a single phonological position, often word-initial. However, infants' ability to discriminate two sounds differs by position; e.g., infants often show better discrimination in initial than in final position. In young infants these positional differences in discrimination likely arise from innate factors. However, position-specific changes across development may be indicative of the infants' acquisition of language-specific patterns regarding speech sound sequences, a.k.a. phonotactics. The first three talks in this symposium present examples of position-specific changes in infant speech perception that correspond with native language phonotactic patterns. The data show that infants' discrimination of a phonetic contrast improves in positions where the contrast is phonemic in the native language, and decreases in positions where the contrast is allophonic. These findings demonstrate that phonetic discrimination is not context-independent, but rather is specific to particular phonological contexts. Thus, as infants' discrimination patterns become native-like, infants acquire not only the phonetic properties of the language but also the phonotactics. These findings suggest that a single mechanism is responsible for the development of both native language speech perception and the awareness of native language phonotactic regularities. The final talk in the symposium presents a computational model describing a potential mechanism for simultaneous acquisition of phonetics and phonotactics. These talks represent a subset of the emerging body of research examining the interaction of phonetics and phonotactics in infant speech perception. The fact that several labs have independently begun working on the same issue is indicative of its timeliness. Presentation of this work in a symposium context will provide an important forum for discussion of this new research area.

Tuesday
4:10-6:00 pm
Minori

Motor and Sensorimotor Behavior**Participants**

Infants emerging ability to perceive gaze direction

*gustaf gredeback, Uppsala University, sweden

Carolin Theuring, Max Planck Institute for Human Cognitive and Brain Sciences, Munich

Petra Hauf, Goethe University, Frankfurt

Ben Kenward, Uppsala University

Eye gaze and emotion processing in early infancy: An ERP study

*Tricia Striano, Department of Pediatrics and Kennedy Center for Human Development, Nashville, TN, USA

Franziska Korb, Neurocognition and Development Group, Center for Advanced Studies, University

Infants' social cognition: Perception of intentions and goal-directed actions.

of Leipzig, Germany

Tobias Grossmann, Centre for Brain and Cognitive Development, Birkbeck College, University of London

Vincent Reid, Neurocognition and Development Group, University of Leipzig, Germany

Action understanding at 12 months: Predicting the goal of an action

*Terje Falck-Ytter, Uppsala University

gustaf gredeback, Uppsala University, sweden

Claes von Hofsten, Department of Psychology, Uppsala University

Neural mechanisms of the perception of human action

*Vincent Reid, Neurocognition and Development Group, University of Leipzig, Germany

Tricia Striano, Department of Pediatrics and Kennedy Center for Human Development, Nashville, TN, USA

Action perception at 5 month: are infants mirroring the actor?

*Pär Nyström, Department of Psychology, Uppsala University, Uppsala, Sweden

Kerstin Rosander, Department of Psychology, Uppsala University

Claes von Hofsten, Department of Psychology, Uppsala University

Discussant:

Sylvain Sirois, School of Psychological Sciences, University of Manchester

The ability to perceive others actions as intentional and goal directed is essential for most human interaction. Over the last decade research on early social cognition has demonstrated that 12-month-old infants organize their experiences according to perceived goals and that they systematically engage in joint attention. Both of these abilities have been thoroughly investigated using fairly standardized paradigms in which infants' preference looking times are analysed from video recordings. We currently have little knowledge of how these abilities develop in early infancy; how they relate to each other and how alternative methodological approaches can enhance our understanding of infants' early social competence. The symposium "Infants' Perception of Intentions and Goal-Directed Actions" seeks to highlight the developmental trajectory of early social perception and the perception of goal directed actions. The symposium further attempts to discuss and explore whether alternative methodological approaches such as EEG/ERP and eye tracking can enhance our understanding of these phenomena.

Paper Session: Topics in Perception and Action

Tuesday

4:10-6:00 pm

Mizuho 1

ISIS**Participants**

Color Preferences in Infancy

*Anna Franklin, University of Surrey, England

Nicola Pitchford, University of Nottingham

Lynsey Mahony, University of Surrey

Ian R.L. Davies, University of Surrey

Influence of walking experience on the development of spatial cognition in extrapersonal space

*Beatrix Labadi, University of Pecs, Institute of Psychology, Hungary

Taiwanese Infants' Mental and Motor Development: 6 to 24 Months

*Yen-Tzu Wu, School and Graduate Institute of Physical Therapy, National Taiwan University, Taiwan

Suh-Fang Jeng, School and Graduate Institute of Physical Therapy, National Taiwan University, Taiwan

Kuo-Inn Tsou, School of Medicine, Fu-Jen Catholic University

Paper Session: Topics in Complex Cognitive-Emotional Processes

Tuesday

4:10-6:00 pm

Mizuho 2

ISIS**Participants**

Paper Session: Topics in Complex Cognitive-Emotional Processes

Children Treat Infant Transitional Objects as Irreplaceable Possessions

*Bruce Hood, University of Bristol, UK

Paul Bloom, Yale University

Two-year olds use artist intention to understand drawings

*Melissa Preissler, University of Edinburgh, Scotland

Paul Bloom, Yale University

Narrative Constructions in Toddler's Drawing and Writing

*Misuk Kim, Chung-Ang University, Korea

Invited Talk: Hideaki Koizumi - Building bridges between brain-science and childcare

Tuesday

4:10-5:00 pm

Yamashiro East

ISIS

Organizer/Moderator:

Hideaki Koizumi, Research Institute of Science and Technology for Society,

In 1996, the Japan Science and Technology Co. (JST) sponsored the Trans-disciplinary Symposium on Environmental Analysis and Measurement, held over four days in Sapporo. The symposium brought home the importance of considering the brain in environmental science and the interrelationship between the two. While knowledge of the epigenetic processes of the brain, or learning in other words, is a key to understanding the nature of the brain and human society, many environmental problems are due to the excessive production of artifacts as projections of the human brain. This consideration led to the concept of "brain-science & education" including "brain-science and childcare". A further 4-day international symposium Trans-disciplinary Symposium on Developing the Brain: Science of Learning and Education was held in Oiso, right at the end of the 20th Century, under the auspices of the same sponsor. The most important by-product of this symposium was the launching of a Brain-Science & Education program including the concept of brain-science and childcare by JST in 2001. From that year until 2003, we commenced nine projects covering various aspects of the new trans-disciplinary field that we call brain-science & education. Of the nine, eight were cross-sectional studies. In 2004, we enlarged the organization and changed the structure to consist of two programs under the names Brain-Science & Education Type I and Brain-Science & Education Type II. The Type I program is for cross-sectional studies and the Type II program is for longitudinal studies. We added three new projects within the Type I program and started the Type II program with six projects. Almost all of the projects are strongly dependent on non-invasive brain function imaging such as functional magnetic resonance imaging (fMRI) and near-infrared spectroscopic optical topography (NIRS-OT). Each project theme was selected through a competitive bidding system: the program coordinator sets a general field, and teams propose specific lines of research. Selected teams then receive grants. In each application process, we have had to choose from among a number of worthwhile projects, all having keen, capable, and experienced leaders. We have a strong commitment to the concept of trans-disciplinarity; that is, we encourage research that transcends borders between completely different fields to arrive at new syntheses. Almost all of the projects involve close collaboration between brain scientists and educators. However, we wished to expand the scope of collaboration by creating bridges between scientists and scholars on the one hand and practitioners (teachers and clinicians) on the other. For this reason, we have also started a large-scale cohort study called the Japan Children's Study (JCS) as a separate top-down program. The objectives of this study are to elucidate the developmental mechanisms behind "sociability" and apply developmental and behavioral cognitive neuroscience to identify factors that make a nurturing environment suitable or unsuitable for babies and children. A two-year pilot study commenced this year and will be followed by the study proper. The development of about 5,000 babies and children is to be followed over 10 years (full and formal acceptance has been obtained for a five-year cohort study; this is to be followed by evaluation). All of the programs are coordinated by the R&D Division "Brain-Science and Society" within the Research Institute of Science and Technology for Society (RISTEX). We nominated the six themes listed below for projects to operate within the Brain-Science & Education Type II program. 1. Twin studies to clarify points of contact between genetic and epigenetic processes. 2. Studies of emotion intended to uncover mechanisms responsible for the will to learn. 3. Mechanisms of second-language acquisition. 4. Techniques for the early diagnosis of learning disabilities (including autism). 5. Preventing and intervening in dementia. 6. Gene-chip methodology to find out how environmental stimuli drive mRNA

expression. Where this is useful or required, the longitudinal cohort studies are to include further prospective or retrospective (generally prospective) follow-up studies based on completely noninvasive higher-order brain-function imaging or other techniques for observing brain functions. We are also fostering collaboration between the project teams while ensuring that the originators get the credit for new ideas. The large-scale cohort study, the Japan Children's Study, is to be linked with follow-up studies. Human cohort studies based on the concept of brain-science & education are likely to have three major sets of implications. 1. Human cohort studies based on brain science are expected to produce scientific evidence that will contribute to policy-making, especially on education and related issues that pose serious problems for modern human society. For example, we might uncover implications for policy on childcare, school education, or aging. 2. We will be able to assess the potential effects of new technologies on babies, children, and adolescents. For example, while humans had no experience of electronic information technology until very recent times, we have little idea whether or not such technology affects the human brain and mind. If it does have effects, we need to find out what they are. 3. Human cohort studies will allow us to test hypotheses drawn from animal and genetic case studies to see if they actually apply to people. The results of animal studies can neither conclusively prove nor disprove the validity of the hypothesis. Also, while a number of recent animal studies have indicated links between behavior and the expression of particular genes, we have no idea whether these findings have implications for human development. Through these projects, we intend to apply trans-disciplinary methods in the pursuit of greater human security and well-being.

Tuesday
4:10-6:00 pm
Yamashiro West

High Risk and Pediatric Issues**Participants**

Changing Roles of Autoregulation and its Dysfunction on Attention and Motor Organization: Birth to 3 Years

*Judith M Gardner, NYS Institute for Basic Research in Developmental Disabilities, USA

Modeling Cognitive and Motor Development Using Prematurity, Low Birthweight, IUGR, CNS Injury, Gender, and Maternal Education

*Michael J Flory, New York State Institute for Basic Research in Developmental Disabilities

Elizabeth M Lennon, New York State Institute for Basic Research in Developmental Disabilities

Arousal Modulation Deficits Affect Conversational Language in Fragile X Syndrome and Perinatal Brain Damage

*Vicki Sudhalter, New York State Institute for Basic Research in Developmental Disabilities

Richard C Belser, New York State Institute for Basic Research in Developmental Disabilities

Neuropsychological Outcome Profile of 9-Year-Old Children Born with Intrauterine Growth Restriction

*Ronny Geva, Bar-Ilan University

Discussant:

Bernard Z Karmel, New York State Institute for Basic Research in Developmental Disabilities

Adequate development of arousal and attention appears to be necessary for normal autoregulatory development, and deficits in autoregulation have far-reaching effects, producing problems in attention, motor, language, executive function, and cognitive organization. The relation between arousal and attention in early infancy is disrupted in systematic and differential ways by risk conditions such as acute CNS injury and neurotoxicity. Similar disruption might be expected by chronic stress in utero and genetic factors. How and when these disruptions take place, and how plasticity affects recovery, have implications for development well beyond early infancy, depending on the nature, timing and duration of the influence. Thus, studying arousal, attention, and autoregulation, and how these processes are affected by different pre- and postnatal risk conditions, is fundamental to understanding a broad array of biobehavioral processes and their development, and is of major theoretical and practical importance to multiple disciplines. The aim of this symposium is to provide new findings that increase the understanding of regulatory effects on a wide range of behaviors not typically thought to involve regulatory components in both normal and atypical populations from neonates to school-age children. Gardner will provide basic findings of how changes in developmental processes of attention, action, and regulation as measured by

034**Autoregulatory Effects on Multiple Developmental Outcomes in Diverse High-Risk Infant Cohorts**

arousal modulation of attention and motor behavior in high-risk neonates form the substrate for regulatory behavior at later ages that involves social games, focused attention, exploration, and novel situations. Flory will describe complex interactive and sometimes counterintuitive effects of diverse risk factors in high-risk infants on outcome on Bayley Scales of Infant Development. Sudhalter and Belser will describe deficits in the arousal component of conversational language in two populations known for arousal modulation deficits, Fragile X Syndrome and Perinatal Brain Damage, with neonatal deficits related to disfluent speech. Geva will describe neuropsychological profiles and cognitive competence in intrauterine growth-restricted 9-year-olds that indicate IUGR-related processes compromise frontal network functioning. Although the specific CNS basis for the deficits observed in these studies is not clear, the common thread of poor arousal modulation underlying inadequate development of regulatory processes that are the substrate for the diverse behaviors that rely on adequate frontal cortical functioning provides increased sophistication in the understanding of diverse risk conditions and diverse dysfunction in outcome.

035**Internationalizing Infancy Research**

Wednesday
7:30-8:50 am
Cosmos

ISIS**Organizer/Moderator:**

Joseph J. Campos, University of California, Berkeley

While this conference has taken an important step forward in the internationalization of infancy research, much remains to be done to consolidate these gains and to make additional gains. This informal discussion addresses the opportunities, challenges and benefits of international collaboration in infancy research, both among labs and among professional societies.

036**Breakfast Roundtable - TBA (Wed.)**

Wednesday
7:30-8:50 am
Minori

ISIS**Organizer/Moderator:**

Carl Frankel, University of California, Berkeley, USA

None Yet

037**Poster Session E: Communication and Language**

Wednesday
9:00-10:50 am
Colonade
Mezzanine & Hiei

Communication and Language**Participants**

Poser Bay 01 - Universal and Invariant Representation of Speech

*Nobuaki MINEMATSU, The University of Tokyo, Japan

Tazuko NISHIMURA, University of Tokyo, Japan

Poser Bay 02 - A Solution to Current Limitations in the Analysis of Developmental Data

*Shohei Hidaka, Graduate School of Informatics, Kyoto University, Japan

Jun Saiki, Graduate School of Human and Environmental Studies, Kyoto University

Hanako Yoshida, Psychological and Brain Sciences, Indiana University, U.S.A.

Poser Bay 03 - Ability of non-word repetition and vocabulary development in 2-year-old children

*Kumiko Sato, Tamagawa University

Sachiyo Kajikawa, Tamagawa University, Japan

Kiyoe Kanechiku, Tamagawa University

Poser Bay 04 - Auditory and Visual Characteristics of Infant-Directed Speech by Japanese and Australian English Mothers

*Denis Burnham, MARCS Auditory Laboratories, University of Western Sydney, Australia

Poster Session E: Communication and Language

- Kaoru Sekiyama, Future University, Japan
 Kimiko Tsukada, MARCS Auditory Laboratories, University of Western Sydney
- Poser Bay 05** - Auditory-Visual Information Facilitates Infants' Non-Native Discrimination of
 Facially Distinct and Non-Distinct Contrasts
 *Naureen Bhullar, Virginia Tech, USA
 Robin Panneton, Virginia Tech, USA
- Poser Bay 06** - Can a MAN be a MON? Toddlers' spoken-word familiarity preferences in native
 versus nonnative dialects
 *Michael Douglas Tyler, MARCS Auditory Laboratories, University of Western Sydney, Australia,
 Australia
 Catherine Therese Best, MARCS Auditory Laboratories, University of Western Sydney, Australia
- Poser Bay 07** - Cortical Activation in Newborns while Listening to Sounds of Mother Tongue and
 Foreign Language: An Optical Topography Study
 *Hiroki Sato, Advanced Research Laboratory, Hitachi, Ltd.; JST/CREST, Japan
 Yukiko Hirabayashi, Advanced Research Laboratory, Hitachi, Ltd.; JST/CERST, Japan
 Hifumi Tsubokura, Department of Infants' Brain & Cognitive Development, Tokyo Women's
 Medical University
 Makoto Kanai, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Takashi Ashida, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Ikuo Konishi, Department of Obstetrics and Gynecology, Shinshu University School of Medicine
 Mariko Uchida, Japan Science and Technology Agency, CREST, Japan
 Takehiro Hasegawa, Department of Child Care and Education, Ochanomizu University
 Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's
 Atsushi Maki, Advanced Research Laboratory, Hitachi, Ltd.
- Poser Bay 08** - Cross-linguistic evidence for a Goal/Source asymmetry: The case of Japanese
 *Laura Lakusta, Harvard University, United States
 *Hanako Yoshida, Psychological and Brain Sciences, Indiana University, U.S.A.
 Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University
 Barbara Landau, Johns Hopkins University
- Poser Bay 09** - Development of infants' ability to associate words with intrinsic motions
 *Tessei Kobayashi, NTT Communication Science Laboratories, NTT Corporation, Japan
 Ryoko Mugitani, NTT Communication Science Labs., Japan
 Shigeaki Amano, NTT Communication Science Laboratories, NTT Corporation
- Poser Bay 10** - Development of Korean two~three year-old children's reading-related abilities
 Yun-kyung Lee, Hansol Education Research Center
 *park sunhee, Hansol Education Research Center, South Korea
 You-Kyung Chang-Song, Hansol Educational Research Center
- Poser Bay 11** - Developmental change of Japanese infants' preference for infant-directed speech in
 non-native languages
 *Ryota Horie, Laboratory for Language Development, Brain Science Institute, RIKEN, Japan
 Reiko Mazuka, RIKEN Brain Science Institute & Duke University, Japan
 Akiko Hayashi, Tokyo Gakugei University
 Kyoko Shirasawa, Laboratory for Language Development, Brain Science Institute, RIKEN, Japan
- Poser Bay 12** - Developmental trajectories of mother-infant joint activity: Maternal intervention,
 infant responses and interactional contingencies
 *Tiziana Aureli, University of Chieti-Pescara -Italy, Italy
 Fabio Presaghi, University of Rome "La Sapienza", Italy
- Poser Bay 13** - Differences of acoustic characteristics between mothers' singing and speech to
 infants
 *Sachiyo Kajikawa, Tamagawa University, Japan
 *Sumiko Inoue, Pigeon Corporation
 Kumiko Sato, Tamagawa University
 Kiyoe Kanechiku, Tamagawa University
 Akira Takaoka, Tamagawa University
- Poser Bay 14** - Discrimination of lexical pitch-accent by Japanese infants.
 *Yutaka Sato, Lab. for language development, BSI, RIKEN, Japan

Poster Session E: Communication and Language

- Yuko Sogabe, RIKEN Brain Science Institute, Japan
 Reiko Mazuka, RIKEN Brain Science Institute & Duke University, Japan
- Poser Bay 15** - Distributional Learning and Attention in Phonological Development
 *Katherine A. Yoshida, Department of Psychology, the University of British Columbia, Canada
 Ferran Pons, the University of British Columbia
 Jasmine C. Cady, Department of Psychology, the University of British Columbia
 Janet F. Werker, Department of Psychology, University of British Columbia
- Poser Bay 16** - Distributional learning in vowel length distinctions by 6-month-old English infants
 *Ferran Pons, University of British Columbia, Canada
 Ryoko Mugitani, NTT Communication Science Labs., Japan
 Shigeaki Amano, NTT Communication Science Laboratories, NTT Corporation
 Janet F. Werker, Department of Psychology, University of British Columbia
- Poser Bay 17** - Do generics guide infants' inductive inferences about novel kinds?
 *Samantha Nayer, University of Calgary, Canada
 Graham Susan, University of Calgary
- Poser Bay 18** - Effect of Beliefs Held by Japanese Mothers on Picture-Book-Reading Practices
 *Toshiki Murase, Shimane University, Japan
- Poser Bay 19** - Emerging evidence of differences in segmentation abilities between Parisian and Canadian French infants
 Galina Iakimova, CNRS - Université Paris 5
 *Thierry Nazzi, Laboratoire Psychologie de la Perception, Paris
 Megha Sundara, Institute for Learning and Brain Sciences, University of Washington, USA
 Linda Polka, McGill University
- Poser Bay 20** - Engagement in joint episodes: developmental trajectory and the relationships with language development.
 *Hiromi Tsuji, Osaka Shoin Women, Faculty of Human Science, Japan
- Poser Bay 21** - English- and Japanese-speaking children's generalizations of names for things outside of their experience.
 *Eliana Colunga, University of Colorado, Boulder, United States
 Juliana Tafoya, University of Colorado, Boulder
 Hiromi Sumiya, University of Colorado, Boulder
- Poser Bay 22** - Eyes or mouth: the contribution of contingent information from a mother's face in the still-face effect
 *Haruo Kikuno, Osaka Shoin Women's University, Faculty of Human Science, Japan
 Hiromi Tsuji, Osaka Shoin Women, Faculty of Human Science, Japan
- Poser Bay 23** - Features of Babbling in Different Language Environments
 *Joanna Blake, York University, Canada
 Patricia Osborne, York University
- Poser Bay 24** - Infant Dialect Discrimination
 Jennifer Phan, Indiana University School of Medicine, USA
 *Derek M. Houston, Indiana University
- Poser Bay 25** - Infant Representations of Directed Motion Events Components
 *Laura Wagner, Ohio State University, United States
- Poser Bay 26** - Infant-Picture Book-Mother Triadic Interaction in Reading Picture Book
 *Minhwa Kim, Seoul National University
- Poser Bay 27** - Infants use 'Common Ground' to Interpret Others' Communicative Intentions
 *Kristin Liebal, Max Planck Institute for Evolutionary Anthropology, Germany
 Tanya Behne, Max Planck Institute for Evolutionary Anthropology, Germany
 Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 28** - Infants' Understanding the Intention and Goal of an Adult's Action with Objects
 *Emiko KEZUKA, Gunma Prefectural Women's University, Japan
 Sachiko AMANO, Kagawa Nutrition University
 Atsuko YAMAMOTO, Kagawa Nutrition University
- Poser Bay 29** - Intrapair Difference of Age at First Spoken Word in Twin Pairs
 *Chiho Maeda, Course of Health Science, Graduate School of Medicine, Osaka University, Japan

Poster Session E: Communication and Language

Chisato Hayashi, Osaka University
 Reiko Nishihara, Osaka University, Japan
 Miyuki Onoi, Osaka University, Japan
 Kazuo Hayakawa, Osaka University

Poser Bay 30 - Is Lexical Tone Exaggeration in Mandarin Infant-Directed Speech Related to Infants' Speech Perception?

