

unit guide

The Development of Brain and Behaviour in Infancy

PSY_3_DBI

Faculty of Arts and Human Sciences

2008/2009

become what you want to be

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1.0 UNIT DETAILS

Unit Title:	Development of Brain and Behaviour in Infancy
Unit Level:	3/GD
Unit Reference Number:	PSY_3_DBI
Credit Value:	15
Student Study Hours:	150
Contact Hours:	46
Private Study Hours:	104
Course(s):	Psychology
Year and Semester	2008 Semester 1
Unit Coordinator:	Dr Janice Brown
UC Contact Details (Tel, Email, Room)	Room E339, Extension Block Tel extension: 5789 Email: janice.brown@lsbu.ac.uk
Subject Area:	Psychology
Summary of Assessment Method:	1 x 2500 word essay (40%) 1 x 2-hour unseen examination (60%)

2.0 SHORT DESCRIPTION

This option focuses on infancy, a period of rapid development, and examines the emergence of perceptual, cognitive, and early social skills during the first year of life. Emerging behaviours will also be related to associated brain development, to facilitate a more thorough investigation of what happens during development. Both typical and atypical development will be reviewed. Traditional and more recent methods used to assess both brain and behaviour in infants will also be considered. This course of study also offers the opportunity to consider a dominant theoretical debate in developmental psychology, that of the relative contributions of nature and nurture to development.

3.0 AIMS OF THE UNIT

The unit aims to provide students with the opportunity to:

- Develop a deeper understanding of key issues and theories in developmental psychology
- Build on previous studies and develop a more substantial knowledge base about early developmental processes
- Develop a deeper understanding of brain/behaviour relationships

4.0 LEARNING OUTCOMES 4.1 KNOWLEDGE AND UNDERSTANDING

At the end of the unit, students will be expected to be able to:

- Describe features in the development of a number of abilities during the first year of life
- Describe brain development during the first year proposed to support the above abilities
- Explain how infancy studies can be used to inform the nature nurture debate
- Demonstrate an understanding of methodological issues in the study of infants
- Demonstrate the ability to critically evaluate research material

4.2 INTELLECTUAL SKILLS

This unit will provide students with the opportunity to:

- Develop critical evaluation skills
- Handle primary source material critically

4.3 PRACTICAL SKILLS

- Retrieve and/or organise information effectively e.g. from electronic sources.
- Incorporate information from a variety of sources
- Communicate effectively

4.4 TRANSFERABLE SKILLS

This unit will assist in the development of the students' ability to:

- Handle primary sources material critically
- Employ evidence-based reasoning
- Make critical judgements and evaluations
- Use research/scientific reasoning
- Communicate effectively verbally and using written language
- Function as an independent learner

5.0 ASSESSMENT

Assessment will be in two parts; a piece of coursework (worth 40% of the total mark) and a two hour unseen exam (worth 60% of the total mark).

Coursework: This will be an essay (2500 words), submission date to be announced. This should be submitted in the normal way to B266, i.e. 2 copies, word-processed. Students may be required to provide electronic copy of written work submitted. In such instances, the individual student will be written to requesting electronic submission. Failure to provide electronic copy within TWO WEEKS of a written request will result in the work being deemed an incomplete submission, and no mark will be given. The work will then have to be referred for a capped mark. When Extenuating Circumstances have already been accepted for a unit, this will not negate the proper investigation of any component of that unit for any allegation of academic misconduct, nor the subsequent imposition of any appropriate penalty for proven misconduct.

Exam: The exam will consist of 6 essay questions; you are required to attempt two.

6.0 FEEDBACK

Feedback will normally be given to students 20 working days after the submission of an assignment. The early assessment deadline means that you will get feedback on your performance well before the exam. You can then use feedback to identify any problems, and take action to improve performance on the exam.

7.0 INTRODUCTION TO STUDYING THE UNIT

7.1 OVERVIEW OF THE MAIN CONTENT

This unit provides students with the opportunity to learn about aspects of infant development, and covers behaviour in infants which tells us about developing processes, and associated development in the infant brain. During the first year of life, infants experience enormous changes of brain and behaviour. Not only can this tell us about what is developing and when, but we can also learn more about the processes that are fully formed in adults, by examining the way in which these processes develop.

