Human development

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Overview

- Objectives
- Stages of development
  Newborns
  Milestones
  Cognitive development theories
- Sexuality
- Aging
- Death and Bereavement
- Suicide

Objectives

- Demonstrate understanding of theories of learning and how different reinforcers are applied
- Answer questions about behavioral modification, including classical and operant conditioning
- Answer questions about behavioral models of depression

Stages of development

- Development occurs along multiple lines: physical, cognitive, intellectual, and social
- Maturity?
  Maturity refers to the ability to respond to the environment in an appropriate manner, usually with a learnt response. Maturity refers to the production of expected behaviors and actions in a given situation in an age-appropriate manner

Stages of development
Newborns

:Newborns have certain preferences

- Large, bright objects with lots of contrast
- Moving objects
- Curves vs. lines
- Complex vs. simple designs
- Facial stimuli

Stages of development

Newborn reflexes

Reflex	Features	Onset	Extinction	CNS Origin
Moro (startle)	Arms and legs extend when child is startled	Birth	5 months	Brain stem/vestibular nuclei
Grasp	Fingers curl around object placed in hand	Birth	5 months	Brain stem/vestibular nuclei
Rooting	Baby turns face toward direction of touch	Birth	5 months	Brain stem/trigeminal
Babinski	• Not pathological in newborns • Stroking bottom of foot causes the toe to move upward (dorsiflexion) instead of downward (hallux flexion); normal in adults	Birth	1 year	Spinal cord

Stages of development
Milestones

Skills achieved by a certain age are called **milestones**, which are normative markers at median ages

- Some children develop milestones more slowly while others develop more quickly
- Milestones are approximate and do not have to occur concomitantly
- A child may match the milestones for cognitive development but show slower growth in the social area

Stages of development
Milestones

Age	Motor	Language	Sensory	Social development
4-6 weeks				Smiles at the parent (social smile - 6 weeks); can recognise mum's face apart; shows preference to human faces.
6-8 weeks		Cooing		
3 months	Can hold head up. grasp reflex disappears	Babbling	Localises sound source	Squeals with pleasure appropriately. Discriminates smile
5 months	Reaches out; oral exploration	Spontaneous babbling and sound experiments		
6 months	Hand to hand transfer rolling over Palmar grasp	Double syllable sounds such as 'dada.'	Localises sound 45cm lateral to either ear	
9-10 months	Cruises around and crawls. Sits unsupported. Picks up objects with pincer grasp	Babbles tunefully	Looks for toys dropped; Peek a boo	Stranger anxiety followed by object permanence

Stages of development
Milestones

1 year	Stands alone momentarily	One or two words		Separation anxiety
18 months	Walks alone. Holds rails and climbs, can jump with both feet. Can build a tower of 3 or 4 cubes and throw a ball (1 X 3). Can use a spoon.	Many intelligible words – up to 40 in some. Uses holophrases.		Shows rapprochement (hugs when coming back).
2 years	Able to run. Builds tower of 6 cubes (2 X 3)	Makes sentences – telegraphic initially.		Parallel play. Dry by day
3 years	Goes upstairs 1 foot per step and downstairs 2 feet per step. Copies circle, imitates cross and draws the man on request. Builds tower of 9 cubes (3 X 3)	Speaks in sentences		Cooperative play. Imaginary companions
4 years	Can skip; copies a cross			Toilet trained mostly
5 years	Can hop; copies a triangle.	Fluent speech with grammar use; uses function words		Dresses and undresses alone
6 years	Copies a diamond. Can count number of fingers	Nearly adult-like speech		

Stages of development
Milestones

Figure Copied	Approximate Age
Circle	3
Cross	4
Rectangle	4½

Figure Copied	Approximate Age
Square	5
Triangle	6
Diamond	7

Figure 9-1. Figures Copied and Approximate Ages

Stages of development
Milestones

First year of life

- Puts everything in mouth
- Sits with support (4 mo)
- Stands with help (8 mo)
- Crawls, fear of falling (9 mo)
- Pincer grasp (10 mo)
- Follows objects to midline (4 wk)
- One-handed approach/grasp of toy
- Feet in mouth (5 mo)
- Bang and rattle stage
- Changes hands with toy (6 mo)