*Huei-Mei Liu, Department of Special Education, Taiwan
 Feng-Ming Tsao, National Taiwan University, TAIWAN
 Sz-Hua Chen, Department of Special Education, National Taiwan Normal University

Poser Bay 31 - Less is more in verb learning: Fewer exemplars facilitate novel verb extension

*Mandy Maguire, University of Texas, Dallas, USA
 Kathy Hirsh-Pasek, Temple University

Roberta Golinkoff, University of Delaware

Poser Bay 32 - Mother and Infant Talk about Mental States Predicts Later Mental State Language and Emotion Understanding

*Mele Taumoepeau, University of Otago, New Zealand
 Ted Ruffman, University of Otago

Poser Bay 33 - Mutual Exclusivity: The Role of the Speaker's Referential Intent

*Sheila Krogh-Jespersen, University of Texas at Austin, USA
 *Catharine Echols, University of Texas at Austin

Poser Bay 34 - Neonatal oral imitation in patients with severe motor dysfunction

*Tohshin Go, MD, PhD, Japan

Eiko Shimokawa, MM

Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's

Poser Bay 35 - Neural correlates of adult-infant interaction

*Kazuo Hiraki, Department of Systems Science, University of Tokyo, Japan

Gergely Csibra, University of London, Birkbeck

Leslie Tucker, University of London, Birkbeck

Agnes Volein, University of London, Birkbeck

Sarah Fox, Centre for Brain and Cognitive Development, Birkbeck, University of London

mark johnson, University of London, UK

Poser Bay 36 - Newborn brain responds strongly to prosody in continuous speech

*Minna Huotilainen, Helsinki Collegium for Advanced Studies, University of Helsinki, Finland, Finland

Anke Sambeth, 2Cognitive Brain Research Unit, Department of Psychology, UH, Finland

Kalle Kotilahti, Laboratory of Biomedical Engineering, HUT, Finland

Ilkka Nissilä, Laboratory of Biomedical Engineering, HUT, Finland

Katja Seppä, Cognitive Brain Research Unit, Department of Psychology, University of Helsinki, Finland

Paavo Alku, 7Laboratory of Acoustics and Audio Signal Processing, Helsinki University of Technology (HUT), Espoo

Vineta Fellman, Hospital for Children and Adolescents, Helsinki University Central Hospital, Helsinki, Finland

Poser Bay 37 - Object familiarity affects 14-month-old infants' use of phonetic detail in novel words

*Christopher Fennell, University of Ottawa, Canada

Poser Bay 38 - On the Beaten Path: Multiple Cues Converge to Make Verb Learning Easier in Spanish

*Rachel Pulverman, University of Michigan, USA

Mandy Maguire, University of Texas, Dallas, USA

Kathy Hirsh-Pasek, Temple University

Roberta Golinkoff, University of Delaware

Poser Bay 39 - One-year-olds' understanding of nonverbally expressed communicative intentions directed to a third person

*Maria Gräfenhain, Max Planck Institute for Evolutionary Anthropology, Germany

*Tanya Behne, Max Planck Institute for Evolutionary Anthropology, Germany

Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology

Poster Session E: Communication and Language

- Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 40 -** Response bias in Asian children: When children show a yes bias?
 *Mako Okanda, Kyoto University, JAPAN
 Shoji Itakura, Kyoto University
- Poser Bay 41 -** Singing with physical contact is effective in enhancing mother-infant relations
 *Sachiko Tamoto, Nagasaki Junshin Catholic University, Japan
 Takayuki Nakata, Nagasaki Junshin Catholic University, Japan
- Poser Bay 42 -** Six-Month-Old Infants' Perception of Native Speech Accent
 *Maria M Diehl, Virginia Tech
 Krisztina Varga, University of Georgia
 Robin Panneton, Virginia Tech, USA
 Denis Burnham, MARCS Auditory Laboratories, University of Western Sydney, Australia
 Christine Kitamura, MARCS Auditory Laboratories
- Poser Bay 43 -** Speech rate in infant-directed speech in Japanese is NOT slower than adult-directed speech.
 *Yosuke Igarashi, RIKEN Brain Science Institute
 Reiko Mazuka, RIKEN Brain Science Institute & Duke University, Japan

Understanding developing brain

Wednesday
9:00-10:50 am
Cosmos

Communication and Language**Participants**

- The language of the brain: How to understand translations between neuronal and vascular response when investigating the developing brain
 *Hellmuth Obrig, Neurologische Klinik, Charité Campus Mitte
 Isabell Wartenburger, Neurologische Klinik, Charité Campus Mitte
 Jens Steinbrink, Neurologische Klinik, Charité Campus Mitte
 Manuela Friederich, Max-Planck-Institut für Kognitions- und Neurowissenschaften
 Angela Friederici, Max-Planck-Institut für Kognitions- und Neurowissenschaften
- Sleep-wake differences in visual and auditory activation of the brain in the first year of life
 *Gentarō Taga, University of Tokyo / JST, Japan
 Kayo Asakawa, JST
 Hama Watanabe, JST/University of Tokyo
 Fumitaka Homae, JST/University of Tokyo, Japan
- An optical imaging study of language recognition in the first year of life
 *Susan Hespos, Northwestern University, United States
 Sohee Park, Vanderbilt University, USA
 Anna Lane, Northwestern University, 60208
 John Gore, Department of Psychology, Vanderbilt University
- Prosodic development in the infant brain
 *Fumitaka Homae, JST/University of Tokyo, Japan
 Hama Watanabe, JST/University of Tokyo
 Tamami Nakano, University of Tokyo, Japan
 Gentarō Taga, University of Tokyo / JST, Japan
- Hemodynamic responses to continuous speech and music in the newborn brain
 *Kalle Kotilahti, Laboratory of Biomedical Engineering, Helsinki University of Technology, Finland
 Minna Huotilainen, Helsinki Collegium for Advanced Studies, University of Helsinki, Finland, Finland
 Ilkka Nissilä, Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, USA
 Tommi Noponen, Laboratory of Biomedical Engineering, Helsinki University of Technology, Finland
 Vineta Fellman, Hospital for Children and Adolescents, Helsinki University Central Hospital, Helsinki, Finland

Discussants:

Richard Aslin, University of Rochester, USA

Atsushi Maki, Advanced Research Laboratory, Hitachi, Ltd.

Studies on the perceptual and cognitive development of infants have been dominated by behavioral studies, which revealed the sophisticated competencies of neonates and the dynamic changes after birth. However, what brain mechanisms are involved is poorly understood. Recent advancement of noninvasive measurement of brain activity such as EEG/ERPs, MEG, MRI and near-infrared spectroscopy (NIRS) has opened the door to scrutinize the developing brain. In this symposium, we focus on the NIRS, which is a relatively new technique and attracting growing interest in infant studies. A number of studies have already shown that NIRS can be used to detect hemodynamic changes associated with the brain activity in relation to visual, auditory, language and memory in infants. Further development of multi-channel NIRS instruments, which permit to identify spatial activation patterns of the cortex, is in progress. Thus, we have a good chance of tackling the long-lasting problem in the human brain development and plasticity. Is the infant brain equipped with determined regions for specific modalities early on, or does the exposure to the environment progressively shape the cerebral localization? One of the most suitable questions to test by using the NIRS technique is as to the brain mechanism for language acquisition. In fact, we can obtain motion-free hemodynamic responses to auditory stimuli when infants are sleeping. On the other hand, a unique aspect of this technique is that it allows to test awake infants in a state of full attention with less bodily constraints when we carefully design stimuli or tasks. The speakers of this symposium will be required to show the state-of-the-art NIRS methods (in association with other methods of recording brain activation or behaviors, if necessary). Then, they shall report new data that will advance our understanding of the mechanisms of perceptual and cognitive development, and discuss future perspectives.

Wednesday
9:00-10:50 am
Hooh

High Risk and Pediatric Issues**Participants**

Prediction of developmental outcomes of prematures from biological and social risk measures in infancy

*Diane Holditch-Davis, University of North Carolina Chapel Hill

Heart Period Variability as a Measure of Developmental Change in VLBW Infants

*Sandra Smith, University of Utah

Pre-Feeding Behavioral Responses of Preterm Infants to ATVV Intervention

*Rosemary White-Traut, University of Illinois Chicago

Nutritive Sucking as an index of neurodevelopment outcomes

*Barbara Medoff Cooper, University of Pennsylvania, USA

The Early and Long Term Consequences of Prematurity: A Search for Mechanisms

*Nathan Fox, nathan, University of Maryland

Discussant:

Nathan Fox, nathan, University of Maryland

Prematurity is a period of rapid development of the central nervous system. Although it is well known that the behavioral and physiological responses of preterm infants, including sleep-wake states, sucking, feeding readiness behaviors, respiration, EEG, and heart rate variability, reflect the underlying status of the CNS, relatively little research has operationalized this relationship. The current symposium will examine new studies showing that these behavioral and physiological response vary systematically with the maturity of infant over the preterm period, that these responses are related to long-term developmental outcomes, how different responses inter-relate, and that interventions to improve neurodevelopment status also affect these immediate responses. In particular four aspects of maturation will be presented: sleep-wake states, sucking behaviors, responses to a multi-sensory stimulation, and heart rate variability measures. The development of sleep behaviors over the preterm period and EEG patterns reflect the brain's functioning and can serve as a marker of behavioral organization in infancy. Maturation of sucking patterns, including the number of sucks, number of sucks per burst and mean maximum pressure

New Perspectives on Behavioral Organization in the Preterm Infant

are significantly correlated with developmental outcomes at 12 months of age. A multi-sensory intervention provided prior to feeding improves both behavioral state and prefeeding behaviors. Lastly, balance between the sympathetic (SNS) and the parasympathetic (PNS) branches of the autonomic nervous system (ANS) are a key indicator of physiologic stability, a crucial marker of well being in preterm infants. ANS balance and developmental changes can be quantified via analysis of heart period variability (HPV). Commonalities between the four presentations will be discussed, along with implications for long term developmental outcomes.

Parent-Infant Goodness-of-Fit as a Relationship Predictor of Later Adaptation

Wednesday
9:00-10:50 am
Minori

Infant in Family Context
Participants

Parents' representations of goodness of fit with their child predict early relationship status

*Ronald Seifer, Brown University, USA

Susan Dickstein, Brown University

Goodness-of-fit effects on caregiving behavior: Moderation of links to infant crying and maternal perceptions.

*Michael J. MacKenzie, University of Michigan

Susan C. McDonough, University of Michigan

Katherine L. Rosenblum, University of Michigan

From being parented to parenthood: Intergenerational transmission of goodness-of-fit and mental health

*Arnold Sameroff, University of Michigan, US

Tim Kasser, Knox College

Discussant:

Susan Crockenberg, University of Vermont, USA

One of the major concerns of infancy research is to determine how much the child is the father of the man (or the mother of the woman). Although initial approaches were to seek characteristics of the baby that would predict to later developmental competence, increasingly contemporary approaches are to seek characteristics of baby in context that are predictive. The goodness-of-fit model is one such approach to understanding infants in context. The model focuses on the interaction between baby characteristics and parent cognitions in the form of attributions, beliefs, and attitudes. In this symposium data will be presented from three longitudinal studies that utilize different methodologies but converge on the question of how different goodness-of-fit measures predict to individual functioning in infancy, the preschool years and adulthood. In the first presentation a goodness-of-fit interview at 4 months of age predicts attachment behavior at 15 months. In the second presentation parent's attitudes to their 7-month infant's behavior interacting with their working-models-of-the-infant predict CBCL scores at 33-months. In the third presentation mothers' prenatal beliefs and values interact with infant characteristics to predict mental health and parenting attitudes of their offspring at 30-years of age. Taken together these three presentations using different measures will provide increased understanding of the importance of parent-infant goodness-of-fit.

How Socio-pragmatic and Linguistic Experience Guide Infants' and Toddlers' Mapping of Novel Labels to Objects

Wednesday
9:00-10:50 am
Mizuho I

Communication and Language
Participants

Word-Learning At 18-Months: A Comparison Of Monolingual And Bilingual Infants

*Krista N. Byers-Heinlein, Department of Psychology, University of British Columbia, Canada

Janet F. Werker, Department of Psychology, University of British Columbia

Learning Labels In One Versus Two Languages: 18-Month-Olds Sensitivity to the Word Learning Context

*Jui Bhagwat, Cornell University

Marianella Casasola, Cornell University, United States

How Socio-pragmatic and Linguistic Experience Guide Infants' and Toddlers' Mapping of Novel Labels to Objects

Tara Gilhooly, Cornell University
 Yessenia Serra, Cornell University
 Diana Ballesteros, Cornell University

Conversational Experience Shapes Children's Use of Mutual Exclusivity

*Mark A. Sabbagh, Queen's University
 Maureen A. Callanan, University of California, Santa Cruz
 Sheila Manji, Queen's University

Children's "expectation of competence" in word learning

*Gil Diesendruck, Bar-Ilan University
 Ginnat Shemer, Bar-Ilan University

The four presentations comprising this symposium each explore infants' and toddlers' understanding of how a novel word is intended to label a specific referent. In particular, the presentations explore young word learners' use of mutual exclusivity, a bias to apply only a single label to an object and to map a novel word onto an unnamed object. One unique element of these presentations is that they draw on infants' previous experience with labeling and explore children's sensitivity to the pragmatics of language use. The first presentation demonstrates that bilingual and monolingual 18-month-old infants do not differ in their ability to map a novel word onto an unnamed rather than a named object. That is, bilingual infants, similar to their monolingual counterparts, expect novel words to refer to objects that do not yet possess a label. The second presentation outlines how 18-month-old monolingual infants' word learning strategies differ when two novel words for the same object are presented in a single language (English) or two languages (English and Spanish). The results reveal that infants' word learning strategies differ with the linguistic context in question (monolingual vs. bilingual). A third presentation explores the impact of conversational experience on toddlers' use of mutual exclusivity. Parental labeling in a naturalistic study (specifically, their use of multiple labels for a single object and an explanation of the relations between the multiple labels) was related to toddlers' use of mutual exclusivity in a subsequent experimental task. Thus, toddlers' experiences with labeling shaped their use of mutual exclusivity. Similarly, the final presentation documents that toddlers expect to be familiar with the referent of a novel label if an adult asks them to find such a referent. Together, the presentations highlight the importance of previous linguistic and social experiences in guiding how infants map novel labels onto objects.

Paper Session: Motor Development - Full Term and Pre-Term

Wednesday
9:00-10:50 am
Mizuho 2

ISIS

Participants

Development of Stepping Movement and Its Relation to Walking Attainment in Preterm and Full-term Infants

*Hong-Ji Luo, Department of Physical Therapy, Hung-Kuang University, Taiwan
 Suh-Fang Jeng, School and Graduate Institute of Physical Therapy, National Taiwan University, Taiwan
 Kwan-Hwa Lin, School and Graduate Institute of Physical Therapy, College of Medicine, National Taiwan University
 Tung-Wu Lu, Institute of Biomedical Engineering, National Taiwan University

Neonatal Neurobehavioral Development in Very Low Birth Weight Infants with Chronic Lung Disease

*Suh-Fang Jeng, School and Graduate Institute of Physical Therapy, National Taiwan University, Taiwan
 Wu-Shiun Hsieh, Department of Pediatrics, National Taiwan University Hospital
 Chyong-Hsin Hsu, Department of Pediatrics, MacKay Memorial Hospital
 Po-Nien Tsao, Department of Pediatrics, National Taiwan University Hospital
 Pei-Shan Chen, School of Physical Therapy, National Taiwan University
 Hung-Chieh Chou, Department of Pediatrics, National Taiwan University Hospital
 Hsin-An Kao, Department of Pediatrics, MacKay Memorial Hospital
 Han-Yang Hung, Department of Pediatrics, MacKay Memorial Hospital
 Jui-Hsing Chang, Department of Pediatrics, MacKay Memorial Hospital

042

Paper Session: Motor Development - Full Term and Pre-Term

Nan-Chang Chiu, Department of Pediatrics, MacKay Memorial Hospital
Stimulus Modulated Motor Activity in NICU Infants

*Bernard Z Karmel, New York State Institute for Basic Research in Developmental Disabilities
Judith M Gardner, NYS Institute for Basic Research in Developmental Disabilities, USA
Robert L Freedland, New York State Institute for Basic Research in Developmental Disabilities
Phyllis Kittler, New York State Institute for Basic Research in Developmental Disabilities
Anthony Barone, SVCMM, St. Vincent's Hospital, Staten Island
Anantham Harin, SVCMM, St. Vincent's Hospital, Staten Island

Motor Synchronization to an Auditory Tempo in Infants

*Joëlle Provasi, Laboratoire de Psycho-Biologie du Développement, EPHE, Paris, France
*Anne Bobin-Bègue, Laboratoire de Psycho-Biologie du Développement, EPHE, Paris, France

043

Invited Symposium: Asian Perspectives of Infant Study

Wednesday

9:00-10:50 am

Yamashiro East

ISIS

Organizer/Moderator:

Yoichi Sakakihara, Ochanomizu University, Japan

Participants

The study of Chinese children's gesture and vocabulary development

*Weilan Liang, Peking University Fist Hospital
Bo Hao, University of Michigan, Ann Arbor
Twila Tardif, University of Michigan
P Fletcher, University of Hong Kong, Hong Kong

Factors affecting Thai infants' language development

*Nichara Ruangdaragnon, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand.

Although infant development is largely biologically determined, cultural effects cannot be ignored. The great majority of the studies in infant development have long been carried out in the Western countries. Trans-cultural studies in infant developments have revealed differences among infants from different ethnic groups. However, most of these trans-cultural studies were analyzed with the Western perspectives. In the present symposium, we will introduce infants studies carried out in Asian countries by Asian researchers. Trans-cultural infant studies will be enriched by bi-directional perspectives. The aim of this symposium is to build comparative views of child development by exchanging current studies on child development in Asian countries. We have four speakers from Korea, Thailand, China and Japan. The trajectory of child development is determined both by the biological and environmental influences. To study the development of children in Asian countries and compare them with those in Eastern countries will give us a wider perspectives of the influences of cultures in child development.

044

Mechanisms of face perception in infancy

Wednesday

9:00-10:50 am

Yamashiro West

Perception and Attention

Participants

Development of face discrimination from dynamic information

*Derek Layton, Emory University, USA
Philippe Rochat, Emory University

Where do infants look when they look at faces?

*Scott P. Johnson, NYU
Polina Shats, NYU
Ariela Vasserman, NYU
Juliet Davidow, NYU
Mike Frank, MIT

Face processing in the first months of life

Mechanisms of face perception in infancy

*Francesca Simion, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Università degli Studi di Padova,
 chiara turati, Dipartimento di Psicologia dello Sviluppo e della Socializzazione - Università degli Studi di Padova, Italy
 Eloisa Valenza, Università di Padova, Italy
 Irene Leo, University of Padova

Multiple levels of face representations in infancy

*Teodora Gliga, CNRS, 91401 Orsay Cedex, France
 Ghislaine Dehaene-Lambertz, Service de Neuro-Pédiatrie, CHU Bicêtre, AP-HP, France

Discussant:

Leslie B Cohen, University of Texas

The ability to discriminate, recognize, and remember faces is a vital skill, and the question of how face perception arises in human infancy has long been of intense interest. As a result, much is known at a descriptive level about some of the conditions conducive to face preference in infancy. Less is known, however, about the mechanisms underlying development of face perception expertise. The four talks in this symposium make progress toward this important goal. The talks each address face perception in infancy in a unique way, but have in common the goal of understanding both perceptual and developmental processes by a careful consideration of mechanism. Layton and Rochat ask whether face recognition is facilitated by dynamic information, whether prior familiarity interacts with motion, and how these effects may change with development across the first year after birth. They report that older infants are better able to utilize impoverished featural information, but the effect is limited to familiar faces. Johnson et al. investigate as well the role of motion in face perception, presenting young infants with static and dynamic images of women, either upright or inverted, as eye movements are recorded. Of particular interest is whether attention toward the eyes is affected by presentation mode. This hypothesis was supported, providing evidence in favor of a general-purpose processing mechanism that allocates attention based on multiple inputs. Continuing the theme of recording eye movements, Simion et al. report a study of 3-month-olds' scanning patterns as they view faces, non-face foils, and geometric patterns. Evidence for an emerging expertise with faces comes from the distinct characteristics of oculomotor behavior that are tailored to faces at this early age. Gliga and Dehaene-Lambertz examine the role of viewpoint-invariance in 4-month-olds as they viewed faces in one of several configurations, as well as foils. They report ERP evidence for a strong role for experience viewing objects and from a variety of orientations in development of perceptual expertise. Finally, Les Cohen has agreed to serve as discussant. Professor Cohen has been in the vanguard of research on perceptual development for over three decades and is ideally suited to bringing a comprehensive and penetrating perspective to the symposium. Attendees will come away with not only new results in this seminal research area, but also with (we hope) an appreciation of new methods and thinking that are changing the way we think about face perception in infancy.

