Test Bank for Psychology Frontiers and Applications 8th Edition by Passer

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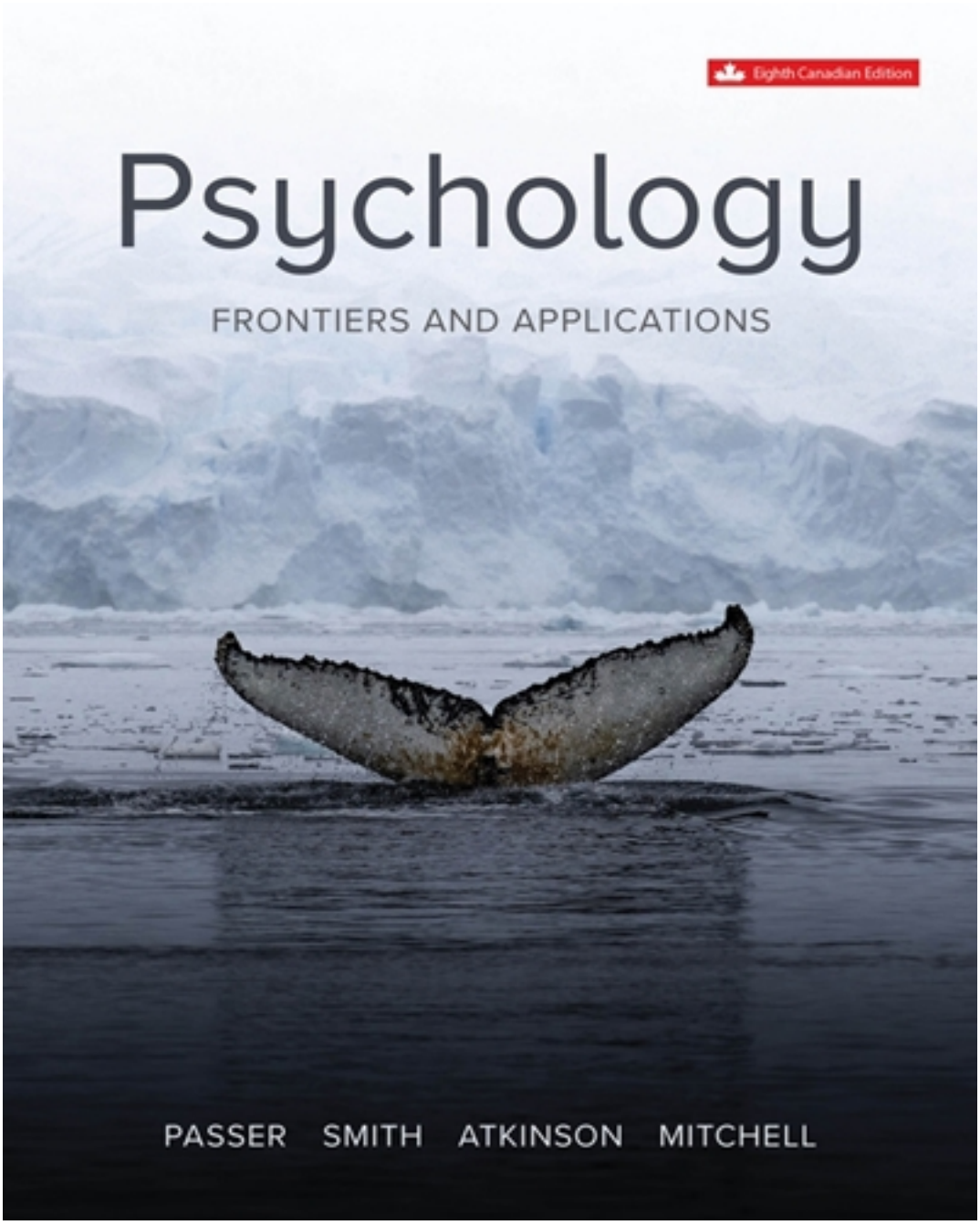

Test Bank

Essentials Of Lifespan Development Edition 2 by Santrock

CORRECT ANSWERS ARE LOCATED IN THE 2ND HALF OF THIS DOC.

MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

1) Red-feathered and blue-feathered birds occupy the same environment. The birds with the red feathers are better able to survive and avoid predators. This means that the population of red-feathered birds will increase in future generations. The physical characteristic of red feathers is an example of _____
   A) genetic selection.
   B) adaptation.
   C) natural selection.
   D) genetic survival.

2) _____ introduced the theory of evolution by natural selection in 1859.
   A) Sigmund Freud
   B) Charles Darwin
   C) Stephen Hawking
   D) Wilhelm Wundt

3) If a baboon learns to eat different kinds of fruit instead of relying on only one kind for its nutritive needs, we would argue that this behaviour promotes its survival. Thus, the behaviour is

   A) adaptive.
   B) aggressive.
   C) dominant.
   D) submissive.

4) Evolution takes place
   A) over the course of many generations.
   B) almost immediately.
   C) when a species is ready for it.
   D) because of active attempts at change on the part of a species.

5) Psychology's newest approach, _____, emphasizes the importance of adaptation, reproduction, and "survival of the fittest" in shaping behaviour.
   A) behavioural psychology
   B) humanistic psychology
   C) cognitive psychology
   D) evolutionary psychology

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6) According to evolutionary developmental psychologists, many evolved psychological mechanisms are _____. That is, the mechanisms apply only to a specific aspect of a person's psychological makeup.
   A) domain-specific
   B) maladjusted
   C) nonoperational
   D) unconditional

7) Which of the following statements is true of evolutionary developmental psychology?
   A) Many evolved psychological mechanisms apply only to a specific aspect of a person's psychological makeup.
   B) The mind is a general-purpose device that can be applied equally to a vast array of problems.
   C) All behaviours that were adaptive for our prehistoric ancestors serve us well today.
   D) Evolution has not impacted human development.

8) The food-scarce environment of our ancestors likely led to humans' propensity to gorge when food is available and to crave high-caloric foods, a trait that might lead to an epidemic of obesity when food is plentiful. This illustrates how
   A) socialization influences the development of behaviour and cognitive skills in human beings.
   B) evolved mechanisms are not always adaptive in contemporary society.
   C) organisms pass on characteristics they acquire during their lifetime to their offspring.
   D) the benefits of evolutionary selection decrease with age.

9) In the context of evolutionary psychology, Albert Bandura (1998) acknowledged that
   A) social behaviour is the product of "one sided evolutionism".
   B) evolutionary pressures created changes in biological structures but that such changes in turn led to changing pressures in the social environment.
   C) evolution dictated behaviour.
   D) social behaviour is strictly a product of evolved biology.

10) As an alternative to "_____ evolutionism" presented in evolutionary psychology, Albert Bandura proposed a _____ view.
   A) bidirectional; unidirectional
   B) one-sided; bidirectional
   C) dynamic; linear
   D) biased; balanced

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11) A fertilized human egg cannot grow into a crocodile, duck, or fish specifically because of
A) social influence.
B) environmental influence.
C) adaptive behaviour.
D) genetic code.

12) _____ is a complex molecule with a double helix shape, like a spiral staircase, and contains genetic information.
A) RNA
B) A chromosome
C) DNA
D) A ribosome

13) _____, the units of hereditary information, are short segments of deoxyribonucleic acid (DNA). They help cells to reproduce themselves and to assemble proteins.
A) Genes
B) Chromosomes
C) RNA
D) Ribosomes

14) The nucleus of each human cell contains _____, which are threadlike structures made up of deoxyribonucleic acid (DNA).
A) mitochondria
B) ribosomes
C) chromosomes
D) mesosomes

15) _____ are the building blocks of cells as well as the regulators that direct the body's processes.
A) Genes
B) Proteins
C) Ribosomes
D) DNA

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16) Adam, who has a cardiovascular disease, participated in a research study to identify genetic variations linked to cardiovascular disease. His DNA, along with DNA from other patients suffering from the same cardiovascular disease, was obtained. For the purpose of comparison, the researchers also took DNA samples from participants who did not have the disease. Each participant's DNA was assessed to determine markers of genetic variation. The researchers found that some genetic variations occurred more frequently in people who had the cardiovascular disease. This led them to pinpoint the region in the human genome linked to the disease. Which of the following approaches to gene identification and discovery did the researchers use in this study?

A) next-generation sequencing
B) linkage analysis
C) the Thousand Genomes Project
D) the genome-wide association method

17) Environmental conditions such as light, day length, nutrition and behaviour can affect gene expression through the effects of

A) mutation.
B) protein synthesis.
C) hormones.
D) mitosis.

18) Which of the following statements is true of the activity of genes?

A) Genes are not collaborative.
B) A single gene codes for a single, specific protein.
C) Genetic expression is unaffected by environmental factors.
D) Events that occur inside of the cell can excite or inhibit genetic expression.