In level 3 units, you will be expected to deal with material at a higher level than at level 2, and the quality of the work you produce should also be of a higher level. There is no one core text book for the unit, as most of the research presented is very recent, and is not contained within a single text. The majority of the recommended reading consists of research papers, although book chapters are recommended where possible as an introduction to the topic.

7.2 OVERVIEW OF TYPES OF CLASSES

Each lecture will focus on a different topic in infant development, and will be supplemented by seminar work where the topic will be explored in greater depth.

7.3 IMPORTANCE OF STUDENT SELF-MANAGED LEARNING TIME

Students are expected to undertake a substantial amount of work outside the lecture and seminar hours. In order to maximise learning outcomes, students will be required to read the core texts and papers, and where possible, the optional reading lists. This is particularly relevant in the seminars, where group discussion will form a large part of the work. In order to participate fully in discussions, it is important to be prepared, i.e. to have completed the recommended reading. Students should also use self-managed learning time to prepare coursework, and for revision.

7.4 EMPLOYABILITY

The main skills relating to employability that students should be able to develop during this unit are critical evaluation, communication, and the ability to handle information from a large variety and a large number of sources. You will also have the opportunity to practice presentation skills in an informal setting, but note that this is not assessed.

8.0 THE PROGRAMME OF TEACHING AND LEARNING

Week	Lecture	Seminar/Workshop
1	Introduction and Key Issues	Seminar 1 – brain
		development revision*
2	Pain perception	Seminar 2
3	Information processing and later cognitive skills	
4	Face processing	Seminar 3
5	Attention and Social Development I	
6	Self-managed learning – no lecture	
7	Attention and Social Development II	Seminar 4
8	Imitation	
9	Extreme Environments	Seminar 5
10	Atypical development I	
11	Atypical development II	Seminar 6
12	Revision	

The reading for each week is based as far as possible around relevant book chapters, which act as an introduction to the topic. These are supplemented by journal articles, some of which are relevant to more than one lecture. Where this is the case I have identified this the first time the article is listed. The fact that articles are relevant to more than one lecture indicates that the lecture topics are not completely independent. This is something you should bear in mind in all your reading, as there are many links between topics.

* There will be an optional revision session on brain and perceptual development after the lecture in week 1. This is for students who need a little help in grasping the basics of brain development, which will be built on during the unit. You are strongly advised to attend if you had difficulties with BBB.

Week 1 Introduction and key Issues

Format Lecture followed by optional revision session on brain development This initial session will act as a general overview of the unit. Key points from the Unit Guide will be highlighted. The lecture will also focus on issues specific to the study of infants, methodologies employed in infancy research, and theories relevant to the period of infancy being studied. These core concepts will be related to the topics to be discussed during the course of the unit.

Learning Outcomes

By the end of the session students should:

- Have agreed upon ground rules
- Be familiar with the structure of the unit
- Be familiar with Key Issues central to the unit

Core reading

Bremner, J.G. (1994) <u>Infancy (Second Edition)</u>. MA, USA: Blackwell Publishers. Chapter 1. Introduction, particularly pages 9-20.

Muir, D. (1999). Theories and Methods in Developmental Psychology. In A. Slater & D Muir (eds), <u>The Blackwell Reader in Developmental Psychology</u>. Oxford: Blackwell.

Optional reading

Johnson, M. H. & Karmiloff-Smith, A. (2004). Neuroscience Perspectives on Infant Development. In G. Bremner & A. Slater (eds), <u>Theories of Infant Development</u>. Oxford: Blackwell. (Also relevant to Atypical Development)

Johnson, M.H. (2004). Functional Brain Development During Infancy. In G. Bremner & A. Fogel (eds), <u>The Blackwell Handbook of Infant Developmental</u>. Oxford: Blackwell. (Also relevant to Face Processing and Attention)

<u>http://neurocog.psy.tufts.edu/images/erp.htm</u> - Summary of Event-Related Brain Potentials (ERPs) from the NeuroCognition Laboratory, Department of Psychology, Tufts University

Johnson, M.H., de Haan, M., Oliver, A., Smith, W., Hatzakis, H., Tucker, L. A., & Csibra, G. (2001). Recording and Analysing High-Density Event-Related Potentials Using the Geodesic Sensor Net. <u>Developmental Neuropsychology</u>, 19(3), 295-323.