Stages of development
Milestones
One year age

- **Walks alone (13 mo)**
- Climbs stairs alone (18 mo)
- Emergence of hand preference (18 mo)
- Kicks ball, throws ball
- Pats pictures in book
- **Stacks 3 cubes** (18 mo)

Stages of development
Milestones

Two years age

- High activity level
- Walks backwards
- Can turn doorknob, unscrew jar lid
- Scribbles with crayon
- **Stacks 6 cubes** (24 mo)
- Stands on tiptoes (30 mo)
- Able to aim thrown ball

Stages of development
Milestones

Three years age

- Rides tricycle
- Stacks 9 cubes (36 mo)
- Alternates feet going up stairs
- Bowel and bladder control (toilet training)
- Draws recognizable figures
- Catches ball with arms
- Cuts paper with scissors
- Unbuttons buttons

Stages of development
Milestones

Four years age

- Alternates feet going down stairs
- Hops on one foot
- Grooms self (brushes teeth)
- Counts fingers on hand

Stages of development
Milestones

- **Five years age**
- Complete sphincter control
- Brain at 75% of adult weight
- Draws recognizable man with head, body, and limbs
- Dresses and undresses self
- Catches ball with 2 hands

Stages of development
Milestones

Stranger anxiety

Distress in the presence of unfamiliar people

- Peaks at age eight months
- Can last until age one year

Separation anxiety

Distress following separation from a caretaker

- Onset at age eight months
- Can last until age two years

Theories of development

Jean Piaget (1896–1980)

Having observed his own children, proposed that a child's cognitive development is dependent upon interaction with the environment and progresses at varying rates through specific stages

According to Jean Piaget Intelligence involves understanding and inventing new ways of interacting with the environment.

- Schema: Cognitive structure or pattern of behaviour/knowledge.
- Assimilation: incorporation of new or novel information into existing thought patterns (i.e. schemas).
- Accommodation: adjustment or modification of existing schemas to facilitate comprehension of new information.

- https://youtu.be/WAQur-Y_BJY

- Cognitive Development “Piaget”
  1- Sensory Motor 0-2 year old
  2- Preoperational 2-6
  3- Concrete operational 6-12
  4- Formal operational >12

Stages of development

Sensorimotor stage (0–2 years):

- Begin to learn through sensory observation
- Gain control of motor functions through activity, exploration, and manipulation of the environment
- *Achieve object permanence (9 months)*
- Recognition of self “ Mirror test”

Pre-operational stage (2–6 years):

- Use symbols and language more extensively
- Are egocentric,
  use animistic thinking, and have a sense of imminent justice
- See death as reversible
- **Lack** the law of conservation, lack of hierarchy, lack of reversibility

Concrete operational stage (7–11 years):

- • Replace egocentricity with operational thought, thus can see things through others' perspectives
- Able to perform operations such as those involved in comprehending the laws of conservation.
- *Operations (mental manipulation of thoughts)*
- *Group activity/cooperation*
- *See death as irreversible*

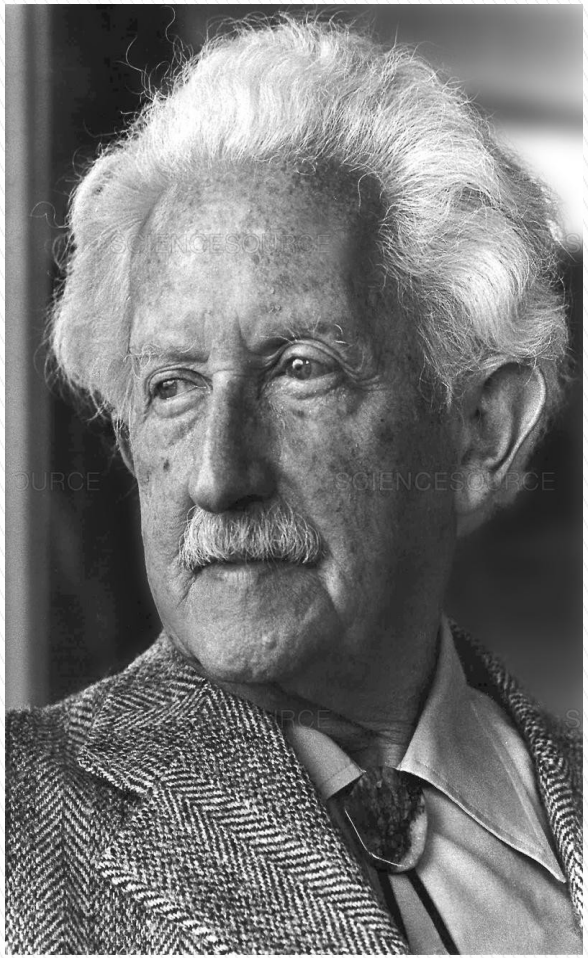
Formal operational stage (11 years and upwards):

