Individual differences

Factors:

- Biological differences – genes, gender
- Birth order – position in family
    - Confluence model e.g. firstborns more mature- tutoring effect
    - Resource dilution effect
    - Gestational effect

Twin study

- More similar treatment of monozygotic twins than dizygotic
- Identical twins higher IQ correlation

Adoption studies

- Genetic+ environment (nuclear, biologically related family)
- Genetic only (biologically related individuals living apart)
- Environmental only (unrelated individuals living together)

G x E interaction

- Reaction range: variety of possible phenotypes or potential
- Canalisation: genetics protects children from environmental effects
    - Genetic determinism: some choice points along the way e.g. infant babbling
- Niche-picking
    - Passive role of genes- environment is supportive and consistent with genotype
    - Evocative – genetic tendencies evoke certain responses from parents
    - Active work- older child seeks niches specific activities
- Probabilistic Epigenesis- emergence of a trait over development; genetic potential may be present but activation is facilitated by environment

Sense of Self

Individualistic society

- Independence- separateness and autonomy
    - Valued and considered adaptive in W.
    - Corresponding self is a bounded individual agent/self-contained/ separate

Collectivist society

- Interdependence- relatedness and heteronomy
    - Valued and considered adaptive in traditional societies
    - Corresponding self is interconnected/role orientated/ compliant

I-Self includes:

- Self-agency
- Self-uniqueness
- Self-continuity
- Self-awareness

Me-self includes:

- Material characteristics
- Psychological characteristics
- Social characteristics

Emotion

Theories of emotion

Behaviourist:

- Emotions are unconditioned(innate) responses
- Or conditioned responses
- E.g. little albert and white rat

Biological/ Evolutionary

- Izard- Differential emotions theory:
    - Born with general emotional reactions
    - Some present at birth
    - Some emerge on a biological timetable
- Ekman
    - Emotion is a process of automatic appraisal influenced by past experience
    - Primary emotions are universal e.g. fear, joy
    - Secondary in humans e.g. jealousy, hope
    - Expression-feeling link- evolutionary-biological connection between expression and feeling state
- Dario et al
    - Facial expressions in congenitally blind children
    - There was no decrease in the facial expressiveness of the blind children in the period of development considered

Cognitive appraisal

- Emotions are subjective states

Functionalist

- Events generate emotion but the emotion itself prepares you for action
- Emotion prompts action in service of personal goals

Dynamic systems

- Emotions are emergent self-organising systems
- Emotions are multiple component processes consisting of appraisals, affective responses; strengthens action to respond/remove/modify context
- Emotional states and experiences mutually relate in context
- Strength: integrative approach for understanding emotion and emotional development
- Limitations: need to empirically verify unique predictions

Emotion links to social behaviour

- Meltzoff and Olsen (2008)
    - Imitation= joy
    - Sense of agency from controlling behaviour of others
- Still Face Procedure

Links to cognition and language

- Lewis: implications of emotional reaction- pulling string and stopping stimulus
- Moreno & Robinson: emotional vitality

Attachment

- The capacity to form and maintain healthy emotional relationships which usually begin to develop early in childhood

Attachment theory

Rene Spitz

- By 1 yr; motor and intellectual skills of orphanage children were behind
- Raised issues on the dangers of maternal deprivation

Ethological theory: Imprinting

- Animals have instinctive unlearned behaviours
- Imprinting: animal's instinct to follow the first walking stimulus they saw

Primate research: Harry Harlow - monkey experiment

- Wire mesh mother vs. cloth mother
- All monkeys spend most time with cloth mother; cuddly contact more important
- Total social isolation for the first 6 months produced severe deficits in social behaviour

John Bowlby

- Affectional ties have a biological and evolutionary basis

Mary Ainsworth

- Normative development changes and individual differences in patterns of mother-baby interaction in Uganda
- Infant use mother as secure base

Attachment behaviours

- Promote proximity, contact, interaction with people
- E.g. smiling more, seeking proximity especially when distressed, crying on separation
- Do not serve the attachment system exclusively e.g. smile when a problem is solved

Patterns of attachment

Ainsworth

- Nature of attachment is dependent on quality of the caregiver-child bond
- Sensitive, responsive, accessible care leads to secure attachment

Strange Situation Procedure

- Sources of potential stress
    - Unfamiliar physical environment
    - Separation from caregiver
    - Contact with stranger
- Global rating of attachment status
    - Willingness to explore
    - Reaction to separation from mother
    - Reaction to and interaction with stranger
    - Ability to be comforted on reunion

Security of attachment

Secure attachment: Type B

- Explore environment confidently
- Rarely wary of stranger
- May be distressed on separation
- Directly go to caregiver on reunion and are comforted

Type A: Anxious Avoidant insecure attachment

- Indifferent to mother
- Little wariness of stranger
- Rarely distressed on separation
- Do not strive to achieve contact on reunion

Type C: Anxious Ambivalent insecure attachment

- Tend not to explore
- Do not interact much with stranger
- Seek/resist contact
- Go directly to caregiver on reunion but not comforted

Type D: Disorganised/ Disoriented

- No coherent system for dealing with separation
- Freezing and odd behaviours
- Display contradictory behaviour
- Indices of apprehension or fearful regarding parent

Other factors: infant temperament, differential susceptibility, marriage and parenting

Reactive attachment disorder (DSM-V 2013)

- Inhibited, emotionally withdrawn behaviour toward adult caregiver
- Persistent social emotional disturbance
- Child has experienced extreme patterns of care- neglect or deprivation

Disinhibited social engagement disorder (DMS-V 2013)