Paterson, S.J., Heim, S., Friedman, J.T., Choudhury, N., & Benasich, A.A. (2006). Development of structure and function in the infant brain: Implications for cognition, language and social behaviour. <u>Neuroscience and Biobehavioural Reviews</u>, 30, 1087-1105. (Also relevant to Face Processing and Joint Attention).

Week 2 Pain perception

Format Lecture followed by linked workshop

Do infants feel pain? This may seem like a strange question to ask now, but less than thirty years ago these was still some debate about babies' abilities to perceive and interpret pain. This session will review pain perception in infancy from the perspective of what this can tell us about early brain development, and how early pain may in turn impact on development.

Learning Outcomes

By the end of the session students should:

- Be able to describe pain mechanisms in infancy
- Be able to evaluate the literature on pain perception in infancy

Reading

Anand, K.J.S., & Hickey, P.R. (1987). Pain And Its Effects In The Human Neonate And Fetus. <u>The New England Journal Of Medicine</u>, 317 (21), 1321-1329.

Bartocci, M., Bergqvist L.L., Lagercrantz, H., & Anand, K.J.S. (2006). Pain activates cortical areas in the preterm newborn brain. <u>Pain</u>, 122, 109-117.

Guinsburga, R., Peres, C., Almeida, M., Balda, R., Berenguel, R., Tonelotto, J., & Kopelman, B. (2000). Differences in pain expression between male and female newborn infants. <u>Pain</u>, 85, 127-133.

Hermann, C., Hohmeister, J., Demirakca, S., Zohsel, K., & Flor, H. (2006). Long-term alteration of pain sensitivity in school-aged children with early pain experiences. <u>Pain</u>, 125, 278-285.

Mercer, K. & Glenn, S. (2004). The expression of pain in infants with developmental delays. <u>Child: Care, Health & Development</u>, 30 (4), 353-360.

Simons, S.H.P. & Tibboel, D. (2006). Pain perception development and maturation. <u>Seminars in Fetal & Neonatal Medicine</u>, 11, 227-231.

Oberlander, T.F., Grunau, R.E., Whitfield, M.F., Fitzgerald, C., Pitfield, S., & Saul, J.P. (2000). Biobehavioral Pain Responses in Former Extremely Low Birth Weight Infants at Four Months' Corrected Age. <u>Pediatrics</u>, 105(1), e6.

Week 3 Information processing and later cognitive skills

Format Lecture

How clever is an infant? This is not a question that can be answered easily, as IQ as we know it is not something that can be measured in infancy. Furthermore, scores on standardised tests of infant development bear little relationship to IQ scores in later childhood. Some researchers have claimed that information processing in infancy is an early predictor of later intelligence, although many others disagree. We will examine both sides of this debate, and evaluate the evidence.

Learning Outcomes

By the end of the session students should:

- Be able to describe the measurement of intelligence in infants
- Be able to compare standard and recent approaches in the measurement of infant intelligence

Core reading

Bornstein, M.H., Slater, A., Brown, E., Roberts, E., & Barrett, J. (1997). Stability of Mental Development from Infancy to Later Childhood: Three 'Waves' of Research. In G. Bremner, A. Slater, & G. Butterworth (eds), <u>Infant Development: Recent Advances.</u> East Sussex: Psychology Press. Slater, A., Carrick, R., Bell, C., & Roberts, E. (1999). Can measures of Infant Information Processing Predict Later Intellectual Ability? In A. Slater & D Muir (eds), <u>The Blackwell Reader in Developmental Psychology</u>. Oxford: Blackwell. (Somewhat similar to the Bornstein chapter, although less in depth, but slightly updated)

Optional reading

Colombo, J., Freesman, L. J., Coldren, J. T., & Frick, J. E. (1995). Individual differences in infant visual fixation: Dominance of global versus local stimulus properties. <u>Cognitive</u> <u>Development</u>, 10, 271-285.

Frick, J. E., Colombo, J., & Saxon, T. F. (1999). Individual and developmental differences in disengagement of fixation in early infancy. <u>Child Development</u>,70(3), 537-548.