- Abstract (propositional) thought
- Belief systems
- Conceptualization
- Deductive reasoning

ERIK ERIKSON (PSYCHOSOCIAL DEVELOPMENT)

- Extends into adulthood requires the successful resolution of a crisis at each phase of development.

- Divided according to age to the following stages.



Birth–2 years

Trust vs. mistrust

- Develop feeling of trust that their wants will be satisfied
- If parent is not attentive, will learn to mistrust

years 4–2

Autonomy vs. shame/doubt

- Have sense of mastery over themselves and their drives; can be cooperative or stubborn
- Gain a sense of separateness from others
- Lack of appropriate autonomy can cause shame/doubt to undermine free will

years 6–4

Initiative vs. guilt

- Initiate both motor and intellectual activity
- Start to become sexually curious
- Start to develop sibling rivalry
- Guilt is present over the drive for conquest and anxiety over failure

years 12–6

Industry vs. inferiority

- Enter programs of learning; able to work and acquire adult skills
- Learn they are able to master and complete a task

Teenage years

12-19

Identity vs. role confusion

- Develop group identity
- Develop preoccupation with appearances
- Begin to deal with morality and ethics
- Experience “identity crisis” at end of this stage

Early adulthood

20-40

Intimacy vs. isolation

- Experience intimacy of sexual relations and friendships (all deep associations are present)
- Develop an ability to care and share with others without fear of losing self

Middle adulthood

40-65

Generativity vs. stagnation

- Have and raise children, as well as other interests outside the home
- If have no children, develop sense of altruism and creativity
- Stagnation can take the form of escapism such as mid-life crisis or substance abuse issues

Late adulthood

>65

Integrity vs. despair

- Experience sense of satisfaction with one's life; allows for an acceptance of one's place in life cycle

- Despair involves deep disgust of the external world and other persons to mask a fear of death

Age	Crisis
0–18 months	Trust/mistrust
18–36 months	Autonomy/doubt
3–6 years	Initiative/guilt
6–12 years	Competence/inferiority
12–adulthood (adolescence)	Identity/confusion
Adulthood	Intimacy/isolation
Middle-age	Generativity/stagnation
Maturity	Integrity/despair

KOHLBERG (MORAL DEVELOPMENT)

- Kohlberg proposed six stages of moral development
- grouped in three levels derived from posing moral dilemmas to a variety of subjects.

Level I: pre-conventional morality 7-12

- stage 1: punishment and obedience
- stage 2: reward orientation

Level II: conventional morality (13-16 years):