19) Roberta's mother and grandmother are both experienced childhood trauma as a result of the residential school system. Studies on the epigenetic effects of trauma suggest that

A) Roberta's mother and grandmother will be at increased risk of post-traumatic stress, but that Roberta will show a reduced risk of psychological disorders.
B) Roberta may be at an increased risk of chronic conditions, such as diabetes or heart disease.
C) Roberta, but not her mother or grandmother, will have altered gene-expression.
D) changes associated with childhood trauma are irreversible.

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20) Meiosis is a specialized form of cell division that occurs to form
A) split zygotes.
B) extra chromosomes.
C) somatic cells.
D) eggs and sperm.

21) _____ is a stage in reproduction whereby an egg and a sperm fuse to create a single cell.
A) Fertilization
B) Osmosis
C) Meiosis
D) Mitosis

22) During the process of _____, a cell's nucleus—including the chromosomes—duplicates itself and the cell divides, resulting in the formation of two cells.
A) meiosis
B) osmosis
C) fertilization
D) mitosis

23) A cell that contains 46 chromosomes arranged in 23 pairs undergoes the process of _____ to produce two new cells, each containing the same DNA as the original cell, arranged in the same 23 pairs of chromosomes.
A) mitosis
B) osmosis
C) meiosis
D) fertilization

24) Which of the following is true of mitosis?
A) Mitosis is the cellular reproduction that occurs to form the sperm and the egg cells.
B) Mitosis results in the formation of four new cells.
C) Mitosis results in the formation of two new cells with 23 pairs of chromosomes.
D) Mitosis results in the formation of cells which contain only half the genetic material of the parent cell.

25) A cell that contains 23 pairs of chromosomes divides by mitosis to form two new cells. How many pairs of chromosomes does each new cell contain?
A) 12
B) 23
C) 6
D) 48

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26) Except for the sperm and the egg, all cells in the human body have _____ chromosomes.
A) 10
B) 32
C) 23
D) 46

27) During _____, a cell of the testes in men or ovaries in women duplicates its chromosomes and then divides twice, thus forming four cells, each of which has only half the genetic material of the parent cell.
A) meiosis
B) mitosis
C) osmosis
D) fertilization

28) In human beings, by the end of meiosis, each egg or sperm has _____ chromosomes.
A) 46 paired
B) 23 unpaired
C) 23 paired
D) 46 unpaired

29) During fertilization, an egg and a sperm fuse to create a single cell called a _____.
A) blastocyst
B) fetus
C) gamete
D) zygote

30) Sasha's 23rd chromosome pair contains two X chromosomes. This indicates that Sasha
A) has Down syndrome.
B) has fragile X syndrome.
C) is a female.
D) is a male.

31) Jule's 23rd chromosome pair consists of an X chromosome and a Y chromosome. This indicates that Jule
A) has Down syndrome.
B) has XYY syndrome.
C) is a female.
D) is a male.

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32) Combining the genes of two parents in offspring increases _____ in the population, which is valuable for a species because it provides more characteristics for natural selection to operate on.
A) the number of males
B) the number of females
C) genetic variability
D) genetic uniformity

33) In Canada, the sale of contraceptives was illegal until
A) 1953.
B) 1969.
C) 1976.
D) 1988.

34) Melody and Harmony are identical twins. This means that they developed from
A) a single egg that was fertilized by a single sperm.
B) a single egg that was fertilized by two different sperms.
C) two eggs that were fertilized by a single sperm.
D) two eggs that were fertilized by two different sperms.

35) Jerome and Tyrone are fraternal twins. This means that they developed from
A) a single egg that was fertilized by a single sperm.
B) a single egg that was fertilized by two different sperms.
C) two eggs that were fertilized by a single sperm.
D) two eggs that were fertilized by two different sperms.

36) A mistake by the cellular machinery, or damage from an environmental agent such as radiation, may produce a _____, which is a permanently altered segment of DNA.
A) susceptibility gene
B) vulnerability gene
C) longevity gene
D) mutated gene

37) _____ genes are those that make an individual more vulnerable to specific diseases or accelerated aging.
A) Susceptibility
B) Longevity
C) Vulnerability
D) Mutated

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38) Ethel is 50 years old but appears much more aged. Most of Ethel's relatives have not lived past the age of 60. Which of the following genes are responsible for the accelerated aging observed in Ethel and her family members?
A) susceptibility genes
B) longevity genes
C) vulnerability genes
D) mutated genes

39) _____ genes are those that make an individual less vulnerable to certain diseases and more likely to live to an older age.
A) Susceptibility
B) Longevity
C) Vulnerability
D) Mutated

40) Erin, a 90-year-old, is healthy and leads an active lifestyle. Most of her relatives have lived to an old age. Researchers have found that Erin's family carries genes related to stress resistance, immunity, and metabolism that help extend life by repairing and protecting body tissues. In this scenario, which of the following genes is most likely responsible for Erin living to an old age?
A) susceptibility genes

B) longevity genes
C) complimentary genes
D) mutated genes

41) Carla is diagnosed with breast cancer. She informs her doctor that her mother and her grandmother have also had breast cancer. The doctor explains to Carla that she has specific genes that make her more vulnerable to breast cancer and that she is genetically predisposed to develop the disease. In this scenario, these genes are known as
A) susceptibility genes.
B) conditional lethal genes.
C) complementary genes.
D) duplicate genes.

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42) While studying a sample for height differences, researchers observed that the height of the participants varied significantly regardless of whether the participants' parents were short or tall. This suggests that the physical characteristic of height is most likely an example of
A) niche-picking.
B) X-linked inheritance.
C) genetic imprinting.
D) polygenic inheritance.

43) Emma and Anna are identical twins who were adopted by different families a few weeks after their birth. Although genetically identical, they grew up with different physical and psychological characteristics. For example, though both inherited a tendency to grow large, Anna was slim and athletic because of the active lifestyle practiced in her adoptive family. This variability can be explained by how
A) each zygote is unique.
B) longevity genes can make an individual less vulnerable to certain diseases.
C) for each genotype, a range of phenotypes can be expressed.
D) mutated genes can be a source of genetic variability.

44) Vanda's genetic heritage comprising her actual genetic material makes up her
A) phenotype.
B) metabolome.
C) genotype.
D) proteome.

45) _____ is the way an individual's genotype is expressed in observed and measurable characteristics.
A) RNA
B) DNA
C) A phenotype
D) A stereotype

46) Marly describes her friend Gina as having blond hair, green eyes, and fair skin with freckles. Marly has described Gina's
A) genotype.
B) genetic imprint.
C) phenotype.
D) X-linked inheritance.

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47) Phenotypes include _____ and _____ characteristics.
A) physical; environmental
B) conscious; subconscious
C) biological; ecological
D) physical; psychological

48) For each genotype, a range of _____ can be expressed, thus providing a source of variability.
A) genetic imprints
B) phenotypes
C) karyotypes
D) monotypes

49) In some cases of genotypic expression, one gene of a pair always exerts its effects overriding the potential influence of the other gene. This is the _____ principle.
A) sex-linked genes
B) dominant-recessive genes
C) genetic imprinting
D) polygenic inheritance

50) Clark's eyes are brown in color. However, both his parents have eyes that are blue in color. According to the dominant-recessive genes principle, the most likely reason for Clark's eyes being brown in color is that
A) Clark's grandparents had brown-colored eyes.
B) Clark has a mutation in his genotype resulting in the change in eye color.
C) Clark's family history shows that the family has a dominant gene for brown-colored eyes.
D) Clark's parents are carriers of genes contributing to brown eyes.

51) Carla has brown hair, and her husband also has brown hair. However, Carla's son is born with blond hair. This most likely indicates that Carla's son
A) inherited the dominant genes for blond hair.
B) inherited the recessive genes for blond hair.
C) has a susceptibility gene.
D) has a longevity gene.

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52) Carrie's parents have brown hair. However, Carrie gets genes for blond hair from both of her parents, and as a result she has blond hair. This indicates that the gene for blond hair is a
A) recessive gene.
B) dominant gene.
C) susceptibility gene.
D) longevity gene.

53) A(n) _____ gene overrides the potential influence of a recessive gene.
A) longevity
B) dominant
C) susceptible
D) aggressive

54) A recessive gene exerts its influence only if both genes of a pair are
A) recessive.
B) complementary.
C) conditional lethals.
D) dominant.

55) Females who have one abnormal copy of a mutated gene on the X chromosome are known as
A) inhibitors.

B) patients.
C) carriers.
D) promoters.

56) Most individuals who have X-linked diseases are males because
A) males have only one copy of the X chromosome.
B) the diseases are triggered by the male sex hormone, testosterone.
C) males have an extra Y chromosome.
D) males have an extra X chromosome, making them XXY.

