

HPS202 CHILD AND ADOLESCENT DEVELOPMENT

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TOPIC 1: BIOLOGICAL DEVELOPMENT

Genetics:

1. Describe DNA:

Genes are part of chromosomes which are long strands of deoxyribonucleic acid (DNA). A DNA strand looks like a twisted ladder, the genes are like a series of letters strung along each rung. The letter sequence of each gene contains information on building specific molecules.

Humans have 46 chromosomes (23 pairs) with approximately 23,000 genes. 22 pairs are numbered from 1 to 22 and called autosomes. The remaining pair are sex chromosomes, an X and Y in males, and two X chromosomes in females.

2. Describe how characteristics are inherited from our biological mother and father:

Each variation of the gene is called an allele and we can inherit different alleles of the gene pair (one from each parent) in different ways).

3. Describe the following types of inheritance:

i. Dominant and recessive:

Dominant inheritance is when one allele of a gene is dominant within the pair e.g. for blood types the A allele is dominant over the O allele so if someone has an A allele from the mother and O allele from the father (AO) their blood type will be A because the A is dominant.

ii. Co-dominant genes:

Sometimes each allele in the gene pair carries equal weight and create a combined physical characteristic e.g. for blood groups the A allele is as strong as the B allele so someone with one copy of each has the blood group AB.

4. Difference between genotype and phenotype:

Children initially express negations by placing a negative word in front of the statement “*no mitten*” which have ambiguous meanings. This ambiguity is clarified when the child begins to insert the negative word into the sentence “*I not wear mitten*”, finally, they learn to combine the proper auxiliary verbs to negative sentences.

By age 3 most children have begun using complex sentences and at age 5-6 they use most of the grammatical rules of their language and speaking much like adults do despite never having had a formal grammar lesson.

a. Semantic development:

2-5 year old's are beginning to understand relational constructs like big/little, wide/narrow, in/on, before/after, you/I. Big/little is the first to appear and a 2-2½ children can use it to draw normative conclusions e.g. this is bigger than most toys, and perceptual inferences e.g. this toy is littler than that specific toy. By 3 they can use these terms to make functional judgements e.g. that doll's clothing is too big to fit this doll.

Children younger than 4 or 5 frequently understand sentences in the active voice e.g. the girl hit the boy but fail to understand the same idea in the passive voice e.g. the boy was hit by the girl. However, 3 year old's can understand irreversible passives e.g. the lolly was eaten by the girl because it is ridiculous to assume that the lolly was eating the girl. This is probably because children rarely hear the passive voice directed at them, Inuktitut and Zulu children understand passive sentences before Western children because they're regularly used around them.

b. Development of pragmatics and communication skills:

3 year old's are beginning to understand illocutionary intent, which is that the underlying meaning of an utterance may not be literal. 3-5 year old's are also learning that they must tailor their messages to their audience to communicate effectively.

Referential communication skills are the ability to produce clear, unambiguous messages and detect any ambiguities in others' speech and ask for clarification. Even 3 year old's recognise that they can't carry out an unintelligible or impossible request, but 3-5 year old's aren't very good at detecting ambiguities in the literal meaning of oral messages.

TOPIC 7: PROBLEMS IN DEVELOPMENT: ADHD

ADHD overview: definition and prevalence:

1. Understand the diagnostic criteria for ADHD according to DSM-5 criteria:

ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. Symptoms must be present before age 12, present in two or more settings, must interfere with functioning, and don't occur exclusively during a psychotic disorder or are better explained by another mental disorder.

Inattention is characterised by at least six of (a) failing to give attention to details or making careless mistakes (b) difficulty sustaining attention in tasks or play activities (c) doesn't listen when spoken to directly (d) doesn't follow through on instructions (e) difficulty organising tasks and activities (f) avoids tasks that require sustained mental effort (g) often loses things necessary for tasks or activities (h) easily distracted by extraneous stimuli (i) often forgetful in daily activities.