(There are similarities between these two papers, but they are given as examples of applying the hypothesised predictive value of information processing in infancy to cognitive processes)

Albers, C.A & Grieve, A.J. (2007). Test Review: Bayley, N. (2006). Bayley Scales of Infant and Toddler Development – Third Edition. San Antonio, TX: Harcourt Assessment. Journal of Psychoeducational Assessment, 25(2), 180-198

Fagan, J.F., Holland, C.R., & Wheeler, K. (2007). The prediction, from infancy, of adult IQ and achievement. <u>Intelligence</u>, 35, 225-231.

Rose, S.A., Feldman, J.F., & Jankowski, J.J. (2005). The structure of infant cognition at 1 year. <u>Intelligence</u>, 33, 231-250.

Week 4 Face processing

Format Lecture followed by linked workshop

Face processing in infancy is an area that has attracted a great deal of research, perhaps unsurprisingly, as babies seem to love faces! Right from birth, babies seem to prefer to look at face like shapes, and have quite sophisticated recognition skills very early. Why does there seem to be an innate interest in faces?

Learning Outcomes

By the end of the session students should:

- Have a firm grasp of characteristics of adult face processing
- Be able to compare different theoretical approaches to infant face processing

Core reading

Johnson, M.H. (2004). Functional Brain Development During Infancy. In G. Bremner & A. Fogel (eds), <u>The Blackwell Handbook of Infant Developmental</u>. Oxford: Blackwell.

Slater, A. (1997). Perception of Social Stimuli: Face perception and Imitation. In G. Bremner, A. Slater, & G. Butterworth (eds), <u>Infant Development: Recent Advances.</u> East Sussex: Psychology Press. (Also relevant to Imitation)

Optional reading

Bhatt, R.S., Bertin, E., Hayden, A., & Reed, A. (2005). Face Processing in Infancy: Developmental Changes in the Use of Different Kinds of Relational Information. <u>Child</u> <u>Development</u>, 76 (1), 169-181.

Farroni, T., Johnson, M.J., & Csibra, G. (2004). Mechanisms of Eye Gaze Perception during Infancy. <u>Journal of Cognitive Neuroscience</u>, 16(8), 1320-1326. (Also relevant to Attention and Imitation)

Leppänen, J.M., Moulson, M.C., Vogel-Farley, V.K., & Nelson, C.A. (2007). An ERP Study of Emotional Face Processing in the Adult and Infant Brain. <u>Child Development</u>, 78 (1), 232-245.

Halit, H., Csibra, G., Volein, A., & Johnson, M.H. (2004). Face-sensitive cortical processing in early infancy. <u>Journal of Child Psychology and Psychiatry</u>, 45(7), 1228-1234.

Pascalis, O., de Haan, M., & Nelson, C.A. (2002). Is face processing species-specific during the first year of life? <u>Science</u>, 296, 1321-1323.

Paterson, S.J., Heim, S., Friedman, J.T., Choudhury, N., & Benasich, A.A. (2006). Development of structure and function in the infant brain: Implications for cognition, language and social behaviour. <u>Neuroscience and Biobehavioural Reviews</u>, 30, 1087-1105.

Sangrigoli, S. & de Schonen, S. Recognition of own-race and other-race faces by threemonth-old infants. Journal of Child Psychology and Psychiatry, 45(7), 1219-1227.

Weeks 5 and 7 Attention and Social Development I and II

Format Lecture followed by linked workshop (week 7)

One of the earliest ways in which an infant can exert some control over his or her world is by choosing what to look at, i.e. by shifting visual attention. These sessions will review this rapidly developing ability, and examine a number of theoretical models proposed to account for the changes that occur in infant attention. The sessions will also focus on joint visual attention, which is a complex spatial skill that involves understanding another person's focus of attention. Infants at 6 to 9 months can follow others' gaze, but does this mean that they understand the focus of the other person's attention, or are they simply motion following? The role of attention in infant social development will also be considered.

Learning Outcomes

By the end of the session students should be able to:

- Describe phases of infant attention
- Compare different models of infant attention
- Describe joint attention
- Evaluate infant and comparative studies of Joint Attention
- Consider the role of attention in social development

Core reading

Atkinson, J. & Hood, B. Development of Visual Attention. (1997). In J.A. Burack and J.T. Enns (eds), <u>Attention, Development, and Psychopathology.</u>New York, USA: The Guilford Press.