57) Which of the following conditions is due to an X-linked inheritance?
A) Beckwith-Wiedemann syndrome
B) hemophilia
C) Wilms tumor
D) diabetes

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58) Genetic testing has found that Gary, Ben, Tara, and Matt all carry a copy of a gene for hemophilia. However, Tara, who is the only female out of the four, does not show any signs of the disease, whereas Gary, Ben, and Matt have developed the disease. In this scenario, it can be inferred that hemophilia is most likely a(n)
A) X-linked disease.
B) sex-linked chromosomal abnormality.
C) gene-linked abnormality.
D) autosomal dominant disorder.

59) Which of the following is an example of a chromosomal abnormality that occurs when whole chromosomes do not separate properly during meiosis?
A) down syndrome
B) hemophilia
C) Huntington's disease
D) sickle-cell anemia

60) Jason, a 4-year-old, has an intellectual disability and has shorter limbs than other children his age. His pediatrician observes that Jason has a thickened tongue and an extra fold of skin over his eyelids. Jason's mother informs the pediatrician that she was 30 at the time of Jason's birth and that he was born with a flat skull. From this information, the pediatrician will most likely diagnose Jason with

A) Turner syndrome.
B) Klinefelter syndrome.
C) Down syndrome.
D) XYY syndrome.

61) Which of the following is true of Down syndrome?
A) It primarily occurs in African American children.
B) It occurs when genetic imprinting goes awry.
C) Its symptoms include retardation of motor and mental abilities.
D) It is caused by the presence of an extra copy of chromosome Y.

62) Which of the following women has the highest probability of giving birth to a child with Down syndrome?
A) Sarah, a 21-year-old woman
B) Jane, a 41-year-old woman
C) Ella, a 27-year-old woman
D) Destiny, a 38-year-old woman

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63) In Canada, the sterilization of indigenous women
A) was often conducted without consent, or with coerced consent.
B) was only conducted in cases where a future pregnancy may pose a significant threat to the woman's health.
C) was conducted only on women of low intelligence, as measured by standardized tests.
D) continues to be officially denied by the Canadian government.

64) Timothy's wife is having trouble conceiving a child despite reports on her reproductive fitness being normal. However, on examining Timothy, the doctor determines that he has physical differences, including undeveloped testes and breasts. The doctor informs Timothy that these symptoms are due to Timothy having an extra X chromosome, making him XXY instead of XY. Timothy would likely be diagnosed with
A) Down syndrome.
B) Fragile X syndrome.
C) Klinefelter syndrome.
D) Turner syndrome.

65) Tristan has a genetic disorder because of which he has an intellectual disability and mild physical differences. His mother informs Tristan's pediatrician that Tristan has an extremely short attention span and autism-like symptoms. Based on Tristan's symptoms, the pediatrician is most likely to diagnose Tristan with

A) Fragile X syndrome.
B) XYY syndrome.
C) Turner syndrome.
D) Tay-Sachs disease.

66) Which of the following is true of fragile X syndrome?
A) It occurs more frequently in males than in females.
B) It occurs only in females.
C) It makes a female XO instead of XX.
D) It results in XXY males.

67) Harry is a child with autism and has a short attention span for any task. His intellectual abilities are much lower than other children his age. His pediatrician reveals that Harry has a genetic disorder due to an abnormality in his X chromosome, which has become constricted. Harry most likely suffers from
A) Turner syndrome.
B) Fragile X syndrome.
C) XYY syndrome.
D) Klinefelter syndrome.

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68) Natasha is 14 years old, but does not appear to have undergone the typical changes associated with female puberty. She has some subtle physical differences, but normal intelligence. Natasha's doctor informs her parents that she is missing an X chromosome, making her XO instead of XX. The symptoms and the cause of the symptoms most likely indicate that Natasha has _____.
A) Fragile X syndrome
B) XYY syndrome
C) Klinefelter syndrome
D) Turner syndrome

69) The belief that the genetic quality of the human population can be selectively improved through control of reproductive rights is called
A) eugenics.
B) epigenetics.
C) genomics.
D) polygenics.

70) Which of the following statements about Turner syndrome is true?
A) Turner syndrome occurs exclusively in females.
B) People with Turner syndrome have an extra X chromosome.
C) Females with Turner syndrome undergo very early and exaggerated puberty.
D) Turner syndrome occurs in approximately 1 of every 25,000 live female births.

71) Which of the following is a true statement regarding forced sterilization in Canada?
A) The last case of forced sterilization in Canada occurred in 1986
B) Patient consent was only obtained in about 50% of cases of forced sterilization
C) Most of the cases of forced sterilization in Canada occurred in Ontario and Quebec
D) Indigenous women were overrepresented among those to undergo forced sterilization

72) Brianna goes to a doctor who specializes in identifying genetic flaws to help prevent the risk of abnormalities. This doctor is called
A) a genealogist.
B) a genetic counselor.
C) a chromosomal advisor.
D) a physiologist.

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73) Phenylketonuria (PKU) is a genetic disorder in which an individual cannot properly metabolize _____, an amino acid.
A) phenylamine
B) phenylalanine
C) phenylacetylene
D) phenylacetamide

74) Which of the following is true of phenylketonuria?
A) It may be effectively managed if treatment starts within the first two weeks of life.
B) It is a chromosomal disorder.
C) It results in death by the age of five.
D) It is caused by an accumulation of lipids in the nervous system.

75) Mateo, an infant, is on a special diet as his parents are aware that he has a genetic disorder in which he cannot metabolize phenylalanine, an amino acid. Mateo's parents are also aware of the importance of this diet and that excess phenylalanine buildup in the infant will produce intellectual disability and hyper-activity. This genetic disorder is called
A) Huntington disease.
B) phenylketonuria.
C) sickle-cell anemia.
D) Tay-Sachs disease.

76) Which of the following is a gene-linked abnormality?
A) Down syndrome
B) Phenylketonuria (PKU)
C) Turner syndrome
D) Klinefelter syndrome

77) Tamara, whose parents were born in Nigeria, is born with a genetic disorder that causes her body's red blood cells to become hook shaped instead of being disk shaped, impairing the normal oxygen-carrying capacity of the cells. The doctors explain to Tamara's parents that this condition, however, makes her resistant to malaria. Which of the following disorders is Tamara most likely suffering from?
A) Tay-Sachs disease
B) Sickle-cell anemia
C) Leukemia
D) Huntington's disease

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78) _____ is a genetic abnormality in which delayed blood clotting causes internal and external bleeding.
A) Hemophilia
B) Phenylketonuria
C) Sickle-cell anemia
D) Tay-Sachs disease

79) Paul has a rare gene-linked abnormality. Because of this disease, Paul suffers from internal and external bleeding due to delayed blood clotting. Which of the following will effectively treat Paul's condition?
A) hydroxyurea
B) blood transfusions
C) anticoagulants
D) blood irradiation therapy

80) Samantha is diagnosed with a genetic disorder. She has difficulty in breathing, and her digestion is hampered. The doctors tell her she will likely have a reduced lifespan, perhaps only 60 years. In this scenario, which of the following genetic disorders is Samantha most likely suffering from?
A) Cystic fibrosis
B) Huntington's disease
C) Phenylketonuria
D) Tay-Sachs disease

81) _____ is a gene-linked abnormality in which the central nervous system deteriorates, producing problems in muscle coordination as well as cognitive and emotional symptoms.
A) Cystic fibrosis
B) Phenylketonuria
C) Huntington's disease
D) Tay-Sachs disease

82) Which of the following would be an appropriate course of treatment for a person diagnosed with cystic fibrosis?
A) medication for pain, antibiotics, blood transfusions, and hydroxyurea
B) insulin treatment
C) blood transfusions/injection
D) physical and oxygen therapy, synthetic enzymes, and antibiotics

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83) Mary and Jim are expecting a child. During prenatal diagnostic testing, the doctor confirms that the fetus has a genetic abnormality that will lead to a disorder causing brain and spine abnormalities. He also tells the parents that the abnormality can be treated with corrective surgery at birth, orthopedic devices, and physical or medical therapy. Which of the following disorders is Mary and Jim's child suffering from?
A) Spina bifida
B) Tay-Sachs disease
C) Phenylketonuria
D) Huntington's disease

84) Lindsay's body does not produce enough insulin, causing abnormal metabolism of glucose. She is receiving insulin treatment. Lindsay has
A) spina bifida.
B) hemophilia.
C) phenylketonuria.
D) diabetes.

85) Eric and Andre are "identical" twins, but in many ways they are not alike. Eric is the more outgoing of the two, while Andre usually gets better grades in school. What might you tell these two about the source of these differences?
A) They must be dizygotic, rather than monozygotic twins.
B) These traits are likely not influenced significantly by our DNA.
C) Even in monozygotic twins, DNA can differentiate over time through mutation and epigenetic effects.
D) Each twin may be unconsciously manifesting these differences in order to differentiate themselves.