Poster Session F**Perception and Attention****Participants****Poser Bay 01 - 5- and 9-month-olds Memory Capacity for Faces**

*Evelin Bertin, General and Developmental Psychology University of Zurich, Switzerland,
 Switzerland

Ramesh S Bhatt, Department of Psychology, University of Kentucky, Lexington, KY 40506

Poser Bay 02 - A Reinforcement Learning Model Explains the Development of Gaze Following

*Hector Jasso, University of California, San Diego, USA

Jochen Triesch, Frankfurt Institute for Advanced Studies

Christof Teuscher, Los Alamos National Laboratory

Gedeon Deák, University of California, San Diego, United States

Poser Bay 03 - Addition and Subtraction in Infancy: Sex Differences and the Role of Test Stimulus

Wednesday

11:10-1:00 pm

Colonade

Mezzanine & Hiei

Poster Session F

- Familiarity
*David Moore, Pitzer College & Claremont Graduate University, USA
- Poser Bay 04** - Amplifying Infant Hearing Aids: Preferences for Spectral Tilt
*Christine Kitamura, MARCS Auditory Laboratories
Shane Garvin, MARCS Auditory Laboratories
- Poser Bay 05** - Anticipatory Eye Movements Reveal Infants' Ability to Perceive Illusory Contours
*Dana Kuefner, Università degli Studi di Milano Bicocca, IT
Viola Macchi Cassia, Università degli Studi di Milano Bicocca
Emanuela Bricolo, Università degli Studi di Milano Bicocca
Marta Picozzi, Università degli Studi di Milano-Bicocca, Italy
- Poser Bay 06** - Assessing Infants' Cortical Response to Speech Using Near-Infrared Spectroscopy
*Heather Bortfeld, Texas A&M University, USA
Eswen Fava, Texas A&M University
Rachel Hull, Texas A&M University
David Boas, Harvard Medical School
- Poser Bay 07** - Attention Control in Early Infancy: 2-, 3-, and 4-Month-Olds' Ability to Inhibit Visual Attention
*Victoria L. Romero, Claremont Graduate University and Occidental College, USA
David Moore, Pitzer College & Claremont Graduate University, USA
- Poser Bay 08** - Attentional Modulation of Infant Visual Short-Term Memory
*Shannon Ross-Sheehy, University of Maryland, USA
Lisa M. Oakes, University of Iowa
Steven J. Luck, University of Iowa
- Poser Bay 09** - Auditory cues, do they aid infant time-keeping?
*Eileen M. Mansfield, Open University, UK
- Poser Bay 10** - Brain imaging of habituation and dishabituation in young infants
*Tamami Nakano, University of Tokyo, Japan
Hama Watanabe, JST/University of Tokyo
Fumitaka Homae, JST/University of Tokyo, Japan
Kayo Asakawa, JST
Gentarō Taga, University of Tokyo / JST, Japan
- Poser Bay 11** - Can 4 month-old infants use perspective and texture gradients cues in a 2D display to perceive depth?
Myriam Frichtel, universit  Paris Descartes
Christelle Lemoine, Universit  Paris Descartes
Eric Orriols, Universit  Paris Descartes
*Roger L cuyer, Universit  Paris Descartes, France
- Poser Bay 12** - Categorization in Newborns: Methodological Issues
*Ana-Maria Mata-Otero, University of Texas at Dallas, USA
T.G.R. Bower, University of Texas at Dallas
- Poser Bay 13** - Changing Patterns of Attention to Static and Dynamic Visual Events during Infancy
*Megan McIlreavy, Virginia Tech
Naureen Bhullar, Virginia Tech, USA
Robin Panneton, Virginia Tech, USA
Richard Aslin, University of Rochester, USA
- Poser Bay 14** - Comprehension of other's attentional relation and the development of coordinated joint attention in infancy: looking through selective gaze following
*Yoonkyung Jeong, Seoul National University, Seoul
Keumjoo Kwak, Seoul National University, KOREA
- Poser Bay 15** - Delay? No way! Bilingual infants are more efficient word learners
*Karen Mattock, McGill University, Canada
Linda Polka, McGill University
Susan Rvachew, McGill University
- Poser Bay 16** - Development of 3D object completion in infancy
*Kasey C Soska, New York University, United States
*Scott P. Johnson, NYU

Poster Session F

- Poser Bay 17** - Developmental Change of Audio-Visual Selective Attention in Early Infancy
*Yukie Yamashita, Shimane Women's College, Japan
- Poser Bay 18** - Do too many changes spoil infant time keeping?
*Eileen M. Mansfield, Open University, UK
- Poser Bay 19** - Exploring the Role of Deictic Pointing in Early Word Learning
*Hilary Kalagher, Indiana University
Chen Yu, Indiana University, USA
- Poser Bay 20** - Exploring the Temporal Boundaries of Intersensory Redundancy During Prenatal Development
Mark Jaime, Florida International University
Lorraine E Bahrck, Florida International University
*Robert Lickliter, Florida International University, USA
- Poser Bay 21** - Eye tracking in very preterm (<32 weeks) infants measured at 2 and 4 months of corrected age.
*Kerstin Rosander, Department of Psychology, Uppsala University
Claes von Hofsten, Department of Psychology, Uppsala University
- Poser Bay 22** - Face Individuation in Infancy
*kalina michalska, university of chicago, usa
Bennett I. Bertenthal, University of Chicago
- Poser Bay 23** - Frontal cortex function in infancy: Correlations across multiple measures
*Karla Holmboe, University of London, Birkbeck, United Kingdom
Gergely Csibra, University of London, Birkbeck
R. M. Pasco Fearon, University College London
Leslie Tucker, University of London, Birkbeck
Sarah Fox, Centre for Brain and Cognitive Development, Birkbeck, University of London
Agnes Volein, University of London, Birkbeck
mark johnson, University of London, UK
- Poser Bay 24** - Functional imaging of the occipital and prefrontal cortex of 3-month-olds during visual perception
*Hama Watanabe, JST/University of Tokyo
Gentaro Taga, University of Tokyo / JST, Japan
Fumitaka Homae, JST/University of Tokyo, Japan
Tamami Nakano, University of Tokyo, Japan
- Poser Bay 25** - Habituation to a Single Stimulus versus to a Stimulus Category: Testing the Comparator Model of Infant Information Processing
*Janna Pahnke, University of Heidelberg, Germany
Sabina Pauen, University of Heidelberg
- Poser Bay 26** - Hemispheric Asymmetries in Infant Color Categorization
*Anna Franklin, University of Surrey, England
Ian R.L. Davies, University of Surrey
- Poser Bay 27** - Infant gaze following and later language development: Longer looks are better
*Rechele Brooks, University of Washington, US
Andrew N Meltzoff, University of Washington
- Poser Bay 28** - Infant Temperament and Information Processing in a Visual Categorization Task
Eva Vonderlin, University of Heidelberg
*Janna Pahnke, University of Heidelberg, Germany
Sabina Pauen, University of Heidelberg
- Poser Bay 29** - Infant's perception of Color-from-Motion stimulus
*Hiromi Okamura, Chuo University, Japan
So Kanazawa, Department of Psychology, Shukutoku University
Masami K Yamaguchi, Department of Psychology, Chuo University
- Poser Bay 30** - Infants' Indexing of Objects vs. Non-Cohesive Entities
*Rebecca D. Rosenberg, Harvard University, USA
Susan Carey, Harvard University
- Poser Bay 31** - Infants' lexical tone discrimination: Pin-pointing the age of perceptual reorganization
*Karen Mattock, McGill University, Canada

Monika Molnar, McGill University
 Linda Polka, McGill University
 Denis Burnham, MARCS Auditory Laboratories, University of Western Sydney, Australia
 Susan Rvachew, McGill University

Poser Bay 32 - Infants' object processing in visual perception and action

*Thomas Duemmler, Justus-Liebig-Universität Giessen, Germany
 Bianca Jovanovic, University of Giessen
 Gudrun Schwarzer, Justus-Liebig-Universität Gießen

Poser Bay 33 - Infants' Preference For Dynamic Faces In The Absence Of Sound

*Jonathan Ting, Indiana University, United States of America
 Tonya R. Bergeson, Indiana University, USA
 Laura Sech, Indiana University

Poser Bay 34 - Interhemispheric asymmetry in infants' face recognition measured by near infrared spectroscopy

*Yumiko Otsuka, Department of Psychology, Chuo University, Japan
 Emi Nakato, Department of Psychology, Komazawa University
 So Kanazawa, Department of Psychology, Shukutoku University
 Masami K Yamaguchi, Department of Psychology, Chuo University
 Ryusuke Kakigi, Department of Integrative Physiology, National Institute for Physiological Sciences

Poser Bay 35 - Intersensory Redundancy Impairs Face Perception in Early Development

*Mariana Vaillant-Molina, Florida International University, USA
 Lisa C Newell, Florida International University
 Irina Castellanos, Florida International University
 *Lorraine E Bahrick, Florida International University
 Robert Lickliter, Florida International University, USA

Poser Bay 36 - Newborns' face recognition is based on low spatial frequencies

*Adélaïde de Heering, Department of Cognition and Development & Laboratory of Neurophysiology, University of Louvain (UCL)
 *chiara turati, Dipartimento di Psicologia dello Sviluppo e della Socializzazione - Università degli Studi di Padova, Italy
 Bruno Rossion, Department of Cognition and Development & Laboratory of Neurophysiology, University of Louvain (UCL)
 Hermann Bulf, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Università degli Studi di Padova,
 Valérie Goffaux, Department of Cognition and Development & Laboratory of Neurophysiology, University of Louvain (UCL)
 *Francesca Simion, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Università degli Studi di Padova,

Poser Bay 37 - Newborns' face recognition over changes in viewpoint

*chiara turati, Dipartimento di Psicologia dello Sviluppo e della Socializzazione - Università degli Studi di Padova, Italy
 Hermann Bulf, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Università degli Studi di Padova,
 *Francesca Simion, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Università degli Studi di Padova,

Poser Bay 38 - Newborns' processing of partially-occluded faces

Eloisa Valenza, Università di Padova, Italy
 Lucia Gava, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Università di Padova
 chiara turati, Dipartimento di Psicologia dello Sviluppo e della Socializzazione - Università degli Studi di Padova, Italy
 Scania de Schonen, Neurocognitive Development Group, CNRS, Paris, France

Poser Bay 39 - Object Knowledge Influences the Perception of Occluded Displays at 8.5 months of Age

*Jessica Cantlon, Duke University, USA
 Susan Ormsbee, Duke
 Amy Needham, Duke University, USA

Poster Session F

- Poser Bay 40** - One-year-olds' preference for same-age over adult faces: Novelty effect?
*Benise Mak, Department of Psychology, The University of Hong Kong, China
- Poser Bay 41** - Perception of Faces and Objects by 5-Month-Old Infants of Depressed and Well Mothers
*Martha Arterberry, Gettysburg College, USA
Marc H. Bornstein, Child and Family Research Section, National Institute of Child Health and Human Development
Clay Mash, National Institute of Child Health and Human Development
Nanmathi Manian, Child and Family Research Section, National Institute of Child Health and Human Development
- Poser Bay 42** - Perception of illusory motion in 6- to 8-month old infants
*So Kanazawa, Shukutoku University, Japan
Akiyoshi Kitaoka, Ritsumeikan University
Masami K Yamaguchi, Department of Psychology, Chuo University
- Poser Bay 43** - Perception of motion trajectory from moving cast shadow in humans and Japanese macaques (*Macaca fuscata*)
*Tomoko Imura, Kwansei Gakuin University, Japan
Masami K Yamaguchi, Department of Psychology, Chuo University
Masaki Tomonaga, Kyoto University
Akihiro Yagi, Kwansei Gakuin University
- Poser Bay 44** - Watch the Hands: Infants Learn Gaze-Following From Parents' Pointing and Manual Action
*Gedeon Deák, University of California, San Diego, United States
Hector Jasso, University of California, San Diego, USA
Anna Krasno, University of California, San Diego
Jochen Triesch, Frankfurt Institute for Advanced Studies
- Poser Bay 45** - Infants' Discrimination of Timbre in Music
*Leslie B Cohen, University of Texas
Eugenia Costa-Giomi, University of Texas-Austin, USA

Intentional Understanding and Language Development: Multiple and Reciprocal Relations

Wednesday
11:10-1:00 pm
Cosmos

Communication and Language**Participants**

- Pragmatics and Word Learning: Two Studies
*Susanne Grassmann, Max Planck Institute for Evolutionary Anthropology
Jennifer Kittel, Max Planck Institute for Evolutionary Anthropology
Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
- The Role of Intention in Toddlers' Acquisition of Morphological Rules
*Gil Diesendruck, Bar-Ilan University
Smadar Patael, Bar-Ilan University
- What You See is not Always What You Get: Linguistic Input Can Influence Toddlers' Inferences
*Vikram Jaswal, University of Virginia, USA
- Linguistic Influences on Toddlers' Inferences about an Actor's Intentions
*Douglas Behrend, University of Arkansas, USA
Rachel Schwartz, University of Arkansas
Jason Scofield, University of Alabama, USA

The relations that exist between intentional understanding and language development in 1- and 2-year-olds are still not well understood. The four papers in this symposium contribute to this understanding by presenting novel findings regarding the role played by communicative intentions on word learning, inductive inference, and intentional inference tasks. The first paper demonstrates the conditions under which children's attention to a speaker's communicative intentions can and cannot trump the use of a common word learning strategy. In addition, this paper investigates the role played by intonation in conveying speaker's intentions during both noun and verb learning. The study reported in the second

paper uses a novel training procedure that demonstrates that 24-month-olds can learn a morphological rule (in Hebrew) that differentiates between nouns and verbs more effectively when exposed to speakers' communicative intentions than when not. The third study demonstrates that, under a variety of circumstances, the label a speaker uses to refer to an object can lead 24-month-olds to make inferences about the object that are consistent with the speaker's communicative intent rather than the object's perceptual features. The fourth study demonstrates that for a variety of actions and events, 1- and 2-year olds will use a novel label provided by an actor as a cue to the actor's behavioral intentions and, in some cases, to override their expectations about just what those intentions were. Taken as a whole, these papers clearly demonstrate novel findings regarding both the depth and breadth with which toddlers can use a speaker's communicative intentions conveyed by any one of a number of cues to learn words, make inferences about objects, and understand others' mental states. In keeping with the spirit of the conference, we leave ample time for discussion following the presentations.

Wednesday
11:10-1:00 pm
Hooh

Infant in Family Context**Participants**

Infant Negative Temperament Probably Elicits Insensitive Parenting Behavior

*Ronald Seifer, Brown University, USA

Infant Negative Temperament (Irritability) Elicits Less Sensitive Caregiving Under High-Risk Conditions

*Susan Crockenberg, University of Vermont, USA

Ancillary Discussants:

Ronald Barr, Center for Community Child Health Research, Child and Family Research Institute and Department of Pediatrics, University of British Columbia

Jay Belsky, Birbeck University of London

Nathan Fox, nathan, University of Maryland

Sarah C Mangelsdorf, Department of Psychology, University of Illinois at Urbana-Champaign

Over the last thirty years, Sameroff's (1975) transactional view of development, together with Bronfenbrenner's (1979) ecological theory, and Belsky's (1984) model of the determinants of parenting have shaped our understanding of the course of human development as an ongoing interplay of individuals with their surroundings. In a relatively short period of time, we have moved conceptually from an approach focused on unidirectional influences of parents and other environmental influences on children's development, to the recognition that children and caregivers influence each other, and both influence and are influenced by aspects of the caregiving environment that support or undermine their interactions. The implications of this re-conceptualization of developmental processes for research are profound because it changes the relevant research questions. Instead of asking whether and how parents affect a child's development, or a child's characteristics affects parents, we want to know the conditions under which either effect is more likely to occur, or more likely to be beneficial or detrimental for development. From a statistical point of view, we are interested in interactions or complex pathways, rather than in simple main effects. Despite a high degree of conceptual consensus, however, researchers have not fully embraced its methodological implications. The question of "infant temperament effects" addressed in this symposium is a case in point. With few exceptions, researchers investigating the development of infants with negatively reactive (irritable) temperaments frame their questions as main effects, particularly as to whether such infants adversely impact parents, eliciting more negative caregiving. Thus, it remains a matter of considerable ongoing debate whether infant temperament effects on caregivers are conditional (i.e., dependent on other characteristics of the infant, the caregiver, or the caregiving context), as we would anticipate from a transactional perspective. Both primary presenters in this symposium have been engaged in research on infant temperament and caregiving from early in their careers, have framed their research questions within a transactional/ ecological framework, and have tested interactive effects of infant irritability on caregiving. Yet they come to different conclusions about the meaning of their results, and continue to debate the issue in various contexts ... contributing to its designation as an ongoing "hot topic." The four other researchers who will participate in the interchange have all conducted significant research on infant negative reactivity and caregiving, some of which is

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When Does Infant Negative Temperament Adversely Affect Caregiving: Typically or in High-Risk Conditions?

ongoing; they are familiar with the debate and are eager to offer their unique expertise in this "Fishbowl" symposium.

048

The Role of Brain Development in Cognitive Development: Computational Models

Wednesday
11:10-1:00 pm
Minori

Robotic Simulation/Reproduction of Infant Capabilities

Participants

Experience-dependent Structural Change in Neural Network Models of Psychological Development

*Thomas R Shultz, Department of Psychology, McGill University, Montreal, Canada

Brain Maturation in a Robot-embedded Model of Habituation

*Sylvain Sirois, School of Psychological Sciences, University of Manchester

A Model of Sensorimotor Integration in the Development of Speech Sounds

*Gert Westermann, Department of Psychology, Oxford Brookes University, UK

Discussant:

Denis Mareschal, School of Psychology, Birkbeck University of London, UK

The new field of Developmental Cognitive Neuroscience focuses on the relation between brain development and cognitive development (Johnson, 2005; Munakata, Casey et al, 2004; Nelson & Luciana, 2001). The main aim in this research is to identify structural changes in the brain and relate them to the emergence of new behavioral abilities during infancy and childhood. Two aspects of brain development that have been identified as playing a role in cognitive development are the activity-dependent shaping of neural circuits within a brain region (e.g., Johnson, 2001), and the integration between different brain regions based on a combination of maturational and experience-dependent factors (Johnson, 2000). Moving this powerful new research paradigm forward requires the development of specific theories of how brain and cognitive development interact. Connectionist models are now the most powerful tools for developing and testing theories of cognitive development (e.g., Elman et al, 1996). These models consist of a fixed number of interconnected units and connections, and learning is modeled by adjusting the connection weights between units. However, while these models have addressed many aspects of cognitive development they have largely ignored the role that structural changes in the brain play in this process. In this symposium we introduce a new approach termed Computational Developmental Cognitive Neuroscience (CDCN) which explicitly takes into account the role of brain development in cognitive development. This is achieved by neural network models that undergo structural changes during learning by generating new units and connections or by gradually integrating individual processing components. The models discussed in this symposium cover a range of domains but they share in common the explanation of behavioral change as both following and guiding structural change in the architecture of the learner. Together these models demonstrate that integrating structural change as a factor in theories of cognitive development can lead to better simulations of developmental trajectories and can provide explanations that go beyond those offered by static systems. These results suggest that CDCN models represent a powerful new methodology in the study of cognitive development.

049

Paper Session: Familial Distress and Dysfunction

Wednesday
11:10-1:00 pm
Mizuho 1

ISIS

Participants

Infant and Child Sexual Abuse and Pubertal Development in Females

*Nicole Porter, DePaul University, USA

Japanese Family Filial Violence

*Hilda Maria Gaspar Pereira, Hokusei Gakuen University, Japan

Posttraumatic stress of parents of premature infants: Implications on transmission of attachment representations

*Blaise Pierrehumbert, University Dept of Child and Adolescent Psychiatry (SUPEA), Switzerland

Carole Muller-Nix, Department of Child and Adolescent Psychiatry, University Hospital, Lausanne

Margarita Forcada-Guex, Division of Neonatology, University Hospital, Lausanne

Paper Session: Familial Distress and Dysfunction

- Ayala Borghini, Department of Child and Adolescent Psychiatry, University Hospital, Lausanne
 François Ansermet, Department of Child and Adolescent Psychiatry, University Hospital, Lausanne
- Poverty Related Factors Influencing Fetal Reactivity to an Acute Stressor
 *Tara S. Wass, University of Tennessee
 Heather Sedges, University of Tennessee, USA
 Robert L. Donohue, Framingham State College
 Sonya Jones, University of South Carolina
 Dava Shoffner, University of Tennessee
 Eboni Taylor, Ohio State University
 Ashlee Schoch, University of Tennessee
- Social contingency detection in infants who lack a structured social environment
 *elena geangu, Babes-Bolyai University, Romania
- Strategies for Better Understanding the Development of Mental Health and Mental Disorders: The sesam Study
 *Gunther Meinlschmidt, University of Basel, Department of Clinical Psychology and Psychotherapy, Switzerland
 Alexander Grob, University of Basel
 Roselind Lieb, University of Basel
 Jürgen Margraf, University of Basel
 Silvia Schneider, University of Basel
 Dieter Wolke, University of Zurich
 the sesam study group, University of Basel

Paper Session: Audition

Wednesday
11:10-1:00 pm
Mizuho 2

ISIS**Participants**

- A Critical Period for the Development of the Human Central Auditory Pathways
 *Anu Sharma, The University of Texas at Dallas, USA
 Michael Dorman, Arizona State University
- Attention to Infant-Directed Versus Adult-Directed Speech in Normal-Hearing Infants and Hearing-Impaired Infants with Cochlear Implants
 *Tonya R. Bergeson, Indiana University, USA
 Kristen Spisak, Indiana University School of Medicine
 Derek M. Houston, Indiana University
- Auditory Word Learning in Deaf Infants and Toddlers: Effects of Early Cochlear Implantation
 *Derek M. Houston, Indiana University
 Jessica Stewart, Indiana University School of Medicine
 Aaron Moberly, Indiana University School of Medicine
 George Hollich, Purdue University

Invited Symposium - Perspectives on Emotional Development

Wednesday
11:10-1:00 pm
Yamashiro East

ISIS**Participants**

- The Functionalist Approach to Emotional Development
 *Linda Camras, DePaul University
- Emotional Development from a Dynamical Systems Perspective
 *David Witherington, University of New Mexico
- Looking at Emotional Development through a Cultural Lens
 *Pamela M Cole, Pennsylvania State University
 Patricia Z Tan, Pennsylvania State University
- (Alternative cultural perspective)
 *Shing-Jen Chen, Graduate School of Education, Hokkaido University

This symposium explores three diverse approaches to emotional development that have been prominent influences on the thinking and research of developmental scholars in recent decades: the functionalist perspective, the dynamical systems perspective, and the cultural perspective. Each of these perspectives has made a distinctive contribution to our current understanding of emotional development. During the first three presentations, each speaker will explicate the fundamental principles of one of these perspectives, present some illustrative findings and highlight its special merits. The fourth speaker will present an alternative version of the cultural perspective originating from the point of view of a non-Western scholar. Following the presentations, we will engage the audience in a discussion that focuses on identifying issues and questions that should be central to the study of emotional development. We will consider how each perspective might address these questions and issues. While doing so, we also will consider profitable directions for future research.