stage 3: approval/disapproval “ concordance” good boy/girl

- stage 4: authority, maintain social order

Level III: post-conventional morality 16-20

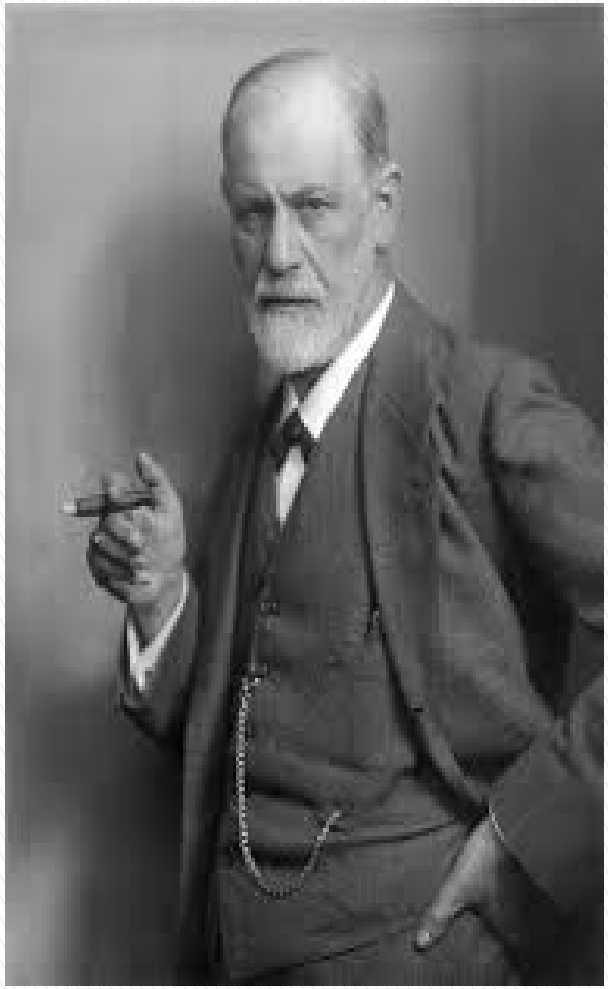
- stage 5: social contract
- stage 6: Universal Ethical orientation, self-chosen principles/ethics

- Though there is some correlation between age and morality, many adults may not reach level III.

- Social perspective-taking is the ability to adopt ‘another person’s point of view and It is a precursor of empathy and moral reasoning

Freud PSYCHOSEXUAL DEVELOPMENT

- Sigmund Freud developed the psychosexual developmental theory
- He staged the psychosexual development through five levels



0–18 months

Oral phase:

Pleasure is derived from oral activity and there is a preoccupation with feeding.

18–36 months

Anal phase:

Attention is focused on excretory processes.

If harsh toilet training, may become “anally fixated” (obsessive-compulsive personality disorder)

3–6 years

Phallic phase: increasing focus on genitalia; libido directed towards others.

Involves castration anxiety, penis envy,

Oedipal* complex in males and Electra† complex in females (attachment to opposite-

sex parent and aggression towards same-sex parent)

6–12 years Latency:

lasts until onset of puberty. Involves the recognition, acknowledgement and acceptance of reality.

Sublimation of sexual energy into energetic learning and play activities

GENITAL PHASE

- 12 years–adult

Acquisition of sexual maturity

Increasing identification with same-sex parent.

sexuality

Gender identity

is a child's sense of maleness or femaleness. It is established by age 3.

Sexual identity (assigned gender)

is determined by secondary sexual characteristics.

Gender dysphoria

is a "disconnect" between gender identity and sexual identity.

Gender role

behaviors exhibited by an individual that identifies with that individual's gender identity (usually congruent)

Sexual orientation

Homosexuality: same gender identity

Heterosexuality: opposite gender identity

Bisexuality: either gender identity

Asexuality: neither gender identity

Masturbation is normal at all ages and equal in both genders. When it interferes with normal functioning, it is pathological.

Tanner stages of development

	Female	Both	Male
Stage	Breast	Pubic hair	Genitalia
I	Preadolescent	None	Childhood size
II	Breast bud	Sparse, long, straight	Enlargement of scrotum, testes
III	Areolar diameter enlarges	Darker, curling, increased amount	Penis grows in length; testes continue to enlarge
IV	Secondary mound; separation of contours	Coarse, curly, adult type	Penis grows in length/breadth; scrotum darkens, testes enlarge
V	Mature female	Adult, extends to thighs	Adult shape/size

Aging

The human body undergoes significant changes with age that have both medical and psychological implications for your patients.

The leading causes of death for patients age >65 include:

- Heart disease
- Malignancy
- Cerebrovascular disease
- Chronic lower respiratory disease

preventive care and primary or secondary prevention becomes crucial to patient health, improved quality of life, and survival.

Some factors can be modified by behavioral change:

- Smoking = smoking cessation
- Poor diet = low sodium diet (CHF), low cholesterol diet (ACS), low sugar diet (DM)
- Physical inactivity = exercise

Medical care of geriatric population

Includes preventive care, vaccinations, and screening.

Preventive care :

may include aspirin therapy and lipid management

Vaccinations:
Illness is usually associated with higher morbidity and mortality with older patients, so it is important they receive certain vaccinations.

-- Tetanus

-- Diphtheria

-- Pneumococcus

-- Influenza

-- Varicella/zoster

Screening: the 2 main areas of screening are cancer and abdominal aortic aneurysm.