86) Epigenetic changes are caused by
A) mutations that change the genetic code of an individual.
B) modification of gene expression.
C) the blocking or enzymatic transformation of proteins produced by DNA.
D) the buildup of toxins which destroy useful cells over time.

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87) Gwendolyn, a pregnant woman, is undergoing a prenatal medical procedure in which her doctor directs high-frequency sound waves into her abdomen to create a visual representation of the fetus's inner structures. The doctor informs her that the procedure will reveal the number of fetuses she is carrying, detect abnormalities in the fetus, and give clues to the sex of the baby. In this scenario, which of the following prenatal medical procedures is Gwendolyn most likely undergoing?
A) chorionic villus sampling
B) triple screen
C) amniocentesis
D) ultrasound sonography

88) _____ refers to an abnormally small brain of a fetus that can lead to intellectual disability.
A) Spina bifida
B) Klinefelter syndrome
C) Hemophilia
D) Microencephaly

89) _____ uses a powerful magnet and radio images to generate detailed images of the body's organs and structures.
A) PEGASUS
B) MRI
C) Ultrasound sonography
D) Amniocentesis

90) Esperanza, who is in the 11th week of her pregnancy, is undergoing a prenatal diagnostic test that involves the removal of a small sample of the placenta. The doctor informs her that the test may detect any genetic defects and chromosomal abnormalities in the fetus and that she will have to wait for at least 10 days for the diagnosis. In this scenario, which of the following prenatal medical procedures is Esperanza most likely undergoing?
A) chorionic villus sampling (CVS)
B) amniocentesis
C) Fetal MRI
D) ultrasound sonography

91) Which of the following is a disc-shaped group of tissues that links the fetus to the mother's uterus?
A) the fallopian tube
B) the ovary
C) the placenta
D) the cervix

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92) Amniocentesis brings a small risk of
A) intellectual disabilities.
B) limb deformity.
C) loss of healthy fetuses.
D) Down syndrome.

93) Which of the following statements regarding chorionic villus sampling (CVS) and amniocentesis is true?
A) Both CVS and amniocentesis provide valuable information about the presence of birth defects.
B) Both CVS and amniocentesis increase the risk of miscarriage.
C) Both CVS and amniocentesis increase the risk of limb deformities in the fetus.
D) Amniocentesis allows a decision on abortion to be made sooner than CVS.

94) Which of the following is a non-invasive prenatal test conducted at approximately 7 weeks of gestation, which can be used to detect structural abnormalities in the fetus?
A) Fetal MRI
B) Amniocentesis
C) Ultrasound sonography
D) chorionic villus sampling (CVS)

95) Don and Ellie are trying to conceive a baby. How long should they wait before they suspect infertility?
A) 3 months
B) 12 months
C) 18 months
D) 24 months

96) Which of the following is most likely to be a cause of infertility in a woman?
A) unblocked fallopian tubes
B) increased muscle mass
C) eggs lacking motility
D) a condition that hinders the implantation of the embryo into the uterus

97) The assisted reproduction technique in which a sperm and eggs are combined in a laboratory, and then successfully fertilized eggs are transferred to the woman's uterus is called
A) artificial insemination.
B) in vitro fertilization.
C) spermatogenesis.
D) zygote intrafallopian transfer.

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98) David and Kelly are seeking help for infertility. Under their physician's guidance, they decide to undergo a procedure in which Kelly's eggs are combined in a laboratory dish with her husband's sperms. What is this procedure called?
A) gamete transfer
B) intracytoplasmic sperm injection
C) zygote intrafallopian transfer
D) in vitro fertilization

99) Which of the following is the main risk factor that a couple must be aware of when undergoing fertility treatments?
A) high birth weight in babies conceived through such treatments
B) an increase in the possibility of multiple births when such treatments are used
C) negative psychological impact on children conceived through such treatments
D) significant differences in developmental outcomes for children conceived through such treatments

100) _____ is the field that seeks to discover the influence of heredity and environment on individual differences in human traits and development.
A) Behaviour influence
B) Behaviour therapy
C) Behaviour genetics
D) Behaviour development

101) In twin studies, it is most common to
A) assess the behavioural similarity of identical twins compared with the behavioural similarity of fraternal twins.
B) determine the behavioural similarity of fraternal twins compared with the behavioural similarity of non-twin siblings.
C) to conduct genetic studies of the difference between identical twins in their genetic makeup.
D) to compare adopted fraternal twins with each other.

102) Rachel loves to read books, and she also encourages her daughter to read by regularly taking her to the local library and buying her lots of books. Rachel's daughter is now an avid reader. This reflects a(n) _____ correlation.
A) passive genotype-environment
B) evocative genotype-environment
C) influential genotype-environment
D) active (niche-picking) genotype-environment

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103) Tracy's parents are avid sports fans. Since she was a child, they took her to numerous baseball and football games, and Tracy regularly watched the sports channel with her dad. When she was old enough, her parents made her join the little league team at her school and she performed well. This is an example of a(n)

A) evocative genotype-environment correlation.
B) active (niche-picking) genotype-environment correlation.
C) passive genotype-environment correlation.
D) gene-gene correlation.

104) _____ correlations occur because a child's genetically influenced characteristics elicit certain types of environments.

A) Passive genotype-environment
B) Evocative genotype-environment
C) Influential genotype-environment
D) Active (niche-picking) genotype-environment

105) Charlie is a cooperative, attentive child and is a favorite at home and school; he receives positive, instructive responses from adults. This is indicative of a(n)

A) passive genotype-environment correlation.
B) evocative genotype-environment correlation.
C) influential genotype-environment correlation.
D) active (niche-picking) genotype-environment correlation.

106) Timothy is a shy 6-year-old who is usually withdrawn in class. He is always distracted in class and refuses to cooperate with other students during class activities. He does not volunteer to answer questions, and as his teachers find it difficult to elicit any response from him, they choose to ignore him. He is not liked by his classmates as he never shares his belongings. As a result, he mostly plays by himself. According to Sandra Scarr's description of the three ways that heredity and environment can be correlated, which of the following correlations is most likely exhibited in this scenario?

A) passive genotype-environment correlation
B) active genotype-environment correlation
C) niche-picking genotype-environment correlation
D) evocative genotype-environment correlation

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107) Brad is an athletic child, and he is in every sports team in school as he enjoys sports immensely. He regularly practices football, tennis, and basketball and hopes to become the captain of one of the sports teams. This scenario most likely reflects _____ correlations that occur when children seek out environments that they find compatible and stimulating.

A) passive genotype-environment
B) evocative genotype-environment
C) active (niche-picking) genotype-environment
D) influential genotype-environment

108) According to Sandra Scarr's description of the three ways that heredity and environment can be correlated, passive genotype-environment correlations occur because

A) biological parents provide a rearing environment for a child.
B) children seek out environments that are stimulating.
C) a child's genetically influ-enced characteristics elicit certain types of environments.
D) certain genes evoke environmental support.

109) Which of the following is an example of a passive genotype-environment correlation?

A) Uncooperative, distractible children receive more unpleasant and disciplinary action from parents and teachers.
B) Outgoing children tend to seek out social contexts in which to interact with people.
C) Parents who have a genetic predisposition to be musically inclined encourage their children to learn how to play a musical instrument.
D) Infants who smile more receive more attention from the individuals in their social environment.

110) The _____ view states that development is the result of an ongoing, bidirectional interchange between heredity and the environment.

A) epigenetic
B) biosocial
C) sociogenic
D) congenital

111) Infertility affects approximately _____ percent of couples in Canada who are trying to conceive.

A) 2-4
B) 5
C) 11.5-15
D) 22.5

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112) Sandra Scarr's description of _____ is similar to the view expressed in Bronfenbrenner's Bioecological model (described in Chapter 1) that the individual is not a passive recipient of experiences in their environmental settings, but someone who helps to construct the settings for themselves.

A) Passive genotype-environment correlations
B) Evocative genotype–environment correlations
C) Reactive genotype-environment correlations
D) Active (niche-picking) genotype–environment correlations

113) The observation that young adults who have a mother living nearby produce more children than those who do not is consistent with which of the following concepts from the evolutionary perspective?

A) Adaptation
B) Natural selection
C) One-sided biological determinism
D) Swiss army knife theory

114) "Evolutionary pressures created changes in biological structures that allowed the use of tools; in turn, tool use enabled our ancestors to manipulate the environment, constructing new environmental conditions. These new environmental conditions raised new selection pressures, leading to the evolution of specialized biological systems for consciousness, thought, and language." This supports the notion that many of our evolved psychological mechanisms are:

A) domain-specific.
B) nondomain-specific.
C) only adaptive for our prehistoric ancestors.
D) the result of the bidirectional influence of biological and environmental factors.