*Wednesday
11:10-1:00 pm
Yamashiro West*

Cognition, Memory, and Learning**Participants**

Infants' ability to attribute knowledge states to agents

*luca surian, University of Trieste, Italy
stefania caldi, University of Trieste, Italy
Dan Sperber, Institut Jean Nicod

Infants' reasoning about others' misperceptions and false beliefs

*Hyun-joo Song, Yonsei University, USA

Which penguin is it? Infants' understanding of false beliefs about identity

*Rose M Scott, University of Illinois
Renee Baillargeon, University of Illinois, USA

Discussants:

Alan M Leslie, Rutgers University Psychology and Center for Cognitive Science
Gergely Csibra, University of London, Birkbeck

Between about 3 and 4 years of age, infants begin to reason explicitly about false beliefs: they now succeed at a wide variety of tasks requiring them to understand that others can hold false beliefs about the location, identity, and properties of objects. Several different accounts have been proposed to explain this development. Of crucial relevance to these accounts is a recent demonstration using a violation-of-expectation task (Onishi & Baillargeon, 2005) that even 15-month-old infants can reason implicitly about false beliefs: when an actor hides a toy in a location A, and does not witness its displacement to a location B, infants expect the actor to hold a false belief about the toy's location, and hence to search for the toy in A. The papers included in this symposium significantly expand the findings from Onishi and Baillargeon's (2005). They report evidence collected in different laboratories, using different violation-of-expectation tasks, and with infants aged 13 to 17.5 months. Their results suggest that infants in the second year of life (1) attribute false beliefs to non-human as well as to human agents; (2) recognize that misleading cues can lead to false perceptions; (3) realize that agents can hold false beliefs about the identity or the location of objects; and (4) understand that an actor may simultaneously hold multiple false beliefs, and keep track of these various false beliefs when predicting the actor's behavior. The research presented in the symposium provides critical converging evidence that infants can reason implicitly about others' false beliefs, and as such suggests that early psychological reasoning is far more sophisticated than was traditionally supposed. The two well-known discussants come from distinct theoretical perspectives and will provide their own views on the implications of the present findings for theory and research on the development of children's "theory of mind".

Wednesday

ISIS

053

ISIS Business Meeting

2:00-2:45 pm
Mizuho 1

Organizer/Moderator:

Joseph J. Campos, University of California, Berkeley
Leslie B Cohen, University of Texas
Kathy Hirsh-Pasek, Temple University

None

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Presidential Address

Wednesday
3:00-3:50 pm
Mizuho 1

ISIS

Organizer/Moderator:

Joseph J. Campos, University of California, Berkeley

None

055

Poster Session G

Wednesday
4:10-6:00 pm
Colonade
Mezzanine & Hiei

Infant in Family Context

Participants

Poser Bay 01 - A comparison of children's compliance at ages 2, 3, and 4 using the method of Sequential Analysis

Sarah P. Bellefontaine, Concordia University, Canada

Paul D. Hastings, Concordia University

*David R. Forman, Concordia University

Richard J. Parker, University of Ottawa

Poser Bay 02 - Child compliance to mothers and fathers: Sequential analysis of a clean-up task

Sarah P. Bellefontaine, Concordia University, Canada

Paul D. Hastings, Concordia University

Richard J. Parker, University of Ottawa

*David R. Forman, Concordia University

Poser Bay 03 - Continuity of Parental Separation Anxiety from Infancy to Adolescence

*Diane Wille, Indiana University Southeast, USA

Poser Bay 04 - Development of infant's eating behaviors and mother-infant interactions

*Miho Ito, Nagoya University School of Health Sciences, Japan

Jun Yasuda, Graduate school of Human Sciences, Osaka University

Toshihiko Hinobayashi, Department of Comparative and Developmental Psychology, Graduate

School of Human Sciences, Osaka Uni

Tetsuhiro Minami, Department of Comparative and Developmental Psychology, Graduate School of Human Sciences, Osaka Uni

Poser Bay 05 - Dimensions of Fathering and Parental Sensitivity and the Infant's Attachment Relations

*Diane Wille, Indiana University Southeast, USA

Poser Bay 06 - Distinguishing between intentions and outcomes in 5-7-month-olds

*Maria Legerstee, York University, Canada

Gabriela Markova, York University

Heidi Marsh, York University

Poser Bay 07 - Does the type of picture book influence parent-child book reading interactions?

*Cynthia Chiong, University of Virginia, USA

Judy DeLoache, University of Virginia

Poser Bay 08 - Exploring Individual Differences in a Process of Becoming a Mother in First Three Months through Changes in Motherese

Poster Session G

- *Shigeru Nakano, Hokkaido Health Sciences University, Japan
 ayaka yanagiwatari, health sciences university of hokkaido, japan
 kiyomi Kondo-Ikemura, Health University of Hokkaido, JAPAN
 Emiko Kusanagi, Kokugakuin Junior College, Japan
- Poser Bay 09 -** Intrinsic and Extrinsic Factors Associated with Night Waking in 9-Month-Old Infants
 Cheryl W. DeLeon, West Virginia University
 Katherine Hildebrandt Karraker, West Virginia University
 *Marion E. Young, West Virginia University, United States
- Poser Bay 10 -** Language
 *Riitta Korhonen, University of turku, Department of teacher Education, Finland
- Poser Bay 11 -** Maternal emotional availability during infancy and toddlerhood and sleep and behavior problems one year later.
 *Douglas M. Teti, Department of Human Development & Family Studies, The Pennsylvania State University
 Nissa R. Towe-Goodman, Department of Human Development & Family Studies, The Pennsylvania State University, USA
 Brittany L. Rhoades, The Pennsylvania State University
 Laura D. Wray, Department of Human Development & Family Studies, The Pennsylvania State University
 Lauren A. Killeen, Department of Psychology, The Pennsylvania State University
 Elizabeth B. Reitz, Department of Psychology, The Pennsylvania State University
- Poser Bay 12 -** Maternal Parenting Behavior with Toddlers: Contributions of Maternal Attributions about Caregiving and Maternal Personality
 *Cynthia L. Smith, Virginia Tech, USA
 Tracy L. Spinrad, Arizona State University
 Nancy Eisenberg, Arizona State University
 Tierney K. Popp, Arizona State University
 Bridget M. Gaertner, Arizona State University
- Poser Bay 13 -** Parental and child influences on family interaction patterns
 *Aya Shigeto, Department of Psychology, University of Illinois at Urbana-Champaign, Champaign
 Sarah C Mangelsdorf, Department of Psychology, University of Illinois at Urbana-Champaign
 Geoffrey L Brown, Department of Psychology, University of Illinois at Urbana-Champaign
 Sarah J Schoppe-Sullivan, Department of Human Development and Family Science, The Ohio State University
 Margaret Szewczyk Sokolowski, School of Social Services Administration, University of Chicago
- Poser Bay 14 -** Parenting Self-Efficacy and Satisfaction with Parenting: Relations with Maternal Well-Being
 *Marion E. Young, West Virginia University, United States
 Katherine Hildebrandt Karraker, West Virginia University
 Lesley Epperly Cottrell, West Virginia University
- Poser Bay 15 -** Perception of object unity in infants: the evidence from smooth pursuit
 *Olga Kochukhova, Uppsala University, Department of Psychology, Sweden
- Poser Bay 16 -** Power-assertive discipline and child adjustment: Emotional availability as a moderator
 *Nissa R. Towe-Goodman, Department of Human Development & Family Studies, The Pennsylvania State University, USA
 Brittany L. Rhoades, The Pennsylvania State University
 Laura D. Wray, Department of Human Development & Family Studies, The Pennsylvania State University
 Lauren A. Killeen, Department of Psychology, The Pennsylvania State University
 Elizabeth B. Reitz, Department of Psychology, The Pennsylvania State University
 Douglas M. Teti, Department of Human Development & Family Studies, The Pennsylvania State University
- Poser Bay 17 -** Relations among maternal sensitivity and infants' response to the Still Face procedure

Poster Session G

- *Nancy Mcquaid, Psychology, Simon Fraser University, Canada
Jeremy Carpendale, Simon Fraser University
- Poser Bay 18 -** Selective attention and experience with otitis media impact speech perception in infants.
*Linda Polka, McGill University, Canada
Monika Molnar, McGill University
Susan Rvachew, McGill University
Karen Mattock, McGill University, Canada
Lauren Tittley, McGill University
- Poser Bay 19 -** Sharing Experience: Declarative Pointing and Joint Attention in Infants With and Without Down Syndrome
*Tamara Lee Fisher, York University
Maria Legerstee, york university, Canada
Paola Perucchini, Università Roma Tre - Dept. Educational Science, Italy
- Poser Bay 20 -** Television program comprehensibility and distractibility in 6 to 24 month old children
*John Richards, University of South Carolina, USA
Michael Stevens, University of South Carolina
- Poser Bay 21 -** The Contribution of VLBW Infant Biological Condition and Family Environment to Maternal Competency in Feeding
*Karen Pridham, University of Wisconsin-Madison, USA
Michele Schroeder, Meriter Hospital
Janet Melby, Iowa State University
JoAnne Streit, University of Wisconsin Hospital & Clinics
Roger Brown, University of Wisconsin-Madison
Tondi Harrison, University of Wisconsin-Madison
- Poser Bay 22 -** The development of configural face processing: the face inversion effect in preschool-aged children
*Marta Picozzi, Università degli Studi di Milano-Bicocca, Italy
Viola Macchi Cassia, Università degli Studi di Milano Bicocca
chiara turati, Dipartimento di Psicologia dello Sviluppo e della Socializzazione - Università degli Studi di Padova, Italy
- Poser Bay 23 -** The Effect of Attention-to-Action On Visuospatial Reasoning
*Iris L. Price, University of Massachusetts - Amherst, USA
Neil E. Berthier, Faculty Member
- Poser Bay 24 -** The Effect of Early Maternal Feeding Behaviors on Later Infant Feeding Behaviors
*Lisa Brown, University of North Carolina at Chapel Hill, USA
- Poser Bay 25 -** The Effects of Attention on the Mismatch Response of Infants
*Karen Garrido-Nag, The Graduate Center, City University of New York, USA
Valerie L. Shafer, The Graduate Center, City University of New York
Richard Schwartz, The Graduate Center, City University of New York
Winifred Strange, The Graduate Center, City University of New York
- Poser Bay 26 -** The effects of experience on the development of face recognition abilities: the emergence of an "Other-Age" effect in infants
*Dana Kuefner, Università degli Studi di Milano Bicocca, IT
Viola Macchi Cassia, Università degli Studi di Milano Bicocca
Marta Picozzi, Università degli Studi di Milano-Bicocca, Italy
Emanuela Bricolo, Università degli Studi di Milano Bicocca
- Poser Bay 27 -** The Ethic Questions of Children's Psychological Diagnostics
*Mojmir Svoboda, Czech Psychological Society, Czech Republic
- Poser Bay 28 -** The influence on 18-month infant's lexical development and behavior according to maternal depression and anxiety level
*Keumjoo Kwak, Seoul National University, KOREA
*Yeonsoo Kim, graduate student, South Korea
*Yumi Choi, graduate student
- Poser Bay 29 -** The Interaction Between Parental Gentle Guidance and Coparenting Involvement as

Correlates of Children's Committed Compliance

*Alysia Blandon, University of North Carolina - Greensboro, USA

Brenda L. Volling, University of Michigan

Poser Bay 30 - The origins of father-child security of attachment: a comparison of fathers' and mothers' attachment representations

Julia Mendonça, Université du Québec à Montréal / Universidade de Mogi das Cruzes, Brazil

*Louise Cossette, Departement de psychologie, UQAM, Canada

F. F. Strayer, Université de Bordeaux 2

France Gravel, Université du Québec à Rimouski

Poser Bay 31 - The Relation among Maternal Mind-Mindedness and Infants' Understanding of Others' Attentional States

*Ikuko Shinohara, Kyoto University / Japan Society for the Promotion of Science, Japan

Poser Bay 32 - The Relationship between Inhibition and Behavioral Control: The Moderating Effect of Parenting Behavior

*Elizabeth Cipriano, Pennsylvania State University, USA

Cynthia A. Stifter, Pennsylvania State University

Poser Bay 33 - Timing abilities during infancy: Anticipation and the filled-duration effect

*Curtis Samuels, none at this time, Australia

Poser Bay 34 - Touch and building of the interaction of infants and their mothers during the early infantile period

*Satoko Ito, MD. (member of JSBS), Japan

Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's

Poser Bay 35 - Twelve-month-olds individuate pairs of objects

*Marian L Chen, Rutgers University, USA

Alan M Leslie, Rutgers University Psychology and Center for Cognitive Science

Poser Bay 36 - Using the Operationalized Portage Checklist to intervene with low-income Brazilian children.

*Ana Lucia Rossito Aiello, Universidade Federal de São Carlos, Brazil

*Lucia Cavalcanti de Albuquerque Williams, Universidade Federal de São Carlos, Brazil, Brazil

Poser Bay 37 - Visual contextual cues effects in haptic perception of orientations in 5-month-old-infants

Stephanie KERZERHO, Université Paris V - René Descartes, France

Poser Bay 38 - "Turns as basic patterns of the dialogue in the parent-child-dyad"

*Ursula Elke Horsch, University of Education Heidelberg, Germany

Poser Bay 39 - Infant Fricative Discrimination Using A Novel Visual Habituation Paradigm

*Jonathan Ting, Indiana University, United States of America

Joseph Smith, Indiana University

Derek M. Houston, Indiana University

Wednesday
4:10-6:00 pm
Cosmos

Communication and Language

Participants

Elaborating Initially Impoverished Representations

*John Matthews, Shizuoka University

Words in the Babes: Details all the Way Down?

*James Morgan, Brown University

Creating Abstraction from Exemplars

*Suzanne Curtin, University of Calgary

The ability to recognize spoken words lies at the heart of language acquisition. Infants cannot learn about the meanings of particular words, their internal structures, or how they participate in syntactic patterns until they can recognize the words themselves. Several factors complicate spoken word recognition: speech is evanescent, boundaries between words typically are not marked, and instances of words vary tremendously from one another. Infants must learn to segment and identify words with great efficiency.

Lexical Representations and Representational Change

Understanding the nature of lexical representations is critical for understanding how infants acquire the requisite skills. In the adult literature, two general forms of lexical representations have been debated. Each lexical type might have a single, abstract representation in which only those properties relevant for making lexical distinctions are encoded. Accessing such representations requires substantial normalization. Alternatively, each lexical type may be represented by large numbers of stored, clustered exemplars. These may be partially normalized or strictly episodic; either way, such representations entail substantial memorial capacity. The goal of this symposium is to explore alternative views on infants' lexical representations and how these representations may change across time. Three speakers represent a spectrum of perspectives. John Matthews argues that lexical representations, comprising only phonologically distinctive features, are separate from early phonetic representations. Next, James Morgan advocates an exemplar-based view according to which phoneme-like representations emerge postperceptually from statistical clustering. Suzanne Curtin presents a middle view in which phonemes emerge from exemplars but then can be used to direct attention and perception. The topic will then be open for discussion among investigators in infant language acquisition and related areas, both senior and junior scholars, including Richard Aslin, Kyle Chambers, Christopher Fennell, Paula Fikkert, James Magnuson, Jessica Maye, Jenny Saffran, and Janet Werker. We hope to develop a constructive framework for adjudicating among models of lexical representation.

Parent-Infant Interaction During the First Year: Individual, Contextual, and Cultural Differences

Wednesday
4:10-6:00 pm
Hiei

Emotional Development

Organizer/Moderator:

Hui-Chin Hsu, University of Georgia, USA, USA

Participants

Maternal Speech to 3-Month-Olds: Effects of Infant, Mother, and Context

*Hui-Chin Hsu, University of Georgia, USA, USA

Maternal Contingency Toward Infant Signals in German, Euro-American, Indian, Chinese and Cameroonian Dyads

*Joscha Kärtner, Universität Osnabrück

*Heidi Keller, Universität Osnabrück

Developmental and Real-Time Changes in the Relationship Between Maternal and Infant Behavior During Early Face-To-Face Communication

*Manuela Lavelli, Università degli Studi di Verona

Chiara Barachetti, Università di Verona

Alan Fogel, University of Utah, USA

Mother-infant And Father-infant Play Interaction In Finnish Families

*Maija Haapakoski, University of Tampere, Finland, Psychology Department

*Maarit Silvén, Department of Psychology, University of Tampere, Finland, Finland

Joint Attention Between Mother And Infant In Play Situations

*Sueko Toda, Hokkaido University of Education, Japan

Attention Sharing in Mother-Infant Daily Interaction: A Multiple Case Study with Japanese and French Dyads

*Hiroko Norimatsu, Université de Toulouse II, France

Immediately after birth, infants demonstrate clear social responsiveness to their parents. Parents also engage their infants in social interaction beginning in early infancy. Objects and other people in the family (e.g., siblings) are sometimes involved in parent-infant interaction as well. During interaction, infant and parental verbal and nonverbal (e.g., visual and vocal) actions are not only diverse in their forms and patterns according to infant and parental characteristics, but also sensitive to timing and influenced by the immediate context and larger social-cultural ecology. This symposium integrates findings from six papers by researchers around the world including Finland, France, Germany, Italy, Japan, and the US. Although these studies differ in their research design and unit of data analysis, they all address the issue with respect to the role of individual, context, and/or culture in parent-infant interaction. The goal of this symposium is threefold: (1) to better understand individual differences and developmental changes in parent-infant

interaction during the first year, (2) to examine the role of the characteristics of infant and parent in parent-infant interaction, and (3) to explore the influence of social, ecological, and cultural context on parent-infant interaction. Two of the studies included in this symposium employed a cross-sectional design to examine early mother-infant interaction. The first paper examined the role of mother, infant, and contextual factors in the function and content of maternal speech at 3 months. The second paper investigated the effects of immediate ecological context (i.e., dyadic vs. multiparty) and larger cultural influences on maternal contingent response to infant signals at 3 months. The remaining four papers included in this symposium employed a longitudinal design. The first longitudinal study documented individual differences in the changing relationships between maternal and infant actions during face-to-face interaction across the first 3 months. The second paper explored differences between mothers and fathers as well as between different families in the patterns of parent-infant interaction at 7 and 11 months. The third longitudinal study investigated development changes in two types of mother-infant joint attention from 5 to 11 months. The fourth longitudinal study adopted a qualitative approach to explore shared attention in four mother-infant dyads from two different cultures at around 6 and 12 months. Taken together, results from these studies suggest that individual social-interactive behaviors and relational communication patterns observed in parent-infant interaction during the first year demonstrate systematic individual, developmental, contextual, and cultural differences. Parent-infant interaction during the first year can be conceptualized as a complex and dynamic changing system composed of multiple verbal and nonverbal actions embedded in a social-cultural context. Its development appears to be shaped by multiple factors including the characteristics of infant, parent, immediate ecological context, and larger culture.

Wednesday
4:10-6:00 pm
Hooh

Cognition, Memory, and Learning**Participants**

Constraints on perceptual completion in infancy

*Scott P. Johnson, NYU

Juliet Davidow, NYU

Mike Frank, MIT

Cynthia Hall-Haro, Center for Neural Science, New York University

Data-driven phonological distinction without phonetic opposition

*Daniel Swingley, University of Pennsylvania, United States

Acquiring "grammars" in the lab: categorization and constraints on learning

*Jenny R. Saffran, University of Wisconsin-Madison

Discussant:

Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University

Central to cognitive development research is characterization of the interplay between existing capacities and learning. One approach examines constraints or biases in infants' discovery of domain-specific regularities, clarifying infants' learning mechanisms. Another approach characterizes the learner's environment, determining whether putative learning mechanisms are sufficient or necessary. This symposium showcases both approaches, with researchers in four disparate domains. Bringing together several learning domains highlights our common approach, which assumes that data-driven learning is constrained by the learner in ways that make mastery of the domain possible in limited time, and which in some cases may help account for the domain's structure. Johnson et al. show that 2-month-olds' perception of object unity is independent of direction-discrimination and smooth-pursuit performance, implying that perceptual completion stems not from constraints on processing common motion, but from infants' attention to critical stimulus features. Hannon describes learning and initial biases in 6- and 12-month-olds' interpretation of musical rhythm. Even 6-month-olds are not neutral interpreters of rhythm; some patterns are more readily learned than others, developmentally earlier than culturally-specific biases. In phonology, Swingley relates infant experiments and acoustic measurements of speech, providing an account of early word learning where children are *less* constrained than previously thought, and responsive to phonetic regularities in a different way. Saffran shows that infants can learn miniature grammars defined over *categories* of words, rather than over just words; but only when the phrases are

Constraints on learning mechanisms in 4 basic developmental domains: objects, music, phonology, and syntax

marked by elements with an asymmetric probability distribution. Finally, Linda Smith will serve as a discussant. Smith's trenchant, challenging commentaries on nature and nurture suggest that she is ideally suited to offering a broad and incisive perspective. Attendees will come away with new results in each domain, and an appreciation of the tractability of the nature/nurture question when articulated in terms of environmental input, learning mechanisms, and developmental outcomes. (300 words as stipulated in call for papers)

Beyond infancy: Attachment representations in young childhood

Wednesday
4:10-6:00 pm
Minori

Emotional Development
Participants

Attachment for Japanese beyond infancy: Narrative assessment of attachment representation

*Kazuko Behrens, Texas Tech University, U.S.S.