Butterworth, G. (2004). Joint Visual Attention in Infancy. In G. Bremner & A. Slater (eds), <u>Theories of Infant Development</u>. Oxford: Blackwell. (Also relevant to Social

Development. See also David Messer's chapter on Early Communication in the same book).

Johnson, M.H. (2004). Functional Brain Development During Infancy. In G. Bremner & A. Fogel (eds), <u>The Blackwell Handbook of Infant Developmental</u>. Oxford: Blackwell.

Johnson, M.H. (2002). The Development of Visual Attention: A Cognitive Neuroscience Perspective. In M. Johnson, Y. Munakata, & R. Gilmore (eds), <u>Brain Development and</u> <u>Cognition: A Reader. (Second Edition)</u>. MA, USA: Blackwell Publishers.

Ruff, H.A., & Rothbart, M.K. (1996). <u>Attention in Early Development: Themes and Variations</u>. New York: Oxford University Press. (Chapter 3 – Looking and Visual Attention; Overview and Developmental Framework)

Optional reading

Casey, B.J., Davidson, M.C., Hara, Y., Thomas, K.M., Martinez, A., Galvan. A., Halperin, J.M., Rodriguez-Aranda, C.E., & Tottenham, N. (2004). Early Development of Subcortical Regions Involved in Non-Cued Attention Switching. <u>Developmental</u> <u>Science</u>, 7(5), 534-542.

Courage, M.L., Reynolds, G.D., & Richards, J. E. (2006). Infants' Attention to Patterned Stimuli: Developmental Change From 3 to 12 Months of Age. <u>Child Development</u>, 77 (3), 680-695.

Farroni, T., Johnson, M.J., & Csibra, G. (2004). Mechanisms of Eye Gaze Perception during Infancy. Journal of Cognitive Neuroscience, 16(8), 1320-1326.

Paterson, S.J., Heim, S., Friedman, J.T., Choudhury, N., & Benasich, A.A. (2006). Development of structure and function in the infant brain: Implications for cognition, language and social behaviour. <u>Neuroscience and Biobehavioural Reviews</u>, 30, 1087-1105.

Reddy, V. (2003). On being the object of attention: implications for self-other consciousness. <u>Trends in Cognitive Sciences</u>, 7(9), 397-402.

Reddy, V. (2007). Getting back to the rough ground: deception and 'social living'. <u>Philosophical Transactions of the Royal Society (B)</u>, 362, 621–637.

Richards, J.E. (2000). Localizing the Development of Covert Attention in Infants with Scalp Event-Related Potentials. <u>Developmental Psychology</u>, 36(1), 91-108. Reddy, V. (2003). On being the object of attention: implications for self-other consciousness. <u>Trends in Cognitive Sciences</u>, 7(9), 397-402.

Slaughter, V. & McConnell, D. (2003). Emergence of Joint Attention: Relationships between gaze following, social referencing, imitation and naming in infancy. <u>Journal of Genetic Psychology</u>, 164(1), 54-71.

Striano, T. & Reid, V.M. (2006). Social cognition in the first year. <u>Trends in Cognitive</u> <u>Sciences</u>, 10 (10), 471-476. (Also relevant to Atypical Development) Tomasello, M. & Carpenter, M. (2005) The Emergence of Social Cognition in Three Young Chimpanzees. 2. The Emergence of Social Cognition: A Longitudinal Study. <u>Monographs of the Society for Research in Child Development</u>, 70(1), 29-45.

Tomasello, M. & Carpenter, M. (2005) The Emergence of Social Cognition in Three Young Chimpanzees. 5. Joint Intentions and Attention. <u>Monographs of the Society for Research in Child Development</u>, 70(1), 29-45.

Week 6 Self-managed learning

Format Individual study and drop-in tutorials.

This time should be spent consolidating what has been learnt to date, and focussing on the written assignment which is due in week 7. There will be drop-in tutorial sessions in my office (E339) during normal lecture hours. I can give oral feedback on essay plans and drafts of the assignment, and discuss other aspects of the unit on an individual basis.

Week 8 Imitation

Format Lecture

Infants as young as 12 days can imitate facial gestures – stick out a tongue at the infant, and the infant will stick his tongue back out at you. This implies that infants have an understanding of their own (unseen) behaviours that they can use to equate to seen behaviours. Is this an innate mechanism? Or a conditioned response? This revolutionary (some claim controversial) finding will be discussed in detail.