Breast cancer: women age >40

Colorectal cancer: men and women age >50

Abdominal aortic aneurysm screening: men age 65–75

Psychiatric changes in geriatric population

- Depression screening

–– Age >65 is a risk factor for suicide.

–– Screening appropriate especially when patients have a terminal or debilitating illness.

- Adjustment disorder – Many life changes can be stressors that require coping mechanisms. – Some life changes (e.g., retirement, even when voluntary; illness, etc.) can cause an adjustment disorder.

Physiological changes in geriatric population

- Sexuality

–– Sexual interest and activity does not decline significantly with aging

–– Best predictor of sexual activity in the elderly is availability of a partner

–– Changes in men: slower erection, longer refractory period, more stimulation needed

–– Changes in women: vaginal dryness and thinning

- Sleep

–– Early morning wakefulness

–– Less deep sleep

–– REM sleep does not significantly decrease until age >85

Financial

Several factors contribute to financial instability in the elderly:

- Inadequate fixed income
- (typically the spouse who was a homemaker)
- High medical costs
- Low financial literacy: elderly can be exploited by unscrupulous investment advisors and sometimes family members

End-of-Life Care

Talking about life expectancy and end-of-life treatment and expectations is important.

- Patients should be asked about DNR (do not resuscitate) status.
- Patients may have a living will or assign a health power of attorney in the event they can no longer make decisions themselves.
- You have an obligation to tell the patient everything.

- Do not give false hope to patients, but recognize that they might hope for things other than a cure: quality of life, less pain, a painless death.
- Allow patients to talk about their feelings.
- Encourage patients to avoid social isolation and stay engaged indifferent activities.

Hospice care

Is care for terminally-ill patients with a life expectancy ≤6 months.

- It provides care and support for patients (and their families) with advanced disease; the goal is to help dying patients with peace, comfort, and dignity.
- Hospice care consists of medical care, psychological support, and spiritual support.
- It may be delivered at specialized facilities or at home.

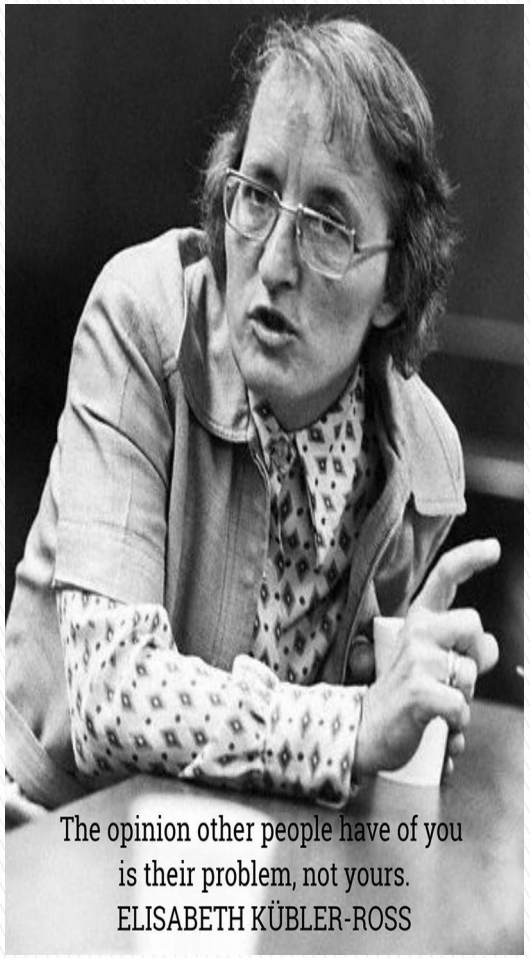

Nurse
Therapists
Physician
Patient/
Family
Spiritual
Counelors
Volunteers
Berevement
Counselor
Social Work

Death & bereavement

Patients may cycle through the Kubler-Ross stages of adjustment.

The stages need not occur in order.