115) Research has shown that infants with the short version of the gene—serotonin transporter gene 5-HTTLPR—develop a disorganized attachment styles only when their mothers also show slow or inconsistent in responses to them. The short 5-HTTLPR gene would be example of a(n):

A) Phenotypic gene
B) Susceptibility gene
C) Longevity gene
D) Mutated gene

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116) Many psychological and physical characteristics are polygenic. This means that
A) many genes make it more likely that the individual will inherit a particular characteristic.
B) several genes must be present before the individual will inherit the particular characteristic.
C) the characteristic involves the interaction of many genes as well as environmental factors.
D) the characteristic involves the specific combination of multiple genes.

117) The dominant-and-recessive principle regarding a single pair of genes accounts for the development of:
A) few behavioural characteristics.
B) many behavioural characteristics.
C) most behavioural characteristics.
D) most physical characteristics.

118) Steven Pinker notes that development, even in the simplest organisms, is not only shaped by nature and nurture but _____ also play(s) a significant role.
A) genetically preprogrammed factors
B) familial factors
C) chance factors
D) environmental risk factors

119) An important factor to account for in comparing children who are adopted to their biological families vs. their adoptive families is whether
A) genetic risk factors are present in their biological vs. adoptive families.
B) familial risk factors are present in their biological vs. adoptive families.
C) genetics vary across adoptive vs, nonadoptive families.
D) family interactions vary across adoptive vs. nonadoptive families.

120) In adoption studies, researchers compare all of the following with the exception of:
A) the traits of twin pairs who are adopted to twin pairs who are not.
B) the traits of adopted children to their adoptive parents.
C) the traits of adopted children to their biological parents.
D) the traits of adopted children to their biological siblings.

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121) A study by Caspi et al. (2003) found that individuals who have a short version of a gene labelled 5-HTTLPR (a gene involving the neurotransmitter serotonin) have an elevated risk of developing depression only if they also lead stressful lives. This is an example of a(n):
A) Phenotypic gene
B) Longevity gene
C) Mutated gene
D) Susceptibility gene

122) A study by Caspi et al. (2003) found that individuals who have a short version of a gene labelled 5-HTTLPR (a gene involving the neurotransmitter serotonin) have an elevated risk of developing depression only if they also lead stressful lives. This indicates that:
A) specific genes are more responsible than are specific genes in the development of depression.
B) specific environments are more responsible than are specific genes in the development of depression.
C) specific genes interact with specific environments in the development of depression.
D) gene x environment interactions play no role in the developments of depression.

123) All of the following are true statements regarding epigenetic changes with the exception of:
A) Epigenetic changes affect whether and when genes produce proteins.
B) Epigenetic changes alter the genetic code itself in genes.
C) Epigenetic changes alter gene expression by turning genes on and off.
D) Epigenetic changes are impacted by bidirectional interchanges between genetics and the environment.

124) Why would examining the stress responses of young infants whose mothers were exposed to trauma during gestation provide a more powerful demonstration of the impact that epigenetic influences can have on stress than would examining the stress responses of the adult offspring of trauma survivors?
A) Younger infants are not as likely to have heard their parents' talk about their experiences of trauma.
B) Adult offspring are more likely to also experience differences in their parents' child rearing styles than are infants.
C) The impacts of epigenetics are far greater in the prenatal period than the postnatal period.
D) Measures of stress responses are more reliable in infancy than in adulthood.

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125) The shaping of development on a group of individuals via cohort effects cannot be explained by
A) Shared similar experiences.
B) Epigenetic influences.
C) When and/or where the individuals were born.
D) Maturational programs.

126) The embryo's _____ is the inner layer of cells, which will develop into the internal body parts of systems, such as the digestive and respiratory systems.
A) ectoderm
B) endoderm
C) mesoderm
D) organoderm

127) Which of the following is true?
A) The fetal period begins in the second trimester.
B) The germinal period ends in the second trimester.
C) The embryonic period occurs in the second trimester.
D) The embryonic period ends in the first trimester.

128) Movement of arms and legs is first observed in:
A) the fetal period of prenatal development.
B) the embryonic period of development.
C) the second trimester of development.
D) the third trimester of development.

129) Implantation takes place
A) immediately after conception.
B) 1 week after conception.
C) 2 weeks after conception.
D) 3 weeks after conception.

130) During the _____ period, the rate of cell differentiation intensifies, support systems for cells form, and organs develop.
A) Germinal
B) Embryonic
C) Fetal
D) Organogenic

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131) Which of the following is true regarding the placenta?
A) Red blood cells pass from the pregnant woman to the fetus through the placental wall.
B) The placental wall forms a barrier that prevents all harmful substances from passing from the pregnant woman to the fetus.
C) Virtually any chemical substance a pregnant woman ingest can cross the placenta to some degree.
D) Only oxygen, water salt and nutrients from the pregnant woman's blood passes through the placental wall to the fetus.

132) Weight gain in the fetus occurs at a
A) greater rate at the beginning of the fetal period.
B) decreased rate towards the end of the fetal period.
C) increased rate toward the end of the fetal period.
D) even rate across the fetal period.

133) An important development affecting the viability of an infant who is born early (between 24 and 37 weeks) is
A) the development of the lungs.
B) the development of fat tissues.
C) the development of the brain.
D) the development of the immune system.

134) What determines the eventual destiny of individual brain cells during prenatal development?
A) Differences in the DNA of individual brain cells that arise when the neural cell is formed.
B) The location of these individual brain cells in the neural tube.
C) Differential neurogenetic proliferation in these individual brain cells.
D) Glial cells primarily determine their destiny.

135) The pattern of neural migration observed in prenatal brain development is best described as
A) cephalocaudal
B) proximodistal
C) distoproximal
D) caudolocephal

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136) The pattern of neural migration observed in prenatal brain development is best described as
A) Inside-out
B) near-to-far
C) outward-in
D) far-to-near

137) Fetal MRI is
A) currently the first choice in fetal screening.
B) provides the best results in the first trimester of pregnancy.
C) can provide more detailed images than ultrasound sonography.
D) is used to indicate possible fetal malformations which can then followed up via ultrasound sonography.

138) All of the following statements regarding the impact of teratogens on prenatal development are true, with the exception of:
A) A teratogen is any agent that can potentially cause a birth defect.
B) The impacts that a teratogen have on prenatal development cannot be accurately predicted by the effects they have on the pregnant woman.
C) The only drugs that have been found to be teratogens are those that have harmful effects on adults as well.

D) The potential impact of a teratogen may also be linked to the genetics of a pregnant woman and their fetus.

139) Based on the most up-to-date research, what would be the best advice regarding alcohol use during pregnancy?
A) Drinking a single serving of beer or wine by expectant mothers on special occasions is permissible.
B) Limited drinking by expectant mothers during the third trimester is permissible.
C) Expectant mothers are not advised to consume alcohol at all during pregnancy.
D) Limited drinking by expectant mothers during first trimester is permissible.

140) Teratogens do ____ anatomical damage _____.
A) more; after the completion of organogenesis
B) more; early in the embryonic period
C) more: during the fetal period
D) less: early in the embryonic period

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141) Low birth weight has not been associated with use of _____ during pregnancy.
A) Cannabis
B) Glucose
C) Nicotine
D) Cocaine

142) Negative impacts to the child's later cognitive growth have not yet been demonstrated in the case of prenatal exposure to
A) Alcohol
B) Nicotine
C) Fentanyl
D) Marijuana

143) The most accurate conclusion would be which of the following? During the prenatal period, illnesses or substances that appear not to be dangerous to the pregnant woman
A) are not known to affect the fetus.
B) result in serious defects in all fetuses.
C) are probably safe to the fetus.
D) may be harmful to the fetus.

144) Which of the following would not likely be a typical characteristic of Fetal Alcohol Spectrum Disorder?
A) Facial abnormalities
B) Severe reactivity to external stimuli such as light and noise
C) Mild developmental delays in intellectual growth
D) Delayed physical growth

145) The fetus is most likely to contract genital herpes
A) as the fetus passes through the birth canal.
B) by crossing the placental barrier.
C) only during the last trimester of prenatal development.
D) If it is delivered by caesarian section.

146) Spina bifida is associated with prenatal exposure to maternal diets low in
A) Iron
B) Vitamin D
C) Folic Acid
D) Vitamin C

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147) Increased maternal age has been linked to all of the following risks except
A) receiving lower levels of prenatal care
B) increased risk of Down syndrome
C) lower birth weight
D) increased risk of stillborn births

148) Which of the following statements is correct?
A) One's genotype and phenotype must be the same.
B) One's genotype and phenotype must be different.
C) One's genotype and phenotype must be identical.
D) One's genotype and phenotype must be the same for recessive traits but not for dominant traits.