Attachment among Japanese preschool children: The ethnographic adaptations of the Attachment Doll Play

*Keiko Takahashi, University of the Sacred Heart, Japan

Kayoko Yamakawa, University of the Sacred Heart

Characteristics of attachment representation: among institutionalized children in Japan

*Emiko Katsurada, Kwansai Gakuin University

Discussant:

Kazuo Miyaka, Hokkaido University

From the mid-1980s, attachment researchers have focused on representations of attachment to explain the continuities/discontinuities of quality of attachment through life-span development. This lifelong perspective that concerns with the internal state of mind has expanded the scope of attachment studies. In this new trend, it is hypothesized that narratives can provide a view into participants' current mental representations of their past attachment experiences, that is, their interpretations of their past attachment relationships. Based on this assumption, new assessment instruments have been constructed and stimulated empirical research beyond infancy. However, less is known about nature of attachment in early to middle childhood. In this symposium, we will shed light on attachment representations among preschool children. The first presenter, Kazuko Behrens, will discuss qualitative differences in Japanese 6-year-olds' narrative responses to Kaplan's version of the Separation Anxiety Test, which was devised in the U.S. She will also explore the effectiveness of this attachment assessment method and challenges of conducting attachment research in general. The second presenter, Keiko Takahashi, will discuss the applicability of the Attachment Doll Play classification system devised by George and Solomon, to Japanese 5- to 6-year-olds children. She will explore a question as to why the majority of Japanese children in this sample were not identified as secure types. The third presenter, Emiko Katsurada, will discuss the nature of attachment assessed by the Attachment Doll Play among Japanese 4- or 5-year-old children who were institutionalized. Her research indicates that, in contrast to the home-reared children, among the institutionalized children, there were no secure types and a half of them were identified as D-type. She will explore what kinds of environmental factors relate to the nature of attachment. Finally, as a discussant, Kazuo Miyake will comment from perspectives of cross-cultural research and lifelong development of attachment.

Founder's Symposium - Infant Studies and Baby Science in the Future - Sponsored by the Benesse Corporation

Wednesday
4:10-6:00 pm
Yamashiro East

ISIS
Organizer/Moderator:

Noboru Kobayashi, Professor Emeritus, University of Tokyo

Lewis Lipsitt, Brown University

This special symposium will feature presentations by Prof. Lewis P. Lipsitt representing the International

Founder's Symposium - Infant Studies and Baby Science in the Future - Sponsored by the Benesse Corporation

Society of Infant Studies, and Dr. Noboru Kobayashi, representing the Japan Baby Society. They will address progress made in the study of infant behavior and development since the first meeting of ISIS in 1978. Basic research on the development of sensory, cognitive, and learning processes, coupled with increasing attention to risk factors in early development, including prenatal and perinatal conditions, has led to a renaissance of interest in and care for babies of the 21st century.

Rich stimulation obtained by infants in natural contexts: Locomotion, visual attention, and word learning
Cognition, Memory, and Learning

*Wednesday
4:10-6:00 pm
Yamashiro West*

Participants

Infants' Everyday Locomotor Experience: A Walking and Falling Marathon

*Jessie Garciaguirre, New York University

Karen E. Adolph, New York University

An infants' eye view of the world: Implications for learning in natural contexts

*Jozsef Fiser, Brandeis University

Richard Aslin, University of Rochester, USA

Andrea Lathrop, University of Rochester

Constantin Rothkopf, University of Rochester

Julie Markant, University of Minnesota

From the first-person view: Joint attention is through the hands not eyes

*Hanako Yoshida, Psychological and Brain Sciences, Indiana University, U.S.A.

Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University

Modeling the Role of Social Interaction and Visual Attention in Early Word Learning

*Chen Yu, Indiana University, USA

Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University

Discussant:

Richard Aslin, University of Rochester, USA

One of the classic arguments in the field of language acquisition is the "poverty of the stimulus", which posits that there are insufficient exemplars in the infant's linguistic input to enable the rapid generalizations observed in language production. Although no one believes that a rich input set, even if present, would be sufficient to support rapid generalizations, there have been few serious attempts at characterizing the entire corpus of sensory inputs available to the young language learner. In other domains, tasks used to assess infant development are typically designed to eliminate complex contexts in which two or more independent variables are correlated, as they undoubtedly are in the natural environment. Here we present findings from four different labs in which multivariable correlations are gathered as infants engage in complex everyday behaviors. By collecting detailed, sometimes exhaustive, datasets of infant and adult behaviors in natural contexts, we can determine whether, in principle, sufficient information is available to support the kinds of rapid learning that were thought to be implausible according to both nativists and unconstrained computational models. Garciaguirre and Adolph provide a highly detailed video record of 14-month-olds' walking experience in a natural context, documenting the number of steps, rest periods, falls, and interactions with caregivers. Fiser and colleagues use a head-mounted camera to gather measures of 6- to 14-month-olds' point-of-view as they engage in sitting, reaching, standing, and walking tasks. Yoshida and Smith also use a head-mounted camera to collect data from 12- to 36-month-olds as they engage in adult-directed object-attention tasks, showing that infants rarely use parental gaze to direct attention during object naming, but rely more on parent hand movements. Yu and Smith use dual cameras and position sensors to record what 18-month-old infants are attending to, as well as the cues (both motor and gaze) provided to infants by the parent, and they provide a model for how adult action and infant attention are correlated in the service of word learning. In all of these examples, new data are provided about infants' experiences, whether exploring their environment, interacting with caregivers, or learning a new task. In addition, each presentation highlights the multisensory data available to infants in natural contexts and the dynamics of their behaviors, which provides a more nuanced view of the time-course of brief bouts of sensory input for learning.

062

Breakfast with the Editors

Thursday
7:30-8:50 am
Cosmos

ISIS

Organizer/Moderator:

Joseph J. Campos, University of California, Berkeley

A breakfast roundtable discussion

063

Breakfast Roundtable - TBA (Thu.)

Thursday
7:30-8:50 am
Minori

ISIS

Organizer/Moderator:

Carl Frankel, University of California, Berkeley, USA

None Yet.

064

Poster Session H: Cognition, Memory and Learning

Thursday
9:00-10:50 am
Colonade
Mezzanine & Hiei

Cognition, Memory, and Learning

Participants

Poser Bay 01 - InterAnimal : A Speech-driven Embodied Entrainment Animal Character

*Tomio Watanabe, Okayama Prefectural University, JAPAN

Michiya Yamamoto, Okayama Prefectural University

Poser Bay 02 - Korean infants' retrieval of English words through decontextualized learning

*hyun jung jean, hasol gyoyook, korea, south korea

Poser Bay 03 - Long-term recognition in infant Japanese monkeys

*Chizuko Murai, Tamagawa University Research Institute, Japan

Masayuki TANAKA, Kyoto University, JAPAN

Daisuke Kosugi, Shizuoka Institute of Science and Technology, Japan

Poser Bay 04 - Means-end Reaching for Visible vs. Hidden Objects

*Jeanne Shinsky, University of South Carolina, USA

Poser Bay 05 - Multiple Influences on Infants' Memory for Individual Exemplars

*Kristine Kovack-Lesh, University of Iowa, USA

*Lisa M. Oakes, University of Iowa

Poser Bay 06 - Nascent Evidence of Mental Rotation Abilities in Infancy?

*Karen Bendersky, Georgia College & State University, USA

Jennifer M Mabry, non-member

Poser Bay 07 - Neural Activation to Featural Differences and Spatiotemporal Discontinuities in an Object Processing Task: An Optical Imaging Study

*Teresa G Wilcox, Texas A&M University

Heather Bortfeld, Texas A&M University

Rebecca Woods, Texas A&M University

Jennifer Armstrong, Texas A&M University

Poser Bay 08 - Object Tracking in Early Infancy: More Experience is Better

*Sarah Shuwairi, New York University, Department of Psychology, USA

Scott P. Johnson, NYU

Poser Bay 09 - Omega-3 Fatty Acid Levels in Maternal Breast Milk Predict Attention in Infancy

Michael McCarty, Texas Tech University, USA

Linxia Dong, Texas Tech University

Mallory Boylan, Texas Tech University

Quiqiong Cheng, Texas Tech University

Todd Anderson, Texas Tech University

Poster Session H: Cognition, Memory and Learning

- *Sybil Hart, Texas Tech University
- Poser Bay 10** - Only One Way to Skin a Cat? Infants' Persistence with the First Means Learned by Imitation
 *Emily W. Bushnell, Tufts University
 *Dahe Yang, Tufts University, USA
- Poser Bay 11** - Parsing Continuous Actions in 6-month-old Infants
 *Susan Hespos, Northwestern University, United States
 Megan Saylor, Vanderbilt University
- Poser Bay 12** - Preference of Human Movements in Infancy: Comparison Between Possible and Impossible Movements
 *Nobuko Komori, Kyoto University
- Poser Bay 13** - Rapid development of color-location bindings in visual short-term memory
 *Steven J. Luck, University of Iowa
 *Lisa M. Oakes, University of Iowa
 *Shannon Ross-Sheehy, University of Maryland, USA
- Poser Bay 14** - Rational Imitation In Infants And Apes
 *David Buttelmann, Max Planck Institute for Evolutionary Anthropology, Germany
 Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology
 Michael Tomasello, Max Planck Institute for Evolutionary Anthropology
 Josep Call, Max Planck Institute for Evolutionary Anthropology
- Poser Bay 15** - Recall memory, recognition memory and social communication in infancy: Their relationship to language and cognition
 *Karin Strid, Department of Psychology, Göteborg University, Sweden, Sweden
 Tomas Tjus, Göteborg University, Sweden
 Mikael Heimann, Linköping University, Sweden
- Poser Bay 16** - Reduction of the PSW to the familiar stimulus in infants showing a novelty preference
 *Kelly Snyder, University of Denver, USA
 Liza Zolot, University of Denver
- Poser Bay 17** - Relationship between infants' understanding of intentional action, internal state vocabulary, and later theory of mind
 Kara May Olineck, Concordia University
 *Diane Poulin-Dubois, Concordia University
- Poser Bay 18** - Repetition suppression to familiar pictures in infants: Does early memory primarily reflect perceptual facilitation?
 *John P Garza, University of Denver, United States
 Liza Zolot, University of Denver
 Kelly A. Snyder, University of Denver
- Poser Bay 19** - Representations of Agents Affect Infants' Causal Attributions
 *Paul Muentener, Harvard University, USA
 Susan Carey, Harvard University
- Poser Bay 20** - Self Understanding and Body Self-Awareness in Toddlers
 *Celia A. Brownell, University of Pittsburgh, Psychology Dept, USA
 Margarita Svetlova, University of Pittsburgh, Psychology Dept
 Sara Nichols, University of Pittsburgh, Psychology Dept
 Stephanie Zerwas, University of Pittsburgh, Psychology Dept
 Geetha B. Ramani, Carnegie-Mellon University
- Poser Bay 21** - Sensitivity to eye-object relations in 9-month-old infants
 *Atsushi Senju, University of London, Birkbeck, United Kingdom
 Gergely Csibra, University of London, Birkbeck
 mark johnson, University of London, UK
- Poser Bay 22** - Shaking Things Up: Further Evidence for Infants' Use of Sound to Individuate Objects
 *Tracy Smith, Texas A&M University, USA
 Teresa G Wilcox, Texas A&M University
 Veronica Epps Gonzalez, Texas A&M University

Poster Session H: Cognition, Memory and Learning

- Poser Bay 23 -** Short-Term Memory and Chunking in Infants
 *Caitlin Brez, University of Texas, U.S.A.
 Leslie B Cohen, University of Texas
- Poser Bay 24 -** Statistical learning and word segmentation in neonates: an ERP evidence
 *Noriko Kudo, Laboratory for Biolinguistics, BSI, RIKEN
 Yulri Nonaka, Laboratory for Biolinguistics, BSI, RIKEN, JAPAN
 Katsumi Mizuno, Department of Pediatrics, Showa University
 Kazuo Okanoya, Laboratory for Biolinguistics, BSI, RIKEN
- Poser Bay 25 -** Stimuli-dependent categorization of mammals versus birds in infancy
 *Kim Ferguson, Cornell University, USA
 Marianella Casasola, Cornell University, United States
 Narani Pathmanapan, Cornell University
 Regina Myers, Cornell University
 Cynthia Neuendorf, Cornell University
 Tatiana Fox, Cornell University
- Poser Bay 26 -** Temperament, Distraction, and Learning in Toddlerhood
 *Wallace Dixon, East Tennessee State University, United States
 Brenda J. salley, Virginia Polytechnic Institute and State University
 Andrea D. Clements, East Tennessee State University
 James gorniewicz, East Tennessee State University
- Poser Bay 27 -** Ten-month-olds' awareness of intentional action is specific to human agents
 *Gabriela Markova, York University
 Maria Legerstee, york university, Canada
- Poser Bay 28 -** The attribution of attention: Infants' interpretation of gaze as goal-directed action
 Susan C. Johnson, Stanford University
 *Su-Jeong Ok, Stanford University, U.S.A.
 Yuyan Luo, University of Missouri, Columbia, USA
- Poser Bay 29 -** The Importance of Postural Support in Multisensory Priming in Young Infants
 *Rebecca Woods, Texas A&M University, US
 Teresa G Wilcox, Texas A&M University
- Poser Bay 30 -** The Micro-Dynamics of Attention to Familiarity and Novelty in Infants
 *Emily Mather, University of Reading, UK
 Graham Schafer, University of Reading
 Carmel Houston-Price, University of Reading
- Poser Bay 31 -** The Motor and Perceptual Dynamics of Infant Looking
 *Joshua Goldberg, Indiana University, Bloomington, USA
 Gregor Schöner, Institut für Neuroinformatik, Bochum, Germany
- Poser Bay 32 -** The object of my desire: Social influences on infants' preferences
 *Christine Fawcett, University of California, Berkeley, USA
 Tamar Kushnir, University of Michigan, Ann Arbor
 Lori Markson, University of California, Berkeley
- Poser Bay 33 -** The Role of Social Interaction in Infants' Learning about Physical Events
 *Su-hua Wang, Psychology Department, University of California, Santa Cruz
- Poser Bay 34 -** Tune or text: The effect of text on melody recognition
 *Rebecca Lynn Seibel, University of Wisconsin - Madison, USA
 Jenny R. Saffran, University of Wisconsin-Madison
- Poser Bay 35 -** Two- and three-year-olds' use of intentions and language when remembering complex events
 *Rachel Schwartz, University of Arkansas
 Douglas Behrend, University of Arkansas, USA
- Poser Bay 36 -** Understanding of knowledge states in human infants
 stefania caldi, University of Trieste, Italy
 *luca surian, University of Trieste, Italy
- Poser Bay 37 -** Understanding other pointing: Development of pointing comprehension in the third year of life
 *Yusuke Moriguchi, Kyoto University, Japan

Poster Session H: Cognition, Memory and Learning

- Shoji Itakura, Kyoto University
- Poser Bay 38** - Using computer-generated stimuli to assess the nature of number discrimination in salamanders (genus: *Plethodon*)
 *Claudia Uller, University of Essex, Department of Psychology
 Paul Krusche, University of Bremen, Department of Behavioral Physiology
 Ursula Dicke, University of Bremen, Department of Behavioral Physiology
- Poser Bay 39** - Using Virtual Humans to Study the Role of Social Cues in Learning
 Hui Zhang, Indiana University
 *Chen Yu, Indiana University, USA
 Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University
- Poser Bay 40** - Video Self-Recognition in 2-year-olds
 *Michiko Miyazaki, University of Tokyo, Japan
 Kazuo Hiraki, Department of Systems Science, University of Tokyo, Japan
- Poser Bay 41** - What object should appear in the window? infants' reasoning about inert and self-moving objects
 *DI WU, Department of Psychology, University of Illinois at Urbana-Champaign, U.S.A
 Renée Baillargeon, Department of Psychology, University of Illinois at Urbana-Champaign
- Poser Bay 42** - Young children's spontaneous conversations about appearance and reality
 *Mette Nielsen, Roskilde University, Denmark
 *Katrine N. Hemmingsen, Roskilde University, Denmark
 *Faurholm Maj, Roskilde University, Denmark
 *Maria K. H. Christensen, Roskilde University, Denmark
 *Mikkel B. Hansen, Roskilde University, Denmark, Denmark
- Poser Bay 43** - "Where's Your Nose": Toddlers' Knowledge of Their Own Body Topography
 *Celia A. Brownell, University of Pittsburgh, Psychology Dept, USA
 Sara Nichols, University of Pittsburgh, Psychology Dept
 Margarita Svetlova, University of Pittsburgh, Psychology Dept
 Stephanie Zerwas, University of Pittsburgh, Psychology Dept
 Geetha B. Ramani, Carnegie-Mellon University
- Poser Bay 44** - Do Infants Learn Actions or Actions as Causes From Imitation?
 *Dahe Yang, Tufts University, USA
 *Emily W. Bushnell, Tufts University
- Poser Bay 45** - Semantic organization of basic-level words in 20-month-olds: An ERP study
 *Gro Syversen, University of Oslo
 Janne von Koss Torkildsen, University of Oslo
 Tuva Sannerud, University of Oslo
 Rune Thormodsen, University of Oslo
 Hanne Gram Simonsen, University of Oslo
 Inger Moen, University of Oslo
 Lars Smith, University of Oslo
 Magnus Lindgren, University of Oslo

Artificial language research with infants: Weighing the pros and cons

Thursday
9:00-10:50 am
Cosmos

Communication and Language**Participants**

Why use artificial languages in infant learning studies?

*Jenny R. Saffran, University of Wisconsin-Madison

A Critical Perspective on Artificial Language Research with Infants

*Elizabeth Johnson, Max Planck Institute for Psycholinguistics, The Netherlands

Artificial materials and the distinction between statistical and linguistic knowledge

*James Magnuson, University of Connecticut

Perspective on Artificial Language Research with Infants

*James Morgan, Brown University

Ten years ago, researchers began heavily exploiting the artificial language (AL) methodology to study how infants extract linguistically relevant patterns from speech. The experimental control offered by AL methodology has enabled researchers to address formerly intractable questions, such as how much language knowledge can be gleaned from experience-dependent learning mechanisms, and whether some patterns are easier to acquire than others. However, as our theories of language acquisition become increasingly reliant on findings from AL studies, the pressure to justify the validity of these findings increases. Are AL studies tapping the same learning mechanisms and constraints that underlie natural language learning "in the wild"? Examining the ecological validity of AL research is an issue ripe for investigation. The goal of this symposium is to critically evaluate the use of AL studies to study infant language acquisition. Four speakers will present somewhat divergent perspectives on this topic. Jenny Saffran, author of several landmark studies in AL research, will begin by briefly summarizing major advancements in the field, and offering directions for additional theoretical contributions. Next, Elizabeth Johnson will take a more critical stance on these issues by posing challenges to researchers who rely on the AL methodology. Finally, James Morgan and James Magnuson will call upon insights from their own research to comment on the issues raised by the first two speakers. The topic will then be open for discussion amongst a "fishbowl" of investigators in the field of infant language acquisition, including both senior and junior scholars. We currently have firm commitments from Dick Aslin, Kyle Chambers, Suzanne Curtin, Kathy Hirsh-Pasek, Gary Marcus, Jessica Maye, Michael Tyler, and Janet Werker. The goal of this "fishbowl" discussion is to develop a constructive framework for balancing experimental control and ecological validity in AL research.

Thursday
9:00-10:50 am
Hiei

Infant in Family Context**Organizer/Moderator:**

Karen Pridham, University of Wisconsin-Madison, USA

Participants**Parents' Expectations During the First Year Concerning an Infant**

*Karen Pridham, University of Wisconsin-Madison, USA
Mary Krolikowski, Childrens Hospital of Wisconsin
Kathleen Mussatto, Childrens Hospital of Wisconsin
Tondi Harrison, University of Wisconsin-Madison
Raymond Fedderly, Medical College of Wisconsin
Jill Winters, Marquette University

Parents of Infants with Heart Disease and Their Relationship with Health Care Providers

*Tondi Harrison, University of Wisconsin-Madison
Mary Krolikowski, Childrens Hospital of Wisconsin
Kathleen Mussatto, Childrens Hospital of Wisconsin
Jill Winters, Marquette University
Karen Pridham, University of Wisconsin-Madison, USA

Information Seeking by Parents of Infants with Complex Congenital Heart Defects

*Mary Krolikowski, Childrens Hospital of Wisconsin
Karen Pridham, University of Wisconsin-Madison, USA
Kathleen Mussatto, Childrens Hospital of Wisconsin
Tondi Harrison, University of Wisconsin-Madison
Raymond Fedderly, Medical College of Wisconsin

Charting Links Among Infant Medical Condition, Parental Internal Working Models of Caregiving, Feeding Behavior, and Infant HRV: An Approach to Theory Development

*Jill Winters, Marquette University
Karen Pridham, University of Wisconsin-Madison, USA
Roger Brown, University of Wisconsin-Madison
Mary Krolikowski, Childrens Hospital of Wisconsin
Tondi Harrison, University of Wisconsin-Madison

Parents' Internal Working Models of Caregiving for Infants with a Congenital Heart Defect and Medical, Behavioral, and Physiologic Correlates

Kathleen Mussatto, Childrens Hospital of Wisconsin
 Raymond Fedderly, Medical College of Wisconsin
 Andrea J. Hall, University of Wisconsin-Madison

Background/Aims: Parents of an infant with a complex congenital heart defect (CCHD) experience medical and caregiving issues that require skill and close clinician attention. Parents' expectations and intentions for their infants, themselves, others, and tasks structure their caregiving internal working models (IWMs). Our goal is to construct an IWM typology and examine: (a) effects of infant medical condition on IWM types; and (b) type effects on behavior and physiologic regulation, indexed by heart-rate variability (HRV). To present four studies in progress to increase understanding of qualities of caregiving IWMs, their differences among parents, and change across the infant's first year; and to explore links of caregiving IWMs with infant medical condition, parental and infant behavior, and infant physiologic regulation. Our longitudinal design includes narrative data from interviews with 6-8 couples, physician rating of CCHD severity, observation of parental and infant feeding behavior, and electrocardio-graphic recordings for HRV analyses at 1, 4, 8, and 12 months, infant age. Rationale for the Four Symposium Posters: (1) "Parents' Expectations During the First Year Concerning an Infant with a CCHD" presents a theoretical framework to explore IWM expectations and intentions, illustrated with two cases. (2) "Parents of Infants with Heart Defects and their Relationship with Health Care Providers (HCPs)," contributes parents' expectations of HCPs and, correspondingly, of themselves. (3) "Information Seeking by Parents of Infants with CCHDs," addresses expectations for obtaining information about pathology, treatment, and prognosis. (4) "Charting Links Among Infant Medical Condition, Parental IWMs (Feeding), Feeding Behavior, and Infant HRV" is a graphic exploration of mediating properties of IWM types (Feeding). Symposium Take-Home Message: Parental IWM qualities and variations in domains of caregiving are relevant to infants with special needs. Early exploration of IWM links with conditions and outcomes is an opportunity to assess the usefulness of a parental caregiving IWM concept.