Learning Outcomes

By the end of the session students should:

- Be able to describe early and recent research in infant imitation
- Be able to compare and evaluate theories of infant imitation

Core reading

Bremner, J.G. (2002). The nature of imitation by infants. <u>Infant Behavior and</u> <u>Development</u>, 25, 65-67. (A brief summary of imitation research and the theoretical implications).

Slater, A. (1997). Perception of Social Stimuli: Face perception and Imitation. In G. Bremner, A. Slater, & G. Butterworth (eds), <u>Infant Development: Recent Advances.</u> East Sussex: Psychology Press. (Also relevant to Social Development)

Optional reading

Brass, M. & Heyes, C. M. (2005) Imitation: Is cognitive neuroscience solving the correspondence problem? <u>Trends in Cognitive Sciences</u>, 9, 489-495

Callaghan, T.C., Rochat, P., MacGillvray, T., & MacLellan, C. (2004). Modelling Referential Actions in 6- to 18-Month-Old Infants: A Precursor to Symbolic Understanding. <u>Child Development</u>, 75(6), 1733-1744.

Farroni, T., Johnson, M.J., & Csibra, G. (2004). Mechanisms of Eye Gaze Perception during Infancy. Journal of Cognitive Neuroscience, 16(8), 1320-1326.

Welsh, T. (2006). Do Neonates Display Innate Self-Awareness? Why Neonatal *Imitation* Fails to Provide Sufficient Grounds for Innate Self-and Other-Awareness. <u>Philosophical Psychology</u>, 19 (2), 221-238.

Week 9 Extreme environments

Format Lecture followed by linked workshop

This session will focus on the impact of extreme environments on infant development across a range of topics covered earlier in the unit. Examples will include effects of deprivation on development, including situations where infants are deprived of social and stimulating environments (e.g. Romanian orphanages), and situations where infant vision may be affected by congenital cataracts.

Learning Outcomes

At the end of the sessions, and after appropriate reading, you should be able to;

- Discuss impacts of extreme environments on visual/attentional development
- Discuss impacts of extreme environments on social development
- Relate impacts of extreme environments to typical development

Reading

Cohen, N.J., Lojkasek, M., Yaghoub Zadeh, Z., Pugliese, M., & Kiefer, H. (2008). Children adopted from China: a prospective study of their growth and development. Journal of Child Psychology and Psychiatry, 49 (4), 458–468.

Eluvathingal, T.J., Chugani, H.T., Behen, M.E., Juhasz, C., Muzik, O., Maqbool, M., Chugani, D.C., & Makki, M. (2006). Abnormal Brain Connectivity in Children After Early Severe Socioemotional Deprivation: A Diffusion Tensor Imaging Study. <u>Pediatrics</u>, 117(6), 2093-2100.

Fisher, K.R., Hirsh-Pasek, K, Golinkoff, R.M., & Gryfe, S.G. (2008). Conceptual split? Parents' and experts' perceptions of play in the 21st century. <u>Journal of Applied</u> <u>Developmental Psychology</u>, 29, 305–316.

Le Grand, R., Mondloch, C.J., Maurer, D., & Brent, H.P. (2003). Expert face processing requires visual input to the right hemisphere during infancy. <u>Nature Neuroscience</u>, 6(10), 1108-1112.

Nelson, C.A. (2007). A Neurobiological Perspective on Early Human Deprivation. <u>Child</u> <u>Development Perspectives</u>, 1(1), 13-18.

Parker, S.W., Nelson, C.A., & The Bucharest Early Intervention Project Core Group. (2005). An event-related potential study of the impact of institutional rearing on face recognition. <u>Development and Psychopathology</u>, (17), 621–639.

Putzar, L., Hotting, K., Rosler, F., & Roder, B. (2007). The development of visual feature binding processes after visual deprivation in early infancy. <u>Vision Research</u>, 47, 2616–2626.

Sugita, Y. (2008). Face perception in monkeys reared with no exposure to faces. <u>Proceedings of the National Academy of Sciences</u>, 105, 394-398.