149) The following is the most correct statement regarding the effects of teratogens
A) Greater risks for defects or malformations are present in later prenatal periods of development.
B) An organ is most vulnerable to disruption during the time it is developing rapidly.
C) The larger the molecule (virus, chemical, etc.), the greater the risk of harm from the teratogen is.
D) Substances that have been shown to be unharmful to the mother are also not harmful to the developing fetus.

150) Based on research, what would be the best advice to give a pregnant woman regarding exercise during her pregnancy?
A) Women who exercise during pregnancy have increased risks of preterm delivery.
B) Exercise is associated with inadequate weight gain during pregnancy.
C) Exercise during pregnancy can improve a pregnant woman's quality of life.
D) Exercise during pregnancy has no established risks or benefits.

151) Which stage of birth is the longest?
A) First stage
B) Second stage
C) Third stage
D) The second and third stages are equal in length

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152) The baby's head starts to move through the cervix in the _____ stage of birth.
A) First
B) Second
C) Third
D) Final

153) Midwives in Canada, unlike American midwives
A) are more likely to be unregistered.
B) need only a high school diploma to practice.
C) must have university degrees and extensive training to become registered.
D) do not assist in hospital births.

154) Research comparing midwife-led birth care to physician-led birth care has found:
A) decreased maternal satisfaction with their care.
B) increased rates of perinatal complications.
C) comparable rates of adverse outcomes.
D) improvements in perinatal outcomes.

155) How are infants affected by birth medications?
A) Birth medications may have similar effects on infants to those of their mothers.
B) Birth medications typically have no observable short- or long-term effects on infants.
C) Infants are not affected by birth medications because the placenta filters such medications.
D) Oxytocin has been shown to have no risks to the infant.

156) The APGAR scale is based on all of the following indicators of infant well-being except
A) Heart rate
B) Muscle tone
C) Reflex irritability
D) Pupil dilation

157) If a newborn receives a score of 2 on the APGAR scale, it means that
A) the newborn's health condition is good.
B) the newborn's heath condition indicates that the infant may not survive.
C) the newborn's health is equivalent to that of a 2-day-old infant.
D) the newborn's health is satisfactory.

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158) The mental health of newborns
A) has been shown to be affected by their relationship to caregivers.
B) has not been shown to be affected by skin-to-skin contact.
C) has not been linked to any differences in their care at birth.
D) Is unable to be assessed as newborns are nonverbal.

159) Kangaroo care of preterm and low birth weight infants has been found to be related to
A) no higher survival rates for infants receiving such care than for those that do not.
B) benefits such as higher intelligence that are still present in young adulthood.
C) benefits such as higher intelligence are only observed at 1 year of age.
D) increased clinginess of toddlers to their parents later in development.

160) The hypothesis that there is a "critical period" shortly after birth in which parents and newborns must have close contact in order to form an emotional attachment as a foundation for optimal development:
A) Is supported by most current research.
B) Is In its extreme form not true.
C) Is unchallenged by research investigating the first few days of life as a critical period.
D) has had negligible impact on the afterbirth care of newborns.

161) Postpartum Depression
A) Is also referred to as postpartum blues.
B) has diagnostic criteria that differs from major depression.
C) may include suicidal thoughts.
D) Is never associated with the abuse of alcohol or nonprescription drugs.

162) The prevalence of postpartum depression is lower in
A) high-income countries than in low- and middle-income countries.
B) younger mothers than in older mothers.
C) indigenous people than in nonindigenous people of Canada.
D) the Atlantic provinces than in other provinces of Canada.

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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

163) Consider the characteristics of evolutionary change proposed by evolutionary developmental psychologists Bjorklund and Pellegrini. In what ways do you think human psychology may be modified by evolution in the future? What challenges will drive change in the behaviour of the human species?

164) List the four genetic principles, and provide an example for each that illustrates its role in development.

165) List and describe four syndromes caused by sex-linked chromosomal abnormalities. Your description should indicate an understanding of what the specific sex-linked chromosomal abnormality is.

166) Choose one of gene-linked abnormality to discuss: Describe how this abnormality is caused by genes. How does the environment also play a role in the developmental outcome for children born with this gene-linked abnormality?

167) Name and describe three prenatal diagnostic tests.

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168) What are some of the possible causes of infertility in women and men? Name two strategies that can be used to overcome infertility.

169) Identify and describe the two common studies used by behaviour geneticists to investigate the influence of heredity on behaviour.

170) What are the three ways that heredity and environment are correlated as described by behaviour geneticist Sandra Scarr?

171) Assume that in the case study of the identical twins separated at 4 weeks of age (Jim Springer and Jim Lewis), it was found that their similar development trajectories were a result of similar temperament and interests, which caused them to seek out similar environments that were compatible and stimulating to them. Identify and describe the heredity-environment correlation that is reflected in this scenario?

172) Describe the process of maternal blood screening in pregnancy. What is the purpose of this screening, and what typically follows an abnormal screening result?

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173) Research looking at the impacts of various prenatal environmental influences on the later developments of infants and children is limited in terms of the research methods that researchers can employ. How do ethical and practical considerations influence the research that can and cannot be conducted in the case of maternal recreational drug use? How do these considerations also then influence the types of conclusions we can and cannot make from the results of the research?

174) How might paternal factors influence prenatal development and birth outcomes?

175) How have indigenous communities played a leadership role in midwifery in Canada? Describe the various ways in which Indigenous midwives have benefitted Indigenous mothers, infants and their communities.

176) How does the emotional state and stress experienced by a pregnant woman affect her fetus? What are the challenges in drawing causal conclusions from the available research? How might animal models enrich our understanding of the mechanisms by which maternal stress may impact development?

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177) What has been demonstrated regarding the role of massage in improving the developmental outcomes for preterm infants? What ae the potential benefits for parents who perform message on their preterm infants?

178) Describe the research by Michael Meaney which has investigated how individual differences in stress reactivity are transmitted across generations by studying the Norway rat. Why are rats an ideal model for studying these individual differences? What do the results suggest regarding the gene-environment interactions and the influences of epigenetics on stress reactivity?

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SECTION BREAK. Answer all the part questions.

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179) There has been a long history of forced or coerced sterilization of women around the world. Marginalized groups have been vulnerable to this practice, as have those deemed by health practitioners to have a mental illness, certain disabilities, or medical illnesses such as epilepsy.

According to Oxfam Canada (Baker, 2019), "Sterilizing women without their free, full, and informed consent is a form of violence and torture." Some women were incorrectly assured that the procedure could later be reversed, while others were separated from their babies until they agreed to undergo a tubal ligation. Such practices were legal until the early 1970s, when laws were passed prohibiting the practice; however, its illegality has not necessarily stopped forced or coerced sterilization from occurring.

In Saskatchewan in October of 2017, a class action lawsuit was proposed to represent the rights of more than 60 Indigenous women who claimed to have been sterilized without their consent, most between the years 2000 and 2017. Since then, women in other provinces have made similar allegations.

Darwin's approach to *nature versus nurture* hypothesized that all species, including humans, develop through the natural selection that increases the individual's ability to compete, survive, and reproduce. *Eugenicists* are people who support practices they believe would improve the genetic quality of the human population. Although illegal today, the eugenics movement became widespread in Europe and both North and South America in the 1920s and sought to actively curb the reproduction of marginalized women. Those considered "undesirable" or "unfit to have children" were vulnerable to sterilization. Such forced or coerced sterilizations have been documented in countries in every continent.

In the section of Chapter 2 called "Genetic Foundations of Development," you read about the experience of Leilani Muir. Leilani's mother was very abusive and never wanted a daughter. After placing Leilani in a convent for three years, she told authorities that her then 10-year-old daughter was "a moron," and had her admitted to the Provincial Training School for Mental Defectives. There, doctors told Leilani she needed an appendectomy. During the procedure, the physicians sterilized her without her knowledge. She was discharged in 1965, just before she turned 21.

When she married, Leilani and her husband wanted to have a child, but she was unable to conceive. It was only then that she learned that she had been sterilized without her consent. The experience was very traumatic for Leilani and damaged not only her sense of self, but also her marriage.

Twenty years later, she decided to bring a lawsuit against the Province of Alberta. Leilani

won her litigation in 1996 and was awarded $740,000. Just as importantly, she opened the door to financial settlements for hundreds of other survivors of forced sterilization. That same year, the National Film Board produced an award-winning documentary about her life called *The Sterilization of Leilani Muir*. Prior to her death in 2016, she wrote a memoir titled *A Whisper Past: Childless after Eugenic Sterilization in Alberta.* In an effort to put the past behind her, she changed her name to Leilani Muir-O'Malley. Until her death in 2016, she spoke publicly, sharing her experiences and advocating for social justice, and once running for a seat in the Alberta legislature with the New Democratic Party.