Is cognitive development domain-specific or domain-general? The role of environmental influences on developmental timing

Infant in Family Context

Thursday
 9:00-10:50 am
 Hooh

Participants

Cross-domain longitudinal study of infant cognition and its relation to mother-child interaction

*Annette Karmiloff-Smith, Neurocognitive Development Unit, Institute of Child Health, London, UK

Perception of goal-directed actions and causal events in relation to mother-child interaction

*Annette Hohenberger, Max Planck Institute for Human Cognitive and Brain Sciences, Munich, Germany

Gisa Aschersleben, Max Planck Institute for Human Cognitive and Brain Sciences

Narrowing perceptual sensitivity to the native language in infancy: Environmental influence on developmental timing

*Mayada Elsabbagh, Neurocognitive Development Unit, Institute of Child Health, London, UK, UK
 Annette Karmiloff-Smith, Neurocognitive Development Unit, Institute of Child Health, London, UK

Native and non-native face perception: Do face and speech processing develop along the same path?

*Scania de Schonen, Neurocognitive Development Group, CNRS, Paris, France
 Josette Serres, Neurocognitive Development Group, CNRS, Paris, France

Most studies of infant cognition are cross-sectional and focus on single domains. Such data cannot be used to evaluate whether different cognitive abilities change because of domain-general or domain-specific cognitive mechanisms. It is thus crucial to study different abilities in the same infants and assess longitudinally how these abilities change over developmental time. We hypothesized that some of the individual variation found in infant studies focusing on separate domains may be accounted for by differences in the quality of mother-child interaction. In this symposium we present the results of longitudinal research on a population of 180 infants, from three labs, at 6 months, and again at 10 months of age, across different cognitive domains, and assess how these relate to differences in quality of mother-child interaction. We focused on this age range because it represents a time window when developmental

Is cognitive development domain-specific or domain-general? The role of environmental influences on developmental timing

changes are relatively well documented in each domain. Each laboratory will present the results of all 3 labs in one of the domains: MPI, Munich: perception of human action versus physical causality; ICH, London: speech processing of own versus foreign language; CNRS, Paris: face processing of own versus different ethnic group. The combined results of the studies highlight the multiple factors that influence early development, one of which is mother-child interaction. At 6- and at 10-months, dyadic interaction style exerts clear influence across some domains of cognitive development. Group data conceal these important individual differences. From a developmental perspective, dyadic interaction appears to affect the timing of the emergence of different cognitive skills. The influence is not simply domain-general, but multiple influences have different weights over time, depending on the specific domain. The different role that dyadic interaction plays across domains reflects the multiplicity of mechanisms by which it can influence infant cognition, including general categorization ability, exposure to relevant input, social drive, and the understanding of contingencies.

Developing crossmodal representations of objects and space

Thursday
9:00-10:50 am
Minori

Perception and Attention

Participants

Perception of object shape and texture in human newborns: Evidence from cross-modal transfer tasks

*Arlette Streri, Laboratoire Cognition et Développement, Université Paris

Coralie Sann, Paris Descartes University, Institute of Psychology, France

Perception of spatiotemporally organized multimodal sequences in human infants

*David Lewkowicz, Florida Atlantic University, USA

Cross-modal perception of trajectory continuity by 4-month-old infants

*Gavin Bremner, Lancaster University

Alan Slater, University of Exeter

Scott P. Johnson, NYU

Uschi Mason, Lancaster University

Jo Spring, Lancaster University

Postural effects on tactual localisation in the first year of life

*Andrew Bremner, Goldsmiths, University of London, United Kingdom

Denis Mareschal, School of Psychology, Birkbeck University of London, UK

Sarah Fox, Centre for Brain and Cognitive Development, Birkbeck, University of London

Charles Spence, University of Oxford

Background and Aims: By definition, events consist of spatiotemporally organized sequences and, thus, our ability to perceive, learn, and remember them depends critically on sequence learning. Recent research in my laboratory has investigated infant learning and discrimination of multimodal sequences (Lewkowicz, 2004) and has shown that even though 4- and 8-month-old infants can learn and discriminate multimodal sequences, the older infants find it much easier to do so. The present study investigated the underlying basis for sequence learning in early development. We conducted four different experiments with 3- and 4-month-old infants to determine whether primacy effects might play a role in early multimodal sequence learning and whether young infants are capable of encoding ordinal position as an attribute of multimodal sequences. Method: We used a habituation/test method to habituate infants to sequences of either 3 or 4 distinct objects and their distinct impact sounds. The objects appeared at the top of a computer monitor, moved down, made an impact sound as they changed direction, and moved off to the side. This action was repeated for as long as infants looked at the monitor. Following habituation, the order of the objects, their sounds, or both was changed. Experiment 1 investigated whether 3-month-olds can discriminate 3-element sequences differing in the ordinal position of all their elements. The remaining 3 experiments investigated whether 4-month-olds can learn and discriminate 3-element sequences that only differed in the ordinal position of their second and third elements, 4-element sequences that only differed in the ordinal position of their two internal elements, and whether they can learn the invariant ordinal position of a particular sequence element. Key Results: The 3-month-old infants successfully learned and discriminated 3-element sequences. The 4-month-olds discriminated sequences that did not differ in terms of their initial elements as well as sequences that did not differ in terms of their initial and

Developing crossmodal representations of objects and space

terminal elements. Finally, 4-month-old infants exhibited some limited capacity to learn the invariant position of a sequence element. Conclusions & discussion: Our findings suggest that learning of spatiotemporally organized multimodal sequences emerges early in development and that given sufficient opportunity to learn the invariant position of a given sequence element, infants of this age can learn this information. They cannot, however, generalize that knowledge to novel sequences. It will be proposed that as infants get older they become capable of learning to generalize serial order knowledge.

Paper Session: Categorization and Behavior

Thursday
9:00-10:50 am
Mizuho 1

ISIS**Participants**

A Cognitive Neuroscience of Early Infant Categorization

*Gert Westermann, Department of Psychology, Oxford Brookes University, UK

Denis Mareschal, School of Psychology, Birkbeck University of London, UK

Do infants learn the functional relevance of objects by observation?

*Birgit Elsner, University of Heidelberg, Germany, Germany

Sabina Pauen, University of Heidelberg

Wencke Brusniak, University of Heidelberg, Germany

Is Helping Free of Charge? Testing the Helpfulness of Human Children and Chimpanzees

*Felix Warneken, Max Planck Institute for Evolutionary Anthropology

Brian Hare, Postdoctoral Fellow

Alicia P. Melis, PhD student

Michael Tomasello, Max Planck Institute for Evolutionary Anthropology

The Medium is the Message: How Infants' Sensitivity to Nonverbal Cues Influences what they Learn from Others

*Susan Birch, University of British Columbia, Canada

Kristen Frampton, University of Toronto

Nazanin Akmal, University of British Columbia

Two-year-olds copy a televised model. But do they imitate or do they emulate?

*Mark Nielsen, University of Queensland, Australia

Linda Jenkins, University of Queensland

Gabrielle Simcock, University of Queensland

Paper Session: Communication and Socialization

Thursday
9:00-10:50 am
Mizuho 2

ISIS**Participants**

"Language and Communication in the post-apartheid classroom: Some case studies from Durban's junior primary schools": Anand Singh: singhan@ukzn.ac.za

*Anand singhan, University of KwaZulu-Natal, South Africa

A Cross-Culture Study of Parents' Perspectives on Quality Childcare for Young Children

*yanhui pang, Tennessee Technological University, USA

A longitudinal study on the mutual emotional interaction between Korean preschool children and their mothers, and its' relations to children's self-regulation of emotion

*Hana Song, Department of Child Psychology and Education, Sungkyunkwan University, South Korea

Kyoungsook Choi, Department of Child Psychology and Education, Sungkyunkwan University, South Korea

Case study of the newcomer Korean infant's interactions with Korean and American caregivers in a day care center in the United States

*Kyung Eun Jahng, University of Wisconsin-Madison, USA

Sensitivity to Peer's Gazing and Body Movement in Communication among Infants

*Nobuko Ohtake, Tamagawa University, Japan

Miwako Hoshi, Jumoji University

*Thursday**9:00-10:50 am**Yamashiro East***ISIS****Participants**

Eye gaze processing: Evidence from the human infants, nonhuman primates, and robots

*Yukie Nagai, NICT, Japan

*Masaki Tomonaga, Kyoto University

*Shoji Itakura, Kyoto University

Kang Lee, Department of Human Development & Applied Psychology

Development of Gaze Recognition in Infant Chimpanzees (*Pan troglodytes*): Comparative-Cognitive-Developmental Perspective

*Masaki Tomonaga, Kyoto University

*Sanae Okamoto, 2) University of Louisiana at Lafayette, Louisiana, USA

*Masako Myowa-Yamakoshi, The University of Shiga Prefecture

*Kim A. Bard, University of Portsmouth, England

Gaze processing in human infants: Sensitivity to eyes and visual attention following (VAF)

*Shoji Itakura, Kyoto University

The Role of Movement in the Development of Joint Attention: A Robotic Approach

*Yukie Nagai, NICT, Japan

JSBS Invited symposium

*Thursday**9:00-10:50 am**Yamashiro West***Communication and Language****Participants**

The Emergence of Joint Auditory Attention: A comparison with Joint Visual Attention

*Yasushi Oyabu, Waseda University

Forms of Joint Engagement and Language Development in Toddlers with Autism and Down Syndrome

*Lauren B. Adamson, Georgia State University, USA

Roger Bakeman, Georgia State University

Deborah F. Deckner, Georgia State University

Caregiver-Infant Joint Attention and Emotion Regulation

*Chisako Higashitani, Funabashi City Children's Development Consultation Center

Yasushi Oyabu, Waseda University

Interest in People and Objects and its Relation to Joint Engagement

*Deborah F. Deckner, Georgia State University

Roger Bakeman, Georgia State University

Lauren B. Adamson, Georgia State University, USA

Discussants:

Yasushi Oyabu, Waseda University

Lauren B. Adamson, Georgia State University, USA

This symposium seeks to broaden conceptual and empirical understanding of joint attention in mother-toddler interactions. We view it as a forum that will extend and complement current efforts to delineate and explain the development of joint attention skills. Our basic aim is to move discussions beyond a focus on joint attention as a capacity to coordinate visual attention to a social partner and a visible object to a wider view that considers variations in the form and regulation of shared attention. Four related empirical papers, two by Japanese investigators and two by American investigators, will be presented. They all involve systematic observational coding of videotapes made as toddlers interacted with others in a range of communicative contexts. The first pair of papers focus on new forms of joint attention. The first documents the emergence of joint auditory attention from 9 to 30 months of age and compares its trajectory to the emergence of joint visual attention. The second compares patterns of joint engagement that occur when typically-developing toddlers and toddlers with either autism or Down syndrome interact with their mothers and demonstrates that periods of symbol-infused supported joint engagement, when a

toddler shares an object and symbols without explicitly coordinating attention to a partner, may facilitate language acquisition in all three groups. The second pair of papers focuses on how toddlers react when the topic of communication is shifting. The first explores how toddlers' regulate emotion when joint attention with their mothers is disrupted. The second characterizes toddlers' interest in people and objects during complex multi-partner exchanges. In both papers, intriguing variations in toddlers' reactions are described and related to patterns of joint attention during mother-toddler interactions. After the papers are presented, the co-chairs will facilitate a discussion that focuses on the forms and regulation of joint attention.

*Thursday**11:10-1:00 pm**Colonade**Mezzanine & Hiei***Emotional Development****Participants****Poser Bay 01 -** A Comparison of Early Communication Patterns of Preterm and Full Term Infants

*Maryann Bozzette, Arizona State University, USA

Poser Bay 02 - A New Method for Screening of Cortical Auditory Impairment in Infants: an fMRI study.

*Akio Nakai, Department of Pediatrics, Faculty of Medical Sciences, University of Fukui, Japan

Masao Kawatani, Department of Pediatrics, Faculty of Medical Sciences, University of Fukui, Japan

Yoshiharu Yonekura, Biomedical Imaging Research Center, University of Fukui, Japan

Norihiro Sadato, National Institute for Physiological Sciences, Japan

Poser Bay 03 - Antecedents of Mother- and Father-Infant Attachment: Infant Temperament, Beliefs about Paternal Roles, & Marital Quality

*Maria S Wong, University of Illinois, Urbana-Champaign, USA

Sarah C Mangelsdorf, Department of Psychology, University of Illinois at Urbana-Champaign

Geoffrey L Brown, Department of Psychology, University of Illinois at Urbana-Champaign

Cynthia Neff, University of Illinois, Urbana-Champaign

Sarah J Schoppe-Sullivan, Department of Human Development and Family Science, The Ohio State University

Poser Bay 04 - Causes of, Response to, and Consequences of Crying and Colic in Popular Parenting Magazines: A Descriptive Study

*Nicole L.A. Catherine, Center for Community Child Health Research, Child and Family Research Institute, UBC Canada

Jenny Ko, Center for Community Child Health Research, Child and Family Research Institute UBC Canada

Ronald Barr, Center for Community Child Health Research, Child and Family Research Institute and Department of Pediatrics, University of British Columbia

Poser Bay 05 - Cognitive and motor development of infants adopted from China, East Asia, and Russia

Andree Pomerleau, Departement de psychologie, UQAM

Gerard Malcuit, Departement de psychologie, UQAM

*Louise Cossette, Departement de psychologie, UQAM, Canada

Jean-Francois Chicoine, Hopital Sainte-Justine

Renee Seguin, Departement de psychologie, UQAM

Celine Belhumeur, Hopital Sainte-Justine

Patricia Germain, Hopital Sainte-Justine

Isabelle Amyot, Hopital Sainte-Justine

Gloria Jeliu, Hopital Sainte-Justine

Poser Bay 06 - Consistency in Infant Sleeping Arrangements Predicts Positive Mother-Infant Interaction

*Wilberta Donovan, Waisman Center, University of Wisconsin, Madison, USA

Nicole Taylor, Waisman Center, University of Wisconsin, Madison

Lewis Leavitt, Waisman Center, University of Wisconsin, Madison

Poser Bay 07 - Continuous Measurements of Positive Emotional Expressivity in Infant-Mother Interaction

Poster Session I: Emotional Development / High Risk and Pediatric

*Lisa Ibanez, University of Miami, United States
 Daniel Messinger, University of Miami, US
 Sy Miin Chow, Notre Dame University
 Zara Ambadar, University of Pittsburgh
 Jeffrey Cohn, University of Pittsburgh
 Ryan Brewster, University of Miami

Poser Bay 08 - Developmental change of periodic breathing based on a polygraph study

*Kyoko Hirasawa, Dept of Infants' Brain & Cognitive Development Tokyo Women's Medical University, Japan

Masako Ito, Dept of Infants' Brain & Cognitive Development Tokyo Women's Medical University
 Izumi Sakuma, NICU Tokyo Women's Medical University
 Toshimasa Obonai, NICU Tokyo Women's Medical University
 Satoshi Kusuda, NICU Tokyo Women's Medical University
 Hiroshi Nishida, NICU Tokyo Women's Medical University
 Yukuo Konishi, Departments of Infants' Brain and Cognitive development Tokyo Women's
 Akira Mizuta, R&D center Apprica Childcare Institute
 Sachiyo Kataoka, R&D center Apprica Childcare Institute

Poser Bay 09 - Developmental Impact of Early Maternal Attributions

*E. Filipa Castro, Child Study Center, Yale School of Medicine, USA

Poser Bay 10 - Do Infants Understand Other's Expertise? A Social Referencing Study

*Geunyoung Kim, Vanderbilt University, USA
 Tedra A Walden, Vanderbilt University

Poser Bay 11 - Does the infant characteristics affect on attachment behavior of strange situation procedure?

*Akira Saito, Tsurumi College, Japan
 Hiroshi Tada, Professor
 Naoki Uga, Professor

Poser Bay 12 - Early Emotion Sharing and Later Joint Attention Among the Infant Siblings of Children with Autism

*Daniel Messinger, University of Miami, US
 Tricia Cassel, University of Miami
 John D. Haltigan, University of Miami
 Albert Buchman, University of Miami

Poser Bay 13 - Food habit and the development of child's anger emotion

*Yoshihisa Fujii, Associate Professor, Japan

Poser Bay 14 - Gender Differences in Affective Behavior in Toddlers

*Rebecca J. Brooker, Graduate Student, USA
 Kristin Buss, University of Missouri, US

Poser Bay 15 - Growth and Feeding Patterns in Infants with Congenital Heart Defects from Birth to 3 months

*Barbara Medoff Cooper, University of Pennsylvania, USA
 Sharon Irving, University of Pennsylvania
 Gil Wernovsky, Children's Hospital of Philadelphia
 Brad Marino, Children's Hospital of Philadelphia
 Joel Kaplan, University of Pennsylvania

Poser Bay 16 - Individual Differences in the Developmental Process of Mothers' Emotional Availability

*tomoko obara, Graduate School of Education and Human Development, Nagoya University, Japan

Poser Bay 17 - Infant Behavioral Predictors of Childhood Attention, Behavior and IQ in a High-Risk Cohort.

Julia Noland, Vanderbilt University, United States
 Sonia Minnes, Case Western Reserve University
 Elizabeth J. Short, Case Western Reserve University
 Lynn Singer, Case Western Reserve University, United States

Poser Bay 18 - Infant Birth Status, Temperament, and Maternal Symptomatology in the Context of Rural Poverty

Poster Session I: Emotional Development / High Risk and Pediatric

- *Kristin Voegtline, Pennsylvania State University, USA
Cynthia A. Stifter, Pennsylvania State University
- Poser Bay 19 -** Infant Observing System for Analyzing Interaction with Objects
*Naoaki Matsumoto, Tokyo University of Science, Japan
Koji Kitamura, Tokyo University of Science
Yoshifumi Nishida, Digital Human Research Center, AIST & CREST, JST
Yoichi Motomura, Digital Human Research Center, AIST & CREST, JST
Hiroshi Mizoguchi, Tokyo University of Science
- Poser Bay 20 -** Infant Reactivity (to Frustrating Events), Attention Regulation, and Maternal Behavior Predict Aggression at 2 ½
*Susan Crockenberg, University of Vermont, USA
Esther M. Leerkes, Human Development and Family Studies, University of North Carolina at Greensboro
Patricia S. Barrig Jo, Psychology Department, University of Vermont
- Poser Bay 21 -** Infant Regulation during Social Referencing: Socio-cognitive Understanding or Contagion?
*Geunyoung Kim, Vanderbilt University, USA
Tedra A Walden, Vanderbilt University
- Poser Bay 22 -** Infants' Sensitivity on Mothers' touch
*Suchung Kim, Seoul National University, South Korea
Yoonkyung Jeong, Seoul National University, Seoul
Keumjoo Kwak, Seoul National University, KOREA
- Poser Bay 23 -** Infants' Endogenous Smiles, Social Smiles and Open-mouth Smiles in the First Year
*Shih-Tseng Huang, National Chung-Cheng University, Taiwan, R. O. C.
Hui-Fang Chen, National Chung-Cheng University
Yi-Shi Haiso, National Chung-cheng University, Taiwan
Min-Chi Tsai, National Chung-Cheng University, Taiwan
- Poser Bay 24 -** Influence of Infant Characteristics on Adult Perceptions of Infants
*Christine Anderson, DePaul University, USA
*Jerry W. Cleland, DePaul University, USA
- Poser Bay 25 -** Interactional Synchrony Between Mothers And Their Toddlers During Book Reading
*Marina Klimenko, University of Georgia, United States Of America
Hui-Chin Hsu, University of Georgia, USA, USA
- Poser Bay 26 -** Longitudinal predictors of emotion regulation from infancy to preschool
*Anne Conway, Penn State University, USA
Susan C. McDonough, University of Michigan
- Poser Bay 27 -** Maternal delight, viewed by the infant, linked to attachment security: Findings from West Africa
*Mary True, Saint Mary's College of California
- Poser Bay 28 -** Maternal Depression and Infant Response to Social Expectation Violations
*Yoon Lee, The University of Chicago, USA
Sydney Hans, The University of Chicago
- Poser Bay 29 -** Mother's milk odors attenuated stress responses to the heelsticks in human infants
*Shota Nishitani, Division of Neurobiology & Behavior, Department of Translational Medical and Dental Sciences, Graduate School of Nagasaki University, Japan
Ryuta Takase, Division of Neurobiology & Behavior, Graduate School of Medical and Dental Sciences, Nagasaki Univer
Tsunetake Miyamura, Obstetrics and Gynecology of Miyamura Hospital
Masato Tagawa, Division of Pediatrics, Graduate School of Medical and Dental Sciences, Nagasaki University
Muneichiro Sumi, Division of Pediatrics, Graduate School of Medical and Dental Sciences, Nagasaki Univer
Hiroyuki Moriuchi, Division of Pediatrics, Graduate School of Medical and Dental Sciences, Nagasaki Univer
Kazuyuki Shinohara, Division of Neurobiology & Behavior, Graduate School of Medical and Dental

Sciences, Nagasaki Univer

Poser Bay 30 - Mother's Behavior in the Neonatal Intensive Care Unit: The Role of Maternal and Baby's Characteristics and Associations with Mother-Infant Interaction at Three Months of Age

*Gabrielle Coppola, University "G. D'Annunzio" of Chieti

Rosalinda Cassibba, University of Bari, Italy

Adriana Mansi, University "G. D'Annunzio" of Chieti, Italy

Poser Bay 31 - Parenting and parent stress predict emotional and autonomic reactivity to contingency learning in preterm and full-term infants at 3 months

David Haley, University of British Columbia, Canada

Ruth E. Grunau, University of British Columbia

Tim F. Oberlander, University of British Columbia

Poser Bay 32 - Patterns of motor and vocal behaviors and facial expressions of negative emotions in infancy

Marie-Pierre Morier, Departement de psychologie, UQAM

*Louise Cossette, Departement de psychologie, UQAM, Canada

Poser Bay 33 - Perinatal brain injury, MRI and neurobehavioral development

*C. Robert Almli, Washington University in St. Louis, USA

Poser Bay 34 - Predicting language development from early emotional expressivity.