- Child actively approaches and interacts with strangers; reduced reticence, overly verbal or physical, diminished/absent checking back with caregiver
- Behaviours above are not limited to impulsivity but include socially disinhibited behaviour
- Child has experienced extreme patterns of insufficient care

Prenatal development

- Perinatal- around the time of birth
- Neonatal- up to 4 weeks after birth
- Premature birth- <37 weeks

Zygote/germinal period (8-10 days)

- *Cell division*
- Period of rapid cell division results in blastocyst
    - Embeds on the uterine wall
    - Appx 10 days post-conception

Embryo period (2 to 8-9 weeks)

- *Cell migration*: movement of newly formed cells from original point in embryo to somewhere else
- *Cell differentiation*: cells specialise and take on specific roles
- Outer support system:
    - Placenta: oxygen, food, waste removal
    - Amniotic sac: protect the embryo
- Inner cell mass (3 tube like layers)
    - Ectoderm: nervous system, skin, brain, spinal cord, nails, parts of the teeth
    - Mesoderm: muscles, bones,organs
    - Endoderm: digestive systems, lungs, urinary tract
- 3-4 weeks: primitive brain, spinal cord, heart, muscle, digestive system develop
- 5-8 weeks: external(limb, face) and internal(lung, kidney, stomach) structure develop

Patterns of body development:

- Cephalocaudal - head develops earlier than further from the head
- Proximodistal – middle of the organism out to the periphery

Foetal period (9weeks – birth)

- *Cell apoptosis* : cells die to allow other cells to develop/specialise
- 8-9 weeks- sex differentiation (testes and ovaries visible), rapid brain development
- 11 weeks- heart, developing ribs and spine, major brain divisions
- 16 weeks- lower body growth accelerates, foetal movements increase such as breathing movements, also reflexes are present such as grasping, swallowing, sucking
- 18 weeks: covered in fine hair and greasy coating, more evidence of sucking behaviours
- 20 weeks: weight increasing, facial expressions, eyes sensitive to light, reacts to sounds, senses motion
- 28 weeks: "age of viability", hears sounds, eyelids open and shut, distinct periods of "awake" and "inactive" states

Teratogens (often chemical agent, negative impact on developing embryo/foetus)

- Teratogenesis: alters embryological/foetal function
- Mutagenesis: external agents causes mutation in DNA, inheritable
- Critical periods
  - Impact varies depending on the stage
  - Reduced danger 0-2 weeks
  - Embryonic period – damage to structures
  - Foetal period – greater functional damage
  - Tissue specific
  - Effect on mother/fetus e.g. Rubella

<u>Foetal Alcohol Syndrome (FAS)</u>

- >5 drinks per day
- Features: intellectual disability, impaired motor coordination, language, overactivity, slow physical growth

Foetal Alcohol Effect (FAE)

- Defects related to timing/length of exposure

Radiation exposure

- Mutation in DNA (adults)
- Increased preterm birth, deformities, small head size

Pollution

- Mercury: Minamata village in Japan (1950s)
- Lead: old paint- prematurity, brain damage, poorer coordination

Diseases

- Viral e.g. AIDS, Rubella
- Bacterial e.g. tuberculosis
- Parasitic e.g. malaria, toxoplasmosis; miscarriage or preterm birth

Heroin

- Born addicted to drug
- Vulnerable to respiratory disease
- Some motor delay in infancy

Cocaine

- Motor, visual, attention, memory difficulties
- Delayed language development
- Impacts still felt several years later

Heroin, cocaine, methadone

- Withdrawal symptoms at birth
- Increased likeliness of premature/stillbirth, low birth weight

<u>Prevention</u>

Public

- Environmental pollution controls
- Screening tests those planning pregnancy
- Iodised salt- prevents congenital hypothyroidism
- Folic acid- reduces risk of spina bifida

Personal

- Adequate and balanced diet
- Avoid teratogens, consult physician
- Less stress, more support

Foetus learn

- Habituation to repetitive sounds
- Study- Lecanuet et al, 1995
  - Syllable pair repetition (babi)
  - Initial deceleration in heart rate
  - Repetition led to less change in heart rate
  - Biba- increased heart rate response
- DeCasper et al, 1994- Long term retention
  - Short poem read to 37 week old fetuses
  - At end of 4 weeks- heart rate deceleration grater in response to familiar poem
- Fetus has memory skills
- Observational studies
  - Sounds of mother's voice/ smell of amniotic fluid – auditory and olfactory memory

Apgar scores: based on assessment of heart rate, breathing, colour, muscle tone, reflex irritability

- Between 0 to 2 points; total score 0-10
- Less than 7 at 5mins after birth is considered to be complications and of compromise for the baby

Birthweight

- <2500g low birthweight
- <1500g very low
- <1000g extremely low (WHO, 1992)
- 500-749g survival rate 33% (Lin et al 1993)
- Small baby due to preterm birth, intrauterine growth retardation
- Factors: SES, size/ age of mother, previously born babies number, mum's nutritional status, smoking and alcohol intake, illness during pregnancy

Genetics

- Genetics: study of genes, heredity and genetic variations in living organisms
- Heredity: process of a parent passing certain genes to their children
- Gregor Mendel: identified factors; hereditary units passed from parents to offspring
- Wilhelm Johanssen: coined the word gene for the hereditary unit

Genes:

- combine enzymes and proteins that build the body

- determine the cell types to be built
- determine the timing of cell specialisation e.g. skin, liver, brain
- determine the timing of development e.g. puberty, menopause, aging
- carried on chromosomes- units of inheritance in a fixed position on the DNA
- change in a gene (faulty)- mutation
- Genotype (Bb): complete set of chromosomes that individual has and when combined with environment influences produces ...
- Phenotype (Brown): observable expressions of heritable characteristics in the person

To be Continued..