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Unit 2 Essay

Required question.

In the video Autism: What we know(and don't know yet) by Wendy Chung, she explained how the result or cause of autism isn't just one answer. Autism doesn't affect a kid the same way or the same areas in their life. She used the example of two 13 year old boys. One named Justin who uses an iPad and pictures to communicate with others and when upset starts rocking back and forth, when he reaches a level of discomfort, bangs his head against the wall to a point where his head requires stitches. She also brought up the example of Gabriel who is gifted in mathematics but has difficulty having conversations. Both of these boys are examples on how autism is a wide spectrum therefore has a wide spectrum of variables that can be one or more causes of autism. She went further into how genetics does play a big role in the cause of autism. She explained how in some people it's caused by one powerful gene and in other people it's a combination of genes that cause autism, but the child doesn't receive it from the mother or father, it could be caused by a mutation in their genes and cause a new branch. Overall this video was very informative how autism isn't specifically caused by one variable and doesn't always look the same in kids.

3.Spermatogenesis begins in the seminiferous tubules of the testicles when germ cells, called spermatogenia, are generated. Each has the 46 chromosomes normal for human cells. In a process called mitosis, the 46 chromosomes replicate and each half of the resulting 92 chromosomes split into 2 separate cells called primary spermatocyctes. Each cell retains half (46) of the chromosomes) and then, in a process called meiosis, divide again, resulting in secondary spermatocytes containing just 23 chromosomes.One last division occurs in which the secondary

spermatocytes becomes spermatids, or immature sperm.ideal sperm production requires a temperature of 3-5 degrees below body temperature. The scrotum has a built-in “thermostat” which pulls the testis up toward the body if the temperature is too low to preserve heat and allow the sperm to develop.

4.The process of ovum production begins with the primary oocyte, which has 46 chromosomes. In a process called mitosis, the 46 chromosomes replicate and each half of the resulting 92 chromosomes split into 2 separate cells with 46 chromosomes each. In a process called meiosis, these cells split again, replicate, and split again. Of the four “daughter” cells resulting from this process, three (called polar bodies) come out much smaller than the fourth and eventually disintegrate.  The fourth is left as the final product of oogenesis, which we call the ovum.

5. sperm are sequentially blended with various fluids from the seminal vesicles, prostate and Cowper’s glands during the several seconds of orgasm. These fluids provide energy (fructose) and other nutrients (enzymes, salts, nitrogen, creatine, cholesterol, & vitamin B12) for the sperm. They also are alkaline in chemical composition, protecting the sperm from the acidic vaginal setting.During sexual intercourse, the forward-thrusting action of the penis within the vagina increases the likelihood the sperm will be “deposited” toward the cervical end of the vagina. The muscular contractions of orgasm and the spurting pressure of ejaculation have the same result. Sperms closer to the cervical opening have that much less area to swim and thus conserve energy and minimize their chances of demise in the hostile environment (at least for them) of the vagina. Women’s muscular contractions during orgasm also “help” the sperm. Immediately after orgasm ends, the cervix drops into the vagina and, if semen is present, dips into the fluid several times. The net effect is like an elevator, assisting the sperm into and through the cervical opening to the uterus.

8.The second type of chromosome is found in the 23rd pair and since this pair governs maleness vs. femaleness is called the sex chromosome. Theses chromosomes come in 2 variations: X and Y. Females have two X chromosomes and males have one X and one Y.

Thus both males and females have at least 1 X chromosome, and this comes from the ovum, which ALWAYS genetically contributes an “X”. Since a female has 2 X chromosomes (and no Y chromosomes) in all the cells of her body, the process of meiosis (or splitting) always results in cells with an X chromosome. The cells that eventually become her mature ova thus always have an “X” on the 23rd pair.

Males, on the other hand, have 1 X and 1 Y in every cell of their body. The process of meiosis thus produces cells with X chromosomes and cells with Y chromosomes.  Theses cells eventually develop into mature sperm, half carrying the Y chromosome and half the X chromosome. Thus, whether or not a particular person is a male or female is always determined by the “winning” sperm. If the sperm has an X at the 23rd chromosome, the result will be female; if the sperm has a Y, the result will be male. Your gender was thus determined by your father.

But your mother may also have influenced the likelihood of your gender

11. Genetic counseling is a record of your family history with any illness or syndrome. It contains medical records, family histories, and various genetic tests to create a comprehensive picture of genetic risks. It’s important to have knowledge of your history especially when you want to have a child. It allows future parents to have knowledge of any risk factors and be ready for any possibilities not just for the baby  but also for the mother. This can be an issue for parents who were adopted when they were young, as some don’t have insight of their family medical history and genetic background.