Reference:
Baker, P. (Dec. 10, 2019). Urgent Action Needed To Ensure Indigenous Women Are Not Sterilized Without Their Consent. Oxfam. https://www.oxfam.ca/news/urgent-action-needed-to-ensure-indigenous-women-are-not-sterilized-without-their-consent/?gclid=CjwKCAjwq5-WBhB7EiwAl-HEktNYN9ZeFr_OGV8QzgalrFP8w2qcg8Dz3SxYZnnup8o8gvVgG603jhoCB8wQAvD_BwE

179.1) How do the terms mitosis and meiosis differ?
A) Mitosis contributes to our DNA but meiosis does not.
B) Mitosis produces 46 pairs of chromosomes whereas meiosis produces 26 chromosome pairs.

C) During mitosis, a cell duplicates itself and then divides once, while during meiosis the duplicated cell divides twice.
D) Mitosis involves cells of the testes or ovaries, while meiosis involves other cells of the body.

179.2) Which statement best describes a zygote?
A) A zygote is a form of mitosis.
B) A zygote is the creation of a single cell by the fusion of a sperm and an egg.
C) A zygote is a form of DNA which carries the gene-linked potential for cystic fibrosis.
D) A zygote contains the genetic composition of one parent, either the mother or the father.

179.3) A pregnant woman decides to undergo prenatal diagnostic testing to detect genetic defects. Which of the following imaging techniques could detect a major birth defect early in the pregnancy by screening for chromosome variations in the placenta?
A) DNA testing
B) polygenic transmission
C) fetal MRI
D) chorionic villus sampling

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179.4) The forced sterilization of Leilani Muir reflects what movement?
- A) epigenetics
- B) eugenics
- C) behavioural genetics
- D) genomics

179.5) Which of the following characteristic(s) has/have been used as a ground for forcing or coercing a woman to be sterilized?
- A) physical disability
- B) race
- C) religion
- D) intellectual disability
- E) All of these.

179.6) In what ways may intergenerational trauma have affected Indigenous women in Canada who experienced forced sterilization? Explain how this relates to the epigenetic view.

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180) The idea of nature versus nurture has been a source of considerable debate for a very long time. Consider your own family. Do you have siblings? If so, how like you are they? How do they differ from you? Do they resemble your parents? Grandparents? Any other particular relative?

Every family has its challenges. Generally, what you see on the outside doesn't reflect the complexity of what's going on inside. Families are a very interesting aspect of our own personal development. Consider the following family scenario, then answer the questions that follow.

Evelyn and Jim are married. Evelyn graduated first in her class in high school, then went on to become a dental hygienist. Jim, also a top student, became an engineer. They had four daughters and no sons, much to Jim's disappointment. The daughters, from oldest to youngest, are Marie, Helen, Jane, and Leslie. Each daughter is white, brunette, and was generally well cared for until Evelyn, who quit her job to stay home with their daughters, became addicted to alcohol. When this occurred, the older two daughters were in high school, the third was in grade 4, and the youngest was only 18 months old.

The oldest daughter took care of her baby sister when she was home. The second oldest, concerned about her mother's health problem, brought it to her father's attention time and again. Eventually, Jim convinced Evelyn to go to a counsellor.

As the daughters aged, all four got married and had families and challenges of their own.

Marie married a blond man and had three children. Two are redheads, and the third, like Marie herself, has brown hair. Marie's husband was abusive, and after several years, the marriage ended in divorce. Marie had always worked full-time as a teacher and enjoyed her children. As a single mom, she did her best to help them stay out of trouble, finish school, and become responsible adults, which they all did. Marie's oldest, a son, enjoyed sports, became a successful business person, married, and had three children. Each of their children was born at home with the help of a midwife.

Marie's second child, a daughter, was always questioning society's conventions, such as women's expected roles, racism, and heteronormativity. She married young, then divorced, and later lived common law with her partner while completing her PhD, after which they married. She also has three children and a successful consulting career where she works to help organizations develop more inclusive workplace environments.

Marie's youngest always enjoyed art and nature. She became an environmentalist and never married; however, she did have a son, who Marie enjoyed babysitting often so her daughter

could pursue her career.

Evelyn and Jim's second oldest daughter, Helen, taught math and did counselling in a private school. She had four children—one daughter and three sons—who attended that school tuition-free. Unfortunately, like her mother, Helen developed alcoholism. Her family participated in an intervention which was successful. Helen stopped drinking entirely. However, she continued to suffer from depression which was alleviated by medication. Helen's daughter married a professor and Helen became a grandmother.

Helen's youngest son became addicted to drugs and was frequently suicidal. Fortunately, he married a young physician who supported and coaxed him to clean up his act and return to school. With the support of his family, he did just that, eventually becoming an addiction counsellor.

Helen's oldest son also married. He had three children and became a lawyer. The middle son completed university, married, and is a successful technician and a very devoted family man. He and his wife now have 11 children!

Next comes Jane, Jim and Evelyn's third daughter, who married, never worked, and had one daughter and three sons. Jane's daughter had Down Syndrome. Jane and her husband cared for her until she was able to live mostly independently with the help of community supports.

Jane's oldest son suffered two severe concussions and eventually a heart attack which has left him physically incapacitated. He remains living with his parents, who take full care of him. Jane's other two sons have decided not to have anything to do with each other. One is single and a successful graphic designer; the other, a truck driver, is divorced and has full custody of his two daughters. The father and daughters live with Jane and her husband. Like her older sister, Jane also takes medication for depression.

Finally, Jim and Evelyn's youngest child, Leslie, had difficulty growing up in a home with an alcoholic mother. Her life was quite different from her oldest sister, who was almost an adult when alcoholism took over their mother's life. Leslie enjoyed and was quite good at art and loved music. Upon his retirement, Jim started to drink as well; however, when he realized he might be developing an addiction, he joined Alcoholics Anonymous and stopped drinking.

When she was 15, one of her father's "friends" attempted to rape Leslie. After that experience, she really immersed herself in school activities where her natural affinity for art flourished. She created the sceneryfor plays, sang in the school choir, and earned excellent grades. When she started university, though, she also started to party more than was wise.

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Not wanting to ever face alcoholism as her parents had, she quit, then enrolled in an education program with the Canadian Armed Forces (CAF). After graduation, she met and married someone who was also with the CAF. Together they had three children: a daughter, who married and has a baby girl; a son, who suffers from severe depression; and another son, who is single and has a successful career in technology. Leslie, too, takes medication for depression.

180.1) How is it possible that brown-haired Marie and her blond husband had two redheaded children?

A) Red hair is a dominant gene.
B) Actually, it is not possible.
C) Red hair is a recessive gene that Marie and her husband both carried.
D) Either the blond or brunette gene mutated to become red.

180.2) Why did Jane's daughter have Down syndrome?

A) Because both parents carried a recessive gene for Down syndrome.
B) Because her mother failed to tend to her own health when pregnant with her daughter.
C) Because Jane was an older mother.
D) Because the daughter had an extra copy of chromosome 21.

180.3) As you read in the case study, depression has played a significant role in the families of all Evelyn and Jim's offspring except for that of Marie. Which of the following may explain why?

A) There were passive genotype-environment correlations—the parents were struggling, which created a stressful environment.
B) Those with depression may have a short version of a gene involving the neurotransmitter serotonin (5HTTLPR), and this may have elevated the risk of depression when life got stressful.
C) Development is the result of an ongoing, bidirectional interchange between heredity and the environment—their life circumstances were conducive to depression.
D) All of these may explain why depression pops up in Jim and Evelyn's extended families.

180.4) Leslie's enjoyment of art and music appear to reflect...

A) active (niche-picking) genotype–environment correlations
B) the influence of sibling interaction and behaviour
C) the influence of behaviour on her genetic makeup
D) passive genotype–environment correlations

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180.5) Recall the chapter's discussion about Dr. Michael Meaney's research, and that of others, showing that, "Adversarial experiences change brain development by altering gene expression and influencing the way regions of the brain communicate. The trauma children feel when neglected, abused, or forcibly separated from their parents alters neurological and cognitive development, making children feel anxious and fearful." Consider your own family, or one of those outlined in the case study above, and describe how nature and nurture interact and affect development.