*Rebecca Bolnick, Arizona State University, United States

Tracy Spinrad, Arizona State University

Nancy Eisenberg, Arizona State University

Anne Kupfer, Arizona State University

Jeffrey Liew, Texas, A&M

Poser Bay 35 - Prediction of Neonatal and Postnatal Respiratory Outcome in Very-Low-Birth-Weight Preterm Infants

*Pei-Shan Chen, School of Physical Therapy, National Taiwan University

Wu-Shiun Hsieh, Department of Pediatrics, National Taiwan University Hospital

Chyong-Hsin Hsu, Department of Pediatrics, MacKay Memorial Hospital

Po-Nien Tsao, Department of Pediatrics, National Taiwan University Hospital

Hung-Chieh Chou, Department of Pediatrics, National Taiwan University Hospital

Suh-Fang Jeng, School and Graduate Institute of Physical Therapy, National Taiwan University, Taiwan

Poser Bay 36 - Reactions to strangers and social referencing in adopted infants

Melanie Vilandre, Departement de psychologie, Universite du Quebec a Montreal

Gerard Malcuit, Departement de psychologie, UQAM

*Louise Cossette, Departement de psychologie, UQAM, Canada

Andree Pomerleau, Departement de psychologie, UQAM

Poser Bay 37 - Slithering Serpents and Romping Rhinos: Are Infants' Prepared to Respond to Animals Differentially?

*Vanessa LoBue, University of Virginia, USA

Judy DeLoache, University of Virginia

Poser Bay 38 - Smiling in 12-Months-Olds During Teaching Interactions With Mothers

*Hui Chin Hsu, University of Georgia, USA

*Ji Hyun Sung, The University of Georgia, U.S.A.

Poser Bay 39 - Social Inhibition in Early Childhood: Predictors from Infancy

*Cheryl Fortner-Wood, Winthrop University, USA

Kathleen Jocoy, Winthrop University

Casserly Daniels, Winthrop University

Poser Bay 40 - Strategies for Emotional Regulation and Maternal Responsiveness in Infancy

*Eun Joo Hahn, graduate student

*Minhwa Kim, Seoul National University

Keumjoo Kwak, Seoul National University, KOREA

Poser Bay 41 - Stress of mothers of very-low-birthweight infants during the NICU hospitalization

*Nancy Feeley, SMBD Jewish General Hospital, CANADA

Phyllis Zekowitz, SMBD Jewish General Hospital

Celine Goulet, University of Montreal

Poster Session I: Emotional Development / High Risk and Pediatric

Lyne Charbonneau, SMBD Jewish General Hospital
 Carole Cormier, Royal Victoria Hospital
 Apostolos Papageorgiou, SMBD Jewish General Hospital
 Natacha Bielinski, McGill University
 Chantal Ste Marie, SMBD Jewish General Hospital

Poser Bay 42 - The effect of movement training on hand reaching in preterm infants

*Jill Heathcock, University of Delaware, USA

David Paul, Christiana Hospital Neonatal Research

Amy Mackley, Christiana Hospital Neonatal Research

James Cole Galloway, Infant Motor Behavior Lab, University of Delaware, USA

Poser Bay 43 - The effects of skin Contact of Mother on Vital Sign and behavioral state of premature neonates

*Tahere Salimi, Nursing and midwifery college of Shahid-Sadoughi university

Poser Bay 44 - The Preterm Infant Development Project: Intervention effects, and the moderating role of adult attachment.

*Douglas M. Teti, Department of Human Development & Family Studies, The Pennsylvania State University

Melissa Ann O'Connell, University of Maryland, Baltimore County

Christine Reiner Hess, University of Maryland, Baltimore County

wendy Miller, University of Maryland, Baltimore County

Poser Bay 45 - The Recognition of Affective Values of the Music in Infants: Infants Motoric Response to Music

*Tasuku Sugimoto, Kyushu University, japan

Kazuhide Hashiya, Kyushu University

Poser Bay 46 - The Role of Physiological Synchrony in Mother and Infant Emotion Regulation

Susan Perlman, Duke University, USA

*Susan D. Calkins, University of North Carolina- Greensboro

*Ginger A. Moore, Duke University

Poser Bay 47 - Toddlers' Mental State Talk With Their Mothers During Book Reading

*Marina Klimenko, University of Georgia, United States Of America

Hui-Chin Hsu, University of Georgia, USA, USA

Yolanda Keller-Bell, University of Georgia

Poser Bay 48 - Word Recognition and Lexical Development in Very Low Birth Weight Preterm Children at 2 Years of Age

*Laura Bosch, University of Barcelona, Spain

Marta Ramon-Casas, University of Barcelona

Martin Iriondo, Hospital Sant Joan de Déu (UB)

Poser Bay 49 - The Effect of Shared Book Reading on Mother-Infant Interaction

Ayumi Sato, Doshisha University, Japan

Ichiro Uchiyama, Doshisha University

Poser Bay 50 - Early Motor Development Of Very-Low-Birth-Weight Infants With Chronic Lung Disease

*LIN-JU KANG, School of Physical Therapy, National Taiwan University, Taipei, Taiwan, Taiwan

Poser Bay 51 - MDMA Use During Pregnancy and Early Infant Outcomes

*Lynn Singer, Case Western Reserve University, United States

Poser Bay 52 - A Study of Baby Image Work by Using Baby Dolls

*Miyuki Tsukamoto, Kobe Shinwa Women, Japan

Noriyuki Araki, Kobe Shinwa Women's University

Developmental Issues in Visual Speech Processing

Thursday
11:10-1:00 pm
Cosmos

Communication and Language**Organizer/Moderator:**

Kaoru Sekiyama, Future University, Japan

Robin Panneton, Virginia Tech, USA

Participants

Perceptual Narrowing in Infancy: The Loss of Intersensory Function in Human Infants

*David Lewkowicz, Florida Atlantic University, USA

Asif A. Ghazanfar, Princeton University

Developmental Changes in Visual Language Discrimination

*Whitney M. Weikum, University of British Columbia

Janet F. Werker, Department of Psychology, University of British Columbia

Auditory-Visual Speech Perception in Young Children: The Role of Language Specific Properties

*V. Doering, MARCS Auditory Laboratories, University of Western Sydney

Denis Burnham, MARCS Auditory Laboratories, University of Western Sydney, Australia

Effects of Congenital Hearing Loss and Cochlear Implantation on Audiovisual Speech Perception in Infants and Children

*Tonya R. Bergeson, Indiana University, USA

Discussant:

Denis Burnham, MARCS Auditory Laboratories, University of Western Sydney, Australia

Visual speech information in the faces of speakers (e.g., lip and mouth movements; head motion) greatly improves adults' processing of language. Although it seems reasonable that this benefit also exists for younger, less experienced language learners, there has been little attention to the role of visual speech information during early development. Clearly, language learning in infancy and childhood involves rich multimodal input for most language learners (e.g., visual and auditory information), so it is important that we begin to explore the ways in which visual speech information impacts language perception during these developmental periods. This symposium brings together separate research programs that are forging new and exciting investigations into the importance of visual speech information for various aspects of language perception in infants and children. Importantly, these researchers approach this issue from a variety of perspectives: from an analysis of infants' general sensitivities to bimodal auditory/visual events that involve perceptual biases that promote perception of ecologically relevant events (Lewkowicz & Ghazanfar); from the integration of infants' processing of native and non-native language information in faces with established findings on such processes in the speech signal alone (Weikum & Werker); from an analysis of how the attunement of visual speech perception is related to changes in age and culture as children develop concomitant abilities in reading (Erdener & Burnham); and from the exploration of how periods of auditory deprivation (e.g., infants with chronic hearing impairment) affect the development of visual speech processing, both before and after remediation (e.g., cochlear implantation; Bergeson). Thus, this symposium will showcase some of the recent and important findings on how visual speech information affects language perception in infants and children. Additionally, these collective presentations promote a framework for a systematic research approach to the study of visual speech perception that involves age-related, culture-related, and situation-related issues.

Thursday
11:10-1:00 pm
Minori

ISIS**Organizer/Moderator:**

Carl Frankel, University of California, Berkeley, USA

Joseph J. Campos, University of California, Berkeley

Functionalism is an approach to behavioral science that offers much promise, yet is still under-delivering on that promise. This symposium explores how to start a program of remediation. Since many researchers have perhaps not noticed basic problems with functionalist descriptions and explanations, this abstract is a bit longer than usual, to elaborate the problems. On the one hand, functioning is perforce a vital human concern. As a result, functionalism has gained so much currency that theories now need a functional narrative, lest they otherwise seem sterile, disconnected from what it is to function in the world. On the other hand, the many current narratives of human function conflict on many, many details of what it is to function; so much so that lost in the cacophony are theories' failures to address basic issues. One such common failure is conflation of different notions of function, viz., prescriptive, value-laden, normative

notions of function, as opposed to descriptive, value-neutral, goal-oriented notions of function. Another unaddressed issue is how functional behavior keeps pace; that is, how people produce functional behavior within the amount of time afforded by changing circumstances, before otherwise correct behavior is too late. Still another lapse is the failure to advance the discussion of functional mechanism beyond negative feedback, steady-state control, despite the known inadequacies of modeling adaptive function with negative feedback alone. As a consequence of these and many other gaps in the typical functionalist theory, most of what passes for functional description is rarely more than superficially connected to what it is to function in the world. This is a central problem for infancy research, wherever one places oneself on the spectrum of perspectives about infants' growing functional capacities; from the extremely mechanistic, where ontogeny is solely the result of the progressive entrainment of neural nets to reflect experienced Bayesian priors and Markov chains; to the extremely existential, where ontogeny is the result of the elaboration of innate, integrated, cognitive, emotional and social capacities that are starting to operate at birth. Both the nature and the ontogeny of the mechanisms of adaptive function will likely remain opaque, as long as researchers of all stripes continue to leave unaddressed the basic features of what it is to function, and how people do so. Similarly, models of the failure modes of functional mechanisms, as well as models of the prophylaxis and treatment of failures of function, continuing to explain marginal outcome variance, will remain hit or miss. To move toward a robust functionalism for infancy and other behavioral research, we take neither a bottom-up approach that extrapolates from limited data, nor a top-down approach that starts by formulating an ontology and epistemology for a science of real-time functional processes. These are vital issues, but not first issues to tackle. Instead, we work middle out. As a starting point for discussion, we briefly survey the strengths and weaknesses of theory and research in four areas that are fundamental to what it is to function: Perception, Action, Emotion and Spatial Cognition. All four areas make necessary contributions to how a person positions herself or himself in the world. Severally and jointly, these areas comprise a portal through which to start to gain purchase on the nature and ontogeny of the production of functional behavior. Using these surveys as a springboard, we then open the floor for discussion. To close the discussion, the initial presenters will try to draw the threads of the discussion together; if not into a finished tapestry, then at least into a coherent fabric with discernible warp and woof.

Thursday
11:10-1:00 pm
Mizuho 2

ISIS**Participants**

Phonological specificity of vowels in early lexical representations of novel and familiar words

*Nivedita Mani, University of Oxford, United Kingdom

Kim Plunkett, University of Oxford

Role of language experience in infants' discrimination of male and female voice

*Megha Sundara, Institute for Learning and Brain Sciences, University of Washington, USA

Patricia K Kuhl, Institute for Learning & Brain Sciences & Dept. of Speech & Hearing Sciences, University of Washington

The Co-occurrence of Intonation and Vocalic Production in Mandarin-Learning Infants

*Li-mei Chen, National Cheng Kung University, TAIWAN, TAIWAN

Tone Discrimination in Infants Acquiring a Tonal Language

*Margaret Ka Yan LEI, Department of Linguistics and Modern Languages, The Chinese University of Hong Kong, Hong Kong

Thursday
11:10-1:00 pm
Yamashiro East

ISIS**Participants**

Native-language specific asymmetries in vowel length perception in infants

*Ryoko Mugitani, NTT Communication Science Labs., Japan

Ferran Pons, University of British Columbia, Canada

**Invited Symposium - What we can learn by studying infants learning a non-European language:
Phonological foundations for word learning in Japanese**

Christiane Dietrich, University of British Columbia

Janet F. Werker, Department of Psychology, University of British Columbia

Shigeaki Amano, NTT Communication Science Laboratories, NTT Corporation

Japanese infants prefer to listen to phonological forms of typical child-directed vocabulary

*Reiko Mazuka, RIKEN Brain Science Institute & Duke University, Japan

Akiko Hayashi, Tokyo Gakugei University

Word segmentation abilities in Japanese infants

*Akiko Hayashi, Tokyo Gakugei University

Reiko Mazuka, RIKEN Brain Science Institute & Duke University, Japan

Sound iconicity bootstraps verb meaning acquisition

Miho Nagumo, Keio University, Department of Psychology

*Mutsumi Imai, Keio University at Shonan-Fujisawa

Sotaro Kita, University of Bristol, Department of Experimental Psychology

Etsuko Haryu, University of Tokyo, Graduate School of Education

Sachiyo Kajikawa, Tamagawa University, Japan

Discussant:

Janet F. Werker, Department of Psychology, University of British Columbia

Research in infant speech perception to date has almost exclusively relied on English and other European languages. The generalizability of findings from such studies can be tested only by examining infants learning a variety of languages. The aim of this panel is to provide a model of how a series of studies focusing on related issues in one language can provide valuable insight into the specific ways that one language's phonological system may interact with the general mechanisms of phonological development. We present four papers that investigate how Japanese infants master specific aspects of Japanese phonology, and how such mastery may provide a foundation for later word learning. The first paper, by Mugitani et al, examines vowel length contrasts that are phonemic in Japanese. They found an interesting directionality in Japanese infants' ability to discriminate long vowels from short ones. Their results show a different pattern from typical vowel or consonant discrimination, and suggest a need for further studies. The second paper, by Mazuka and Hayashi, focuses on the Heavy-Light sequence of syllables that are often found in child-directed speech in Japanese. They report that 8-10 month-old Japanese infants show preference to these forms. The third paper, by Hayashi and Mazuka, examines the role of HL words in word segmentation tasks and finds that Japanese infants can segment and remember HL words embedded in stories by 9 months but they can do so with other words only at 11 months. Since HL words are not predominant in adult Japanese, Japanese infants will have to unlearn these patterns eventually. The fourth paper, by Imai et al, examines the role of sound-iconicity found in Japanese mimetic words, and shows that Japanese children can match a novel mimetic word to a novel action, suggesting a substantial new issue for study.

The Role of Language in the Representation for Object Properties and Kind in Comparative Studies

Cognition, Memory, and Learning

Participants

Language and the representation of object kind concepts

*fei xu, University of British Columbia

Anjula Joshi, University of British Columbia

Kathryn Dewar, University of British Columbia

Object Processing and Individuation Without Language: Evidence from Non-Human Primates

*Laurie R Santos, Yale University

The development of perception and reasoning about dynamic object individuation.

*Nathalia Gjersoe, University of Bristol

bruce hood, university of bristol, UK

Success on core knowledge search uses inhibitory control and a little bit of language

*bruce hood, university of bristol, UK

*Thursday
11:10-1:00 pm
Yamashiro West*

The Role of Language in the Representation for Object Properties and Kind in Comparative Studies

Nathalia Gjersoe, University of Bristol

Discussion: What Role Does Language have in Object Individuation?

*Alan M Leslie, Rutgers University Psychology and Center for Cognitive Science

The nature of object representation has generated considerable research interest from a number of perspectives. The level of analysis has moved on from whether objects are represented at all, to investigating what properties of objects are encoded and to what extent they can support "knowledge." This symposium presents and compares findings from converging methodologies on a range of populations to increase our understanding of the role of language. Santos & Phillips use a version of the infant unexpected search paradigm to investigate whether monkeys can individuate food objects on the basis of features and kind. This work has bearing on the extent to which language is necessary for this ability. In contrast, Xu et al., present several pieces of evidence from infant populations that language plays a central role in this ability in humans by enabling them to individuate on the basis of word labels. Gjersoe and Hood investigate how toddlers use featural changes in a tunnel illusion to determine whether a single object has been transformed or two objects were present. In addition, the child's use of language reveals interesting dissociations between their description of events and their search behaviour. Finally, Hood et al., discuss the application of infant core knowledge about solidity in a toddler search task. They consider the developmental mechanisms that enable core knowledge to drive explicit behavior and the role of language in these tasks.

Representation of phonetic detail in early lexical forms

Thursday
2:00-3:50 pm
Cosmos

Communication and Language

Participants

Encoding and retrieval of phonetic detail in novel words at 14 months

*Katherine A. Yoshida, Department of Psychology, the University of British Columbia, Canada

Christopher Fennell, University of Ottawa, Canada

Daniel Swingley, University of Pennsylvania, United States

Janet F. Werker, Department of Psychology, University of British Columbia

Comparing the specificity of consonantal and vocalic information in a word learning task

*Thierry Nazzi, Laboratoire Psychologie de la Perception, Paris

The development of representations of voice and place

*Suzanne van der Feest, Radboud University Nijmegen

Paula Fikkert, Radboud University Nijmegen, The Netherlands

Vowel specificity in bilinguals' perception of familiar words

*Marta Ramon-Casas, University of Barcelona

Laura Bosch, University of Barcelona, Spain

Discussant:

Richard Aslin, University of Rochester, USA

Using a highly controlled, age-appropriate task, Stager and Werker (1997) found that infants of 14 months, despite having refined phonetic perception, confused similar sounding novel words. This surprising finding reignited the debate over what is represented in infants' early words and has led to a flurry of research using similarly controlled, age-appropriate procedures. The aims of this comprehensive symposium are to: 1) increase understanding of this topic by presenting the latest research; 2) change understanding by presenting the question of infants' use of phonetic detail not as an all-or-nothing phenomenon, as it often has been stated in past research, but as a more nuanced question of what detail is most readily used and how deep is it represented; and 3) include data from diverse perspectives, methodologies, and participant populations. Yoshida, et al. present a new, sensitive methodology to test phonetic detail in novel words and found that English-learning infants of 14 months succeed in using consonant detail. However, infants were unable to use this information across the testing phase, showing that phonetic detail is "existent, but fragile" in novel words at this age. Nazzi's research demonstrates that not all contrasts may be created equal. French infants of 20 months can use consonant information to

Representation of phonetic detail in early lexical forms

disambiguate minimal pairs in an object categorization task, but fail to use vowel information. As van der Feest and Fikkert show with Dutch infants, even the use of consonant information differs, depending on the contrasts used, as predicted by underspecification theory. Ramon-Casas and Bosch demonstrate that use of vowel information also differs depending on the contrasts used. For bilingual infants, vowel contrasts specific to one language are used in words developmentally later than vowel contrasts present in both languages. The current data clearly demonstrate that use of phonetic detail is more nuanced than once believed.

Play, games and cultural learning.

Thursday
2:00-3:50 pm
Hooh

Culture and Social Development**Participants**

Children's communication of pretend acts using social cues

*Angela Randell, University of Queensland

Mark Nielsen, University of Queensland, Australia

Interpersonal dimensions of pretending and playing: A fresh perspective from autism

*R. Peter Hobson, University College, London

Jessica Meyer, Institute of Child Health, UK

Tony Lee, Tavistock Clinic, London

The acquisition and transfer of functional and pretend actions.

*Mark Nielsen, University of Queensland, Australia

Rachel Chapman, University of Queensland

Young children's understanding of the normative aspects of simple rule games

*Hannes Rakoczy, Max Planck Institute for Evolutionary Anthropology, Germany

Felix Warneken, Max Planck Institute for Evolutionary Anthropology

Michael Tomasello, Max Planck Institute for Evolutionary Anthropology

Play is a widespread phenomenon in the animal kingdom. However, evidence of pretend play and game play (in the sense of rule-governed non-serious activity) in nonhuman animals has proved elusive, leading some to argue that these are probably uniquely human activities. Recent approaches have stressed the central role of human cultural learning as the ontogenetic origin of pretence and game play. To this end, this symposium brings together researchers from 3 different countries to examine diverse aspects of the development of play, with a broad focus on the cultural context in which pretence and rule-governed games develop. First, Angela Randall provides new evidence for the way in which young children use social cues to convey that their actions are "only pretend". She also outlines how social learning directly impacts children's engagement in pretend play. Peter Hobson will then present research showing that although children with autism are capable of engaging in pretend play they do not exhibit the socially-derived aspects of truly creative play evident in matched non-autistic groups. Peter's research emphasises the cultural importance of pretence by illustrating how symbolic play develops through identification with others. In the third talk Mark Nielsen reports that children will model to same-aged peers the very functional and pretend actions they themselves have just learnt. This novel finding shows children as cultural teachers as well as cultural learners. Finally, Hannes Rakoczy will present new data on children's learning of simple non-pretend games and their normative aspects. He shows that young children protest against rule violations based on their appreciation of these normative aspects. Derek Moore will discuss how these studies demonstrate the role of social and cultural learning in the acquisition and development of pretence and game play, showing how infants and young children are not only learners, but also teachers and judges.