- Denial
- Anger
- Bargaining
- Depression
- Acceptance



Kübler-Ross Grief Cycle

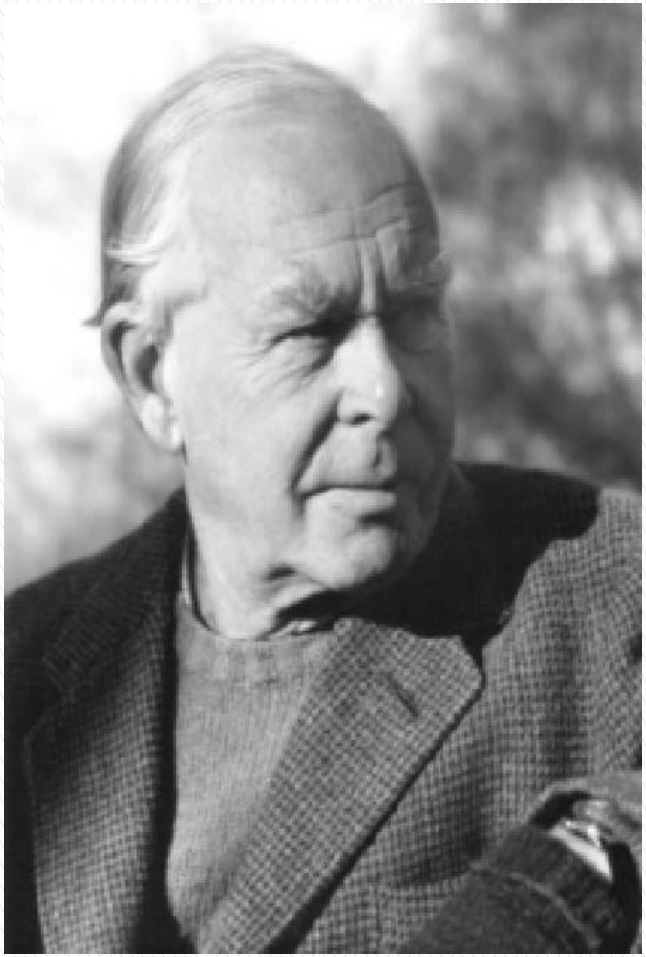
Information and Communication

Emotional Support

Guidance and Direction

Attachment

- John Bowlby coined the term ‘attachment’ to describe a child’s connection to its mother
- Bonding is mother’s connection to child



- Attachment behaviour is that displayed by the infant towards the attachment figure (the focus of such behaviour), from whom affection, comfort and warmth are sought.

Bowlby described four phases to normal (healthy) attachment:

- Pre-attachment (0–2 months): preference for human rather than environmental comfort
- Attachment in the making (2–8 months): infant increasingly responds to primary caregiver only.

- Clear-cut attachment (8–24 months): uses caregiver as base and protests at their departure.

- Goal-directed partnership (from 2–3 years): begins to understand caregiver's goals/ motives and Learns trust (caregiver is reliable), reciprocity (relationships are two-way)

Attachment and Loss in Children

Protest (usually seen during short-term separation, e.g., up to two weeks)

–– Crying, screaming, and clinging when parents leave

–– Anger toward parent upon return

• Despair

–– Protesting stops

––sadness

–– Child appears calmer but may be withdrawn

• Detachment

–– If separation continues, the child will start to engage with others but will reject caregiver and remain angry

–– Indifference upon caregiver's return

Table 3-5. Normal Grief vs. Depression

Normal Grief	Depression
Normal up to 1 year	After 1 year, sooner if symptoms severe
Crying, decreased libido, weight loss, insomnia	Same but more severe
Longing, wish to see loved one, may think they hear or see loved one in a crowd (illusion)	Abnormal overidentification, personality change
Loss of other	Loss of self
Suicidal ideation is rare	Suicidal ideation is common
Self-limited, usually <6 months	Symptoms do not stop (may persist for years)
Antidepressants not helpful	Antidepressants helpful

suicide

Suicide

- Is the 10th leading cause of death in the United States.
- Men > women; however, women attempt suicide more often (pills/poison).
- Elderly are most successful and attempt less frequently.
- Adolescents attempt more frequently.
- Firearms account for >50% of all suicides.
- 50% have seen a physician in the past month.

High risk factors for suicide include:

- Previous suicide attempt
- Age
- Gender
- Middle & low socioeconomic status (SES)
- Unemployed
- Medical/psychiatric comorbidities
- Hopelessness
- Isolation
- Initiation of antidepressant pharmacotherapy (suicide window)


THANKS FOR YOUR
ATTENTION