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Answer Key

Test name: Chapter 02

1) B
2) B
3) A
4) A
5) D
6) A
7) A
8) B
9) B
10) B
11) D
12) C
13) A
14) C
15) B
16) D
17) C
18) D
19) B
20) D
21) A
22) D
23) A
24) C
25) B
26) D
27) A
28) B
29) D
30) C
31) D
32) C
33) B
34) A
35) D
36) D
37) A

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38) A
39) B
40) B
41) A
42) D
43) C
44) C
45) C
46) C
47) D
48) B
49) B
50) D
51) B
52) A
53) B
54) A
55) C
56) A
57) B
58) A
59) A
60) C
61) C
62) B
63) A
64) C
65) A
66) A
67) B
68) D
69) A
70) A
71) D
72) B
73) B
74) A
75) B
76) B
77) B

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78) A
79) B
80) A
81) C
82) D
83) A
84) D
85) C
86) B
87) D
88) D
89) B
90) A
91) C
92) C
93) A
94) C
95) B
96) D
97) B
98) D
99) B
100) C
101) A
102) A
103) C
104) B
105) B
106) D
107) C
108) A
109) C
110) A
111) C
112) D
113) A
114) D
115) B
116) C
117) A

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118) C
119) D
120) A
121) D
122) C
123) B
124) A
125) D
126) B
127) D
128) B
129) C
130) B
131) C
132) C
133) A
134) B
135) B
136) A
137) C
138) C
139) C
140) B
141) B
142) C
143) D
144) B
145) A
146) C
147) A
148) D
149) B
150) C
151) A
152) B
153) C
154) C
155) A
156) D
157) B

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158) A
159) B
160) B
161) C
162) A
163) Short Answer
Students' answer may vary. Responses should incorporate the process of natural selection as the mechanism of evolutionary change, and address at least one of the three proposed ideas from Bjorklund and Pellegrini:

1. Extended childhood may be related to brain size.
2. Many of our evolved psychological mechanisms are domain-specific. That is, many mechanisms apply only to a specific aspect of a person's psychological makeup.
3. Evolved mechanisms are not always adaptive, as they may lag behind present conditions.

164) Short Answer
Students' answers may vary. The four genetic principles are the dominant-recessive genes principle, sex-linked genes (X-linked inheritance), genetic imprinting, and polygenic inheritance.

165) Short Answer
Klinefelter syndrome (an extra X chromosome), fragile X syndrome (an abnormal X chromosome), Turner syndrome (a missing X chromosome), and XYY syndrome (an extra Y chromosome) are all sex-linked chromosomal abnormalities.

166) Short Answer
Possible gene-linked abnormalities to discuss are as follows: cystic fibrosis, diabetes, hemophilia, Huntington's disease, sickle-cell anemia, spina bifida, Tay-Sachs disease, and phenylketonuria (PKU).
Students are to choose one to further discuss in terms of how not only genes but the environment plays a role in developmental outcomes. See chart and discussion in chapter 2.

167) Short Answer

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Prenatal diagnostic tests include the following: 1) Ultrasound sonography, where high-frequency sound waves are directed into the pregnant woman's abdomen and the echo from the sounds is transformed into a visual representation of the fetus' inner structures. 2) Fetal magnetic resonance imaging (MRI), where a powerful magnet and radio images are used to generate detailed images of the body's organs and structures. 3) Chorionic villus sampling (CVS), where a small sample of the placenta is removed to test for genetic defects and chromosomal abnormalities. 4) Maternal blood screening, where fetal DNA present in the mother’s blood can be used to test for genetic abnormalities

168) Short Answer
Lack of ovulation, producing abnormal ova, blocked fallopian tubes, and diseases that prevent implantation of an embryo into the uterus are some of the causes of infertility in women. Sperm lacking motility, low sperm count, and blocked passageways could be causes of infertility in men. In some cases of infertility, surgery may correct the cause; in others, hormone-based drugs may improve the probability of having a child.

169) Short Answer
To study the influence of heredity on behaviour, behaviour geneticists often use either twins or adoption situations. In the most common twin study, the behavioural similarity of identical twins (who are genetically identical) is compared with the behavioural similarity of fraternal twins. In an adoption study, investigators seek to discover whether the behaviour and psychological characteristics of adopted children are more like those of their adoptive parents, who have provided a home environment, or more like those of their biological parents, who have contributed their heredity. Another form of adoption study compares adoptive and biological siblings.

170) Short Answer
Behaviour geneticist Sandra Scarr described three ways that heredity and environment are correlated: 1) Passive genotype-environment correlations that occur because biological parents, who are genetically related to the child, provide a rearing environment for the child. 2) Evocative genotype-environment correlations that occur because a child's characteristics elicit certain types of environments. 3) Active (niche-picking) genotype-environment correlations that occur when children seek out environments that they find compatible and stimulating.

171) Short Answer
Students should refer to the following correlation described by Sandra Scarr:
This would reflect the active (niche-picking) genotype-environment correlation, which occurs when children seek out environments that they find compatible and stimulating.

172) Short Answer

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Maternal blood screening extracts samples of fetal DNA from the mother's blood, which can be used to identify pregnancies at risk for conditions such as spina bifida, Down syndrome, and congenital heart disease. The test is typically conducted during the 16th to 18th weeks of pregnancy. If an abnormal result is detected an ultrasound or amniocentesis typically follows.

The PEGASUS project is evaluating new technologies that may provide additional information from maternal blood screening, including the determination of the sex of the fetus.

173) Short Answer
Students can use examples from this chapter such as Alcohol, Marijuana, Nicotine, Cocaine, Good answers will also consider ethical principles and research strategies discussed in chapter 1. Students should point out: the CORRELATIONAL nature of data that can be ethically collected and the limits that nonexperimental designs have. CORRELATION is not CAUSATION – what else could the correlations indicate? How might confounding factors such as diet, lifestyle, etc. may also explain findings.

174) Short Answer
Men's exposure to lead, radiation, certain pesticides, and petrochemicals may cause abnormalities in sperm that lead to miscarriage or diseases such as childhood cancer (Cordier, 2008). A recent research review concluded that tobacco smoking is linked to impaired male fertility, as well as increased DNA damage, aneuploidy (abnormal number of chromosomes in a cell), and mutations in sperm (Beal et al., 2017). In a recent meta-analysis, paternal smoking prior to and during pregnancy was linked to an increase in childhood leukemia (Cao et al., 2020). Another way that the father-to-be can influence prenatal and birth outcomes is through his relationship with the mother-to-be. By being supportive, helping with chores, and having a positive attitude toward the pregnancy, he can improve her physical and psychological well-being. Negative behaviour by the father also affects the mother. Needless to say, domestic violence increases the pregnant woman's stress level (de Oliveira Fonseca-Machado et al., 2015). Insightful student answers may also refer to EPIGENETIC influences that were discussed in chapter 1

175) Short Answer
Students should cite research by Dion Fletcher – see featured in Careers in Lifespan development section of Chapter 2

176) Short Answer

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Students should consider that the effects may be INDIRECT (e.g. potential drug use, poor prenatal care) as well as DIRECT (physiological changes that could affect the fetus)
The evidence in humans is CORRELATIONAL – so there are challenges in drawing conclusions about causality
Feature Box How do we know this? in chapter 2 - discusses how animal models have enriched our understanding of the mechanisms underlying the influence of maternal stress on development. Students can cite this research by Meaney looking at Rats – role of methylation / epigenesis in stress responses of offspring.

177) Short Answer
Students should cite research by Tiffany Field. The massage therapy led to 47 percent greater weight gain than did standard medical treatment. The massaged infants also were more active and alert than preterm infants who were not massaged, and they performed better on developmental tests.
In a recent research review, infant massage of preterm infants in the NICU was associated with shorter length of stay, reduced pain, and improved weight gain (Pados & McGlothen-Bell, 2019). Also in this review, parents who performed massage on their preterm infants in the NICU reported experiencing less stress, anxiety, and depression.

178) Short Answer

Pups born to low LG-ABN mothers were placed in the nest of a high LG-ABN mother and her offspring; pups born to high LG-ABN mothers were placed in the nest of a low LG-ABN mother. (As a control to ensure that simply moving pups did not change behaviour, some pups born to low LG-ABN mothers were placed in the nest of another low LG-ABN mother and some pups born to high LG-ABN mothers were placed in the nest of another high LG-ABN mother.)
The researchers discovered that behavioural fearfulness (e.g., time spent exploring an open field) depended on the type of mother by which each pup was raised rather than the genes inherited. Biological offspring of low LG-ABN mothers who were raised by high LG-ABN mothers were less fearful than offspring raised by low LG-ABN mothers, including biological offspring of high LG-ABN mothers.
Rats have short lifespans and reproduce quickly; this allows Meaney and his colleagues to study several generations in a short period of time. Also, there is variability in the quality of maternal care.
Students should discuss how the differences were transmitted across generations – related to the rearing experiences rather than biological factors. This points to the role of epigenetics and a process called methylation (switches a gene on; demethylation switches a gene off) Methylation relates to maternal care received by the pups.

179) Section Break
179.1) C

179.2) B
179.3) D
179.4) B
179.5) E
179.6) Short Answer
According to epigenetics, there is an ongoing interaction between heredity and environment, and this interaction influences development throughout the lifespan. Some Indigenous victims of forced sterilization in Canada may have had parents and grandparents who were victims of the residential school system, and the trauma of those experiences could have impacted their emotional stability and their ability to parent effectively.

180) Section Break
180.1) C
180.2) D
180.3) D
180.4) A
180.5) Short Answer
Answers will vary. Development is the result of an ongoing bidirectional interchange between heredity and environment.