Studying Emotion Regulation from the Bottom-Up: A Focus on Questions and Methods

Thursday
2:00-3:50 pm
Minori

Emotional Development**Participants**

Gleaning Evidence of Emotion Regulation from Observational Data

*Pamela M Cole, Pennsylvania State University

Studying Emotion Regulation from the Bottom-Up: A Focus on Questions and Methods

Sarah E Hall, Pennsylvania State University
 Patricia Z Tan, Pennsylvania State University

Attending to Emotion: How studying the attention-emotion interface helps think about emotion regulation

*Nathan A. Fox, University of Maryland

The Regulation of Fear Behaviors across Contexts

*Kristin Buss, University of Missouri, US

Emotion Regulation and the Interplay between Affective Style and Control Processes

*Tracy Dennis-Tiwary, Hunter College, CUNY

What do we mean when we say emotion regulation or emotion dysregulation? Cole, Martin, & Denis (2004) in their *Child Development* target article (and accompanying commentaries) eloquently present the complexity of the construct. We will not rehash these "top-down" conceptual issues in this symposium. Instead, we argue that researchers should commit to a viable theoretical perspective on emotion regulation and take a methodological stand. Continued theoretical debate may only serve to slow empirical progress and embroil researchers in potentially moot distinctions and thought experiments. Therefore, the four presenters in the symposium (2 senior and 2 junior scientists) were chosen because they each adopt a unique perspective on emotion regulation, and focus on "bottom-up" methods that yield compelling results. The first presentation will provide evidence that using behavioral observations to infer regulation is an imprecise measure of the true processes involved in emotion regulation. The second will highlight the interaction of emotion and attention systems using behavioral and biological data to understand regulation. The third presentation will focus on the role that contextual cues and coping resources have on the regulation or dysregulation of fear behavior across several unique situations. The final presentation will discuss the efficacy of distinguishing emotion regulation from the related constructs of affective style and cognitive control. Video clips will accompany each presentation in order to provide a gestalt for each approach. In short, research presented in this symposium will support the perhaps controversial position that the scientific construct of emotion regulation can viably mean a variety of things depending on the question asked and the methods used. This diversity is acceptable, because questions concerning the definition and utility of emotion regulation will inevitably be resolved in the court of empirical evidence. We believe that this approach will be more successful in moving the field forward.

Paper Session: Objects and Words

Thursday
 2:00-3:50 pm
 Mizuho 1

ISIS

Participants

Object-based phonetic categorization of speech: a mechanism of functional reorganization

*Henny Yeung, Department of Psychology, University of British Columbia, Canada

Janet F. Werker, Department of Psychology, University of British Columbia

The role of prosodic cues and function words in syntactic processing and acquisition

*S  verine Millotte, Laboratoire de Sciences Cognitives et Psycholinguistique, EHESS/ENS/CNRS, France

Roger Wales, Faculty of Humanities and Social Sciences, La Trobe University, Australia

Emmanuel Dupoux, Laboratoire de Sciences Cognitives et Psycholinguistique, EHESS/CNRS/ENS

Anne Christophe, Laboratoire de Sciences Cognitives et Psycholinguistique, EHESS/ENS/CNRS

The segmentation of familiar words

*Rory DePaolis, James Madison University, USA

Marilyn Vihman, University of Wales, Bangor

Paper Session: Diverse Perspectives on Approaches to Infancy

Thursday
 2:00-3:50 pm
 Mizuho 2

ISIS

Participants

Back to Basics in Infant Care

*Regine A. Sch  n, Department of Psychology, University of Helsinki, Finland, Finland

Maarit Silv  n, Department of Psychology, University of Tampere, Finland, Finland

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Paper Session: Diverse Perspectives on Approaches to Infancy

Developmental and evolutionary origins of tool use: A perception-action approach

*Jeffrey Lockman, Tulane University, USA

Hearing what an infant says: A postmodern discourse of identities and desire of an infant

*Kyung Eun Jahng, University of Wisconsin-Madison, USA

Play Behavior and Activity Levels in Three Species of Non-Human Primates

*Nicole Porter, DePaul University, USA

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Invited Talk: Claes von Hofsten - An action perspective on early cognitive development

Thursday

2:00-2:50 pm

Yamashiro East

ISIS

Organizer/Moderator:

Claes von Hofsten, Department of Psychology, Uppsala University

Converging evidence show that behaviours are organized as actions, defined by goals, driven by motives, and guided by information. Actions are directed into the future and their control is based on knowledge of what is going to happen next. Such knowledge is available because events are governed by rules and regularities. What has already happened carries information about what is going to happen next. We also seem to understand other people's actions in the same way, that is, by perceiving their goal directedness and motives. Research in neuroscience indicates that this is done by simulating the observed actions in our own action systems. The understanding of children's action development is a key to the understanding of their cognitive development. Goal directedness and prediction are basic to cognition because they include the ability to conceive of events and states ahead of time. Mental rotation is such an ability that facilitates the solution of spatial problems and the development of manual abilities. In an action perspective, cognition and motivation are intimately interwoven. What children attend to in the surrounding and what they like to do are of critical importance for the abilities they acquire.

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Reasoning about others' perceptions

Thursday

2:00-3:50 pm

Yamashiro West

Cognition, Memory, and Learning

Participants

Young infants' knowledge about others' goals and perceptions

*Yuyan Luo, University of Missouri, Columbia, USA

Susan C. Johnson, Stanford University

Fourteen-month-olds know what others know through sharing experience

*Henrike Moll, Max Planck Institute for Evolutionary Anthropology, Germany

Malinda Carpenter, Max Planck Institute for Evolutionary Anthropology

Michael Tomasello, Max Placnk Institute for Evolutionary Anthropology

Is it a white or a green egg? Appearance-reality distinction in 16.5-month-old infants

*Hyun-joo Song, Yonsei University, USA

Renée Baillargeon, Department of Psychology, University of Illinois at Urbana-Champaign

Rhesus monkeys know what others perceive: The case of hearing

*Laurie R Santos, Yale University

Prior research suggests that infants understand basic aspects of others' visual perceptions. For example, they recognize that others cannot see a target object when they are absent, when their eyes are turned away from the object, or when a barrier blocks their line of vision. Recent evidence also suggests that apes and monkeys seem to know about what other individuals can and cannot see. How well do human infants and non-human primates reason about others' perceptions? This symposium aims to address this question. The reports in this symposium examine human infants aged 6 to 18 months as well as free-ranging rhesus monkeys. The reports come from four different laboratories in the United States and Europe, and use a variety of experimental tasks including violation-of-expectation and object-request tasks for the infants, and competitive object-stealing tasks for the monkeys. The reports are strikingly consistent in suggesting that human infants and rhesus monkeys possess somewhat sophisticated knowledge of others' perceptions. Infants not only understand that others' perceptions can be different from their own, they also take this

Reasoning about others' perceptions

into account to interpret others' actions and to guide their own actions. In addition, infants seem to realize that their perceptions of objects can be false and different from reality. Furthermore, rhesus monkeys are found to know about others' auditory perceptions: when a human competitor was not looking, they would steal a food container that was silent when moved rather than one that made noise when moved. Together, these new findings add to the growing evidence that human infants and rhesus monkeys understand more about the minds of others than previously thought.

Invited Talk: Catherine Best - Tuning in to native speech patterns: Infants' perception of non-native speech contrasts

Thursday
3:00-3:50 pm
Yamashiro East

ISIS**Organizer/Moderator:**

Catherine Therese Best, MARCS Auditory Laboratories, University of Western Sydney, Australia

Adults learning a new language typically speak it with a noticeable native language accent. Less apparent, yet no less dramatic, is their native accent in perceiving non-native speech, reflected as difficulties with categorizing and discriminating the consonant and vowel contrasts of a new or unfamiliar language. Infant research over the past 25 years has revealed that such perceptual tuning to the native language begins quite early. Young infants discriminate most native and non-native speech contrasts equally, but by 10 months they already show a marked decline for many earlier-discriminated non-native consonant contrasts. A similar perceptual shift occurs for many non-native vowels even earlier, by 6 months. However, research from my lab and others' indicates that this general developmental pattern does not hold for all non-native contrasts. Certain types remain easily perceptible to adults and older infants, even though they may be quite deviant from native consonants and vowels, while perception of others falls in between those performance extremes. Of particular importance for understanding infant perceptual development is that some non-native as well as some native contrasts elicit markedly different perceptual responses in older infants than in adults. Consistent with that observation, evidence indicates that perceptual tuning is further refined during early childhood, shifting from a perceptual focus on language-specific physical details to an emerging recognition of more abstract phonological structure in words. This presentation will address how and why experience with the native language comes to shape perception of native and non-native speech contrasts in infancy. Various theoretical accounts will be examined, with particular emphasis on the Perceptual Assimilation Model (PAM) that I developed with colleagues. Different theoretical accounts vary in their assumptions about the nature of information that infants initially apprehend in speech, and about how their perceptual focus changes developmentally. Candidate ideas for the informational basis of infant speech perception range from acoustic properties, to phonetic features, to innate phonological categories, to the patterning of vocal articulatory gestures. The latter viewpoint -- that infants perceive articulatory properties in speech -- is espoused by the direct realist framework of PAM. The presentation will explore the implications of the cross-language findings and theories for understanding how infants develop a native phonological system from experience with ambient speech.

Invariance Detection and Speech-Language Development: What is the Mechanism?

Thursday
4:10-6:00 pm
Cosmos

Communication and Language**Participants**

Preterm and Full-term Infants' Invariance Detection and Vocabulary Development: A Longitudinal Study

*Lakshmi Gogate, SUNY Health Science Center at Brooklyn, USA

Divya Awal, SUNY Health Science Center at Brooklyn

Christopher George Prince, University of Minnesota Duluth

Invariant Temporal Structure in Maternal Word Naming and Children's Learning of Word Meaning

*Hanako Yoshida, Psychological and Brain Sciences, Indiana University, U.S.A.

Linda B. Smith, Professor, Psychological and Brain Sciences, Indiana University

Invariance Detection and Speech-Language Development: What is the Mechanism?

A Computational Account of Gibson's Invariance Detection: Why Synchrony Matters.

*George Hollich, Purdue University

Ancillary Discussants:

Lakshmi Gogate, SUNY Health Science Center at Brooklyn, USA

Jenny R. Saffran, University of Wisconsin-Madison

Diane Poulin-Dubois, Concordia University

Kathy Hirsh-Pasek, Temple University

Patricia Zukow, University of California Los Angeles

In the recent past, cognitive psychologists have attributed infants' learning of invariant structure in artificial-language stimuli to sophisticated computational mechanisms (e.g., algebraic rule-learning, transitional probabilities, or adjacent dependencies). Debates about the origins and domain specificity versus generality of these mechanisms continue to the present day. In this symposium, we hypothesize that infants learn about speech and language using rudimentary but powerful domain general perceptual abilities that are well developed in the first year of life. One such ability is selective attention to invariance over changes in unimodal and bimodal patterns of stimulation [1]. Recent reports from infants' speech segmentation, word mapping, maternal naming of object- and action-words to infants across languages and cultures, and computational modeling of infant auditory-visual perception have begun to shed light on the perceptual mechanisms underlying invariance detection during speech and language development [2, 3, 4, 5]. Here, we will provide further multidisciplinary evidence to show that infants segment words from continuous auditory-visual speech and map nouns and verbs onto referents by perceiving invariance or commonalities in auditory-visual speech. In addition, we will provide preliminary evidence to show that perception of invariance across and within sensory modalities involves shared processes. Finally, we will examine how future research can further substantiate our thesis and preliminary findings. Rationale for selection of presenters: 1. Lakshmi Gogate (Awal, D. & Prince, C. G.) investigates the bi-directional relation between preverbal infants' perception and maternal use of invariant temporal structure in word or syllable-object relations. 2. Hanako Yoshida's (& L.B. Smith) work shows that Japanese and American mothers use a great deal of invariant temporal synchrony when naming nouns and verbs during multimodal communication to children. 3. George J. Hollich's work shows that infants use synchrony to attend to relevant face-voice and word-object relations during bimodal speech and ignore distractions. References: 1. Gibson, E. J. (1969). Principles of perceptual learning and development. New York: Appleton-Century-Crofts. 2. Gogate, L. J., Bolzani, L. H., & Betancourt, E. (in press). Attention to maternal multimodal naming by 6- to 8 month-old infants and learning of word-object relations. *Infancy*. 3. Hollich, G. J., Newman, R. S., & Jusczyk, P.W. (2005). Infants' use visual information to segment speech in noise. *Child Development*, 76, 598-613. 4. Prince C.G. & Hollich, G. J. (2005). Synching infants with models: a perceptual-level model of infant synchrony detection. *The Journal of Cognitive Systems Research*, 6, 205-228. 5. Yoshida, H. & Smith, L., B. (2005, April). Iconicity and the learning of verbs: What does it mean for the arbitrary nature of symbol-meaning correspondences in language? Presented at the biennial meeting of the Society for Research on Child Development, Atlanta, GA.

What does it mean to communicate (with a person)?

Thursday
4:10-6:00 pm
Hooh

Infant in Family Context

Participants

Dialogue without response: Chatting with the Self at 2 months

*Vasudevi Reddy, University of Portsmouth

Dave Forrester, University of Portsmouth

Unable and unwilling interactions with Human and Nonhuman agents: Infants differentiate between communicative intentions

*Maria Legerstee, York University, Canada

Effects of the Double Video Procedure on Japanese Mothers during communicative interactions with their infants

*Shigeru Nakano, Hokkaido Health Sciences University, Japan

Private Gestures and Self-Regulation as Communication with the Self

What does it mean to communicate (with a person)?

*Cintia Rodriguez, Universidad Autonoma de Madrid
 Pedro Palacios, Universidad Autonoma de Aguascalientes

Discussant:

Gabriela Markova, York University

We know a lot about communicative developments and phenomena in infancy. But if we were to ask ourselves - What is it, exactly, that makes someone communicable with or, indeed, not communicable with? - we would be struggling to find satisfactory answers. This symposium tries to address this question. There are four different types of data presented here: infants' earliest discrimination between availability and unavailability when the partner is the self in a mirror; infant discriminations between the availability of human versus mechanical 'partners', the disruptive effects of communication when a partner is present but temporally 'unavailable' and the meaning of private gestures used in public contexts. The different presenters offer different answers to the question, but in doing so each paper highlights both how vital the question is and how subtle communication can be. Reddy and Forrester compare 2 month-old infants' 'communicative' attempts with the self in a 'live' and a 'replay' condition. Legerstee compares 2-, 4 and 10-month-old infants' reactions to humans and dolls who present themselves as normal, unwilling or unable communicative partners. Nakano emphasizes that specific rituals are needed in order to convey communicative intent and finds that mothers of 4 month-olds differ in their attempts to deal with the 'double-video' situation - some resort to playfulness and others to nurturance, and thus disruptions can have culturally different meanings. Rodriguez and Palacios show the use of private gestures - ostensive and indexical - in the face of an unexpected problem when dealing with conventional uses of objects within a triadic context. Together the findings of these papers suggest that there is something about the immediacy of a communicative partner - their 'on-line' or 'live' character - that defies reductionist descriptions.

Creation of constraints in motor learning and memory in young infants

Thursday
4:10-6:00 pm
Minori

Motor and Sensorimotor Behavior**Participants**

Development of coordinated movement in the rat fetus: does experience play a role ?

*Scott R Robinson, University of Iowa, USA

Exploratory leg movements during early learning

*Donna Fisher-Thompson, Niagara University, USA

Melissa Dengler, Niagara University, USA

Rick Gubala, Niagara University, USA

Stability and flexibility of motor learning and memory in young infants during a mobile task

*Hama Watanabe, JST/University of Tokyo

Gentaro Taga, University of Tokyo / JST, Japan

The emergence of purposeful movement: the role of learning, experience & biomechanics

*James Cole Galloway, Infant Motor Behavior Lab, University of Delaware, USA

Discussants:

Rosa Angulo-Barroso, University of Michigan, USA

geert savelsbergh, human movement science, free university, Netherlands

Dynamic systems theory (DST) has been commonly used to explain the acquisition of motor behavior. One of the most important tenets of this theory is that new forms of behavior emerge, in a non-prescribed fashion, from the cooperative interaction of multiple subsystems. Intrinsic factors (organismic, physiological, and psychological) as well as extrinsic factors (informational cues, surface of support, and context) cooperate to the accomplishment of a unifying goal: the task. Therefore, motor learning is defined as the emergent behavior of a complex and adaptive system, which creates variability, that is, diverse and co-existing alternatives, to initiate a process of exploration and selection. Through practice and action-perception coupling, the individual finds ultimately the most adaptive forms of motor patterns. According to the basic assumption of DST, a system can be defined as a set of variables that change in real time and constraints (or parameters) that are invariant or change over slower (developmental) time

Creation of constraints in motor learning and memory in young infants

scales. However, there is no separation between the variables and constraints in the real developing systems, and learning occurs over "mesoscopic" time scales. Thus, motor learning and memory can be formalized as creation of constraints per se. In this symposium, we try to challenge the theoretical framework of DST by focusing on the following empirical findings; (1) the role of experience in shaping perinatal motor development in the rat fetus, (2) exploratory leg movements of infants during a mobile task, (3) stability and flexibility of differentiated motor patterns of arms and legs of infants during abrupt changes in a mobile task, and (4) the role of learning, experience, and biomechanics in the initial emergence of purposeful reaching and kicking in both typically developing infants and those at risk.

Paper Session: Topics in Early Experience

Thursday
4:10-6:00 pm
Mizuho 1

ISIS**Participants**

A life-span multi-level longitudinal model using infant predictors of cognitive changes in adulthood.

*John J. McArdle, Psychology, Univ. Southern California, USA

Adults' affinity with infant sounds in accordance with language experiences

*Yohko Shimada, Kyoto University, Japan

Shoji Itakura, Kyoto University

Family Intervention Assessment: The Operationalized Portage Checklist

*Lucia Cavalcanti de Albuquerque Williams, Universidade Federal de São Carlos, Brazil, Brazil

Ana Lucia Rossito Aiello, Universidade Federal de São Carlos, Brazil

Fathers and Infants: Effects of Video Self-Modelling and Feedback

*Karen Benzies, Faculty of Nursing, Canada

Joyce Magill-Evans, joyce.magill-evans@ualberta.ca

Margaret J Harrison, Faculty of Nursing, University of Alberta

Mark Gierl, Faculty of Education, University of Alberta

Cathy Kimak, Capital Health Authority

Paper Session: Issues in Neonatal Health

Thursday
4:10-6:00 pm
Mizuho 2

ISIS**Participants**

Classical conditioning of autonomic functions and distress vocalizations to inoculation in three and fifteen month olds.

*Kjell Morten Stormark, University of Bergen, Norway

Five-minute Apgar Score Predicts Hospitalization Through Age Ten: a population-based study

*Douglas Jutte, University of California, Berkeley, USA

Marni Brownell, University of Manitoba

Noralou Roos, University of Manitoba

Monica Sirski, University of Manitoba

S. Leonard Syme, University of California, Berkeley

W. Thomas Boyce, University of California, Berkeley

The effect of maternal smoking on response habituation patterns in fetuses of 34 weeks gestation.

*Lucy Smith, Queen's University, Belfast, Northern Ireland

Peter Hepper, Queen's University, Belfast

Invited Symposium - Developmental Cognitive Robotics

Thursday
4:10-6:00 pm
Yamashiro East

ISIS**Organizer/Moderator:**

Yasuo Kuniyoshi, Tokyo University

Minoru Asada, Osaka University

Giulio Sandini, University of Genova, Italy

For the true understanding and the creation of cognitive beings, it is essential that two wheels spin in synchrony: a synthetic approach and a developmental approach. Together, these two wheels drive a new and rapidly growing interdisciplinary research vehicle called Developmental Cognitive Robotics. Using this vehicle, researchers attempt to build baby robots that self-develop cognitive and behavioral capabilities through physical and social interaction with the world. Recently, various large scale research endeavors tackling issues dear to Developmental Cognitive Robotics have been initiated in Japanese, European, and American research institutions (public and private ones). The objective of this symposium is to provide a general introduction to the Developmental Cognitive Robotics paradigm, and to explain why this new approach can lead to substantial new insights into the nature of cognition. The leaders of some of the largest ongoing projects in this emerging field will give an overview of their efforts, including their goals, approaches, and their latest research results. The participants of the symposium will be invited to join the discussion which will be mainly concerned with identifying common principles, possible breakthroughs, and mutual synergies with the rest of infant studies.

Thursday
4:10-6:00 pm
Yamashiro West

Cognition, Memory, and Learning

Participants

Disrupting Infants' Persisting Object Representations

*Erik Cheries, Yale University, United States

Oscillatory Gamma Activity and Object Representation through Occlusion

*Jordy Kaufman, University College London, UK
Victoria Southgate, University of London, Birkbeck
Gergely Csibra, University of London, Birkbeck
mark johnson, University of London, UK

Contextual Cueing Facilitates Infants' Change Detection

*Su-hua Wang, Psychology Department, University of California, Santa Cruz

Action Context Biases Object Processing in 9-Month-Old Infants

*Jennifer Yoon, Stanford University, USA
Gergely Csibra, University of London, Birkbeck
mark johnson, University of London, UK

Discussant:

Gavin Bremner, Lancaster University

This symposium collects new findings on infants' perception and representation of occluded objects. Studies of representation of objects have so far uncovered that infants, under certain conditions, can retain certain information about occluded objects. However, recent studies have demonstrated that the perceptual history of objects has a strong influence on what properties of them preserved through occlusion. The papers presented here describe new and converging methods that address questions about the mechanisms that underlie the perception of occluded objects in infancy, and about the factors that determine what properties of occluded objects are preserved in their representation. The new methods involved include measurement of neurophysiological correlates of object representation, tracking through occlusion and violation of expectation by changing object properties. Taken together, these papers allow us to uncover important aspects of infants' representation of objects.

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