Weeks 10 & 11 Atypical development I and II

Format Lecture followed by linked workshop (in week 11)

So far, emerging processes in infancy have been examined from the perspective of a typically developing infant. But what happens when development starts off differently, or deviates from the typical developmental pathway? What impact does this have on these

processes? We will examine some of the topics covered to date in atypical development. This will also be related to many of the theories and issues discussed to date.

Learning Outcomes

At the end of the sessions, and after appropriate reading, you should be able to;

- Consider methodological issues in the study of atypical development
- Describe Frith's model of developmental disorders (1999)
- Consider atypical development in relation to general and specific theoretical positions
- Discuss attention deficits in a number of disorders

Core reading

Johnson, M. H. & Karmiloff-Smith, A. (2004). Neuroscience Perspectives on Infant Development. In G. Bremner & A. Slater (eds), <u>Theories of Infant Development</u>. Oxford: Blackwell.

Karmiloff-Smith, A. (1998). Development itself is the key to understanding developmental disorders. <u>Trends in Cognitive neuroscience</u>, 2, 389-398.

Optional reading

Gernsbacher, M.A., Stevenson, J.L., Khandakar, S., & Goldsmith, H.H. (2008). Why Does Joint Attention Look Atypical in Autism? <u>Child Development Perspectives</u>, 2(1), 38-45.

Hamilton, A.F., Brindley, R.M., & Frith, U. (2007). Imitation and action understanding in autistic spectrum disorders: How valid is the hypothesis of a deficit in the mirror neuron system? <u>Neuropsychologia</u>, 45 (8), 1859-1868.I

Maestro, S., Muratori, F., Cavallaro, M. C., Pei, F., Stern, D., Golse, B., % Palacio-Espasa, F. (2002). Attentional Skills During the First 6 Months of Age in Autism Spectrum Disorder. <u>Journal of the American Academy of Child and Adolescent</u> <u>Psychiatry</u>, 41(10), 1239-1245.

Rogers, S.J., Hepburn, S.L., Stackhouse, T., & Wehner, E. (2003). Imitation Performance in Toddlers with Autism and Those With Other Developmental Disorders. Journal of Child Psychology and Psychiatry, 44(5), 763-781.

Ruff, H.A., & Rothbart, M.K. (1996). <u>Attention in Early Development: Themes and</u> <u>Variations</u>. New York: Oxford University Press. (Chapter 11 – Early Manifestations of Attention Deficits)

Zelazo, P.R. & Stack, D.M. (1997). Attention and Information Processing In Infants with Down Syndrome. In J.A. Burack and J.T. Enns (eds), <u>Attention, Development, and</u> <u>Psychopathology.</u>New York, USA: The Guilford Press.

Week 12 Revision

Format Lecture followed by linked workshop

This session will allow students to revisit topics for clarification, and to raise any questions or concerns regarding exam questions.

Learning Outcomes

By the end of the session students should:

- Have had an opportunity to ask any questions about revision/the exam
- Be familiar with the marking scheme
- Be able to consider different approaches to their own revision

9.0 LEARNING RESOURCES

This unit will be supported by a blackboard site. This can be accessed at <u>www.lsbu.ac.uk/bb</u>

9.1 TEXT BOOKS

Bremner, G. & Fogel, A. (2004) <u>The Blackwell Handbook of Infant Development</u>. MA, USA: Blackwell Publishers.

Bremner, J.G. (1994) Infancy (Second Edition). MA, USA: Blackwell Publishers.

Johnson, M., Munakata, Y., & Gilmore, R. (2002) <u>Brain Development and</u> <u>Cognition: A Reader. (Second Edition)</u>. MA, USA: Blackwell Publishers.

See individual lectures for journal articles.

9.2 JOURNAL ARTICLES

See individual lectures for journal articles. Listed below are a few websites of the growing number of infant testing labs. They are relevant to methods used in infancy testing, and are also relevant to some of the lecture topics. There are many more available; by all means have a look for some more.

The Centre for Brain and Cognitive Development, Birkbeck College http://www.cbcd.bbk.ac.uk/

The Centre for Research in Human Development, Lancaster University <u>http://www.psych.lancs.ac.uk/research/centre.html</u>

NYU Infant Perception Lab, New York University http://www.psych.nyu.edu/johnson/infantperceptionlab/learn.html

Dr. Janice H. Brown September 2008

NOTES [Click and replace]