



AP[®] Psychology 2002 Sample Student Responses

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Opposing tendencies relating to appetite can be associated with the lateral ^{medial} nucleus and the ventro-medial nucleus. The lateral ^{medial} nucleus tells the brain that it is time to begin eating. It is the "start eating" control pad. If it is removed ~~animals~~ rats will hardly eat at all. On the other hand the ventromedial nucleus tells the brain to give "stop eating" orders and thus suppress a person's appetite. If this nucleus is removed a rat will eat continuously, even if it has ~~already eaten~~ recently eaten.

The autonomic nervous system has opposing tendencies known as the sympathetic and ~~para~~ parasympathetic systems. The sympathetic system is activated in times of stress. It increases respiration and sweating. It prepares the body for a "fight-or-flight" response. The parasympathetic system ~~ret~~ returns the body to ~~a state of~~ homeostasis after a time of stress. It allows digestion, heart rate, and other physiological processes to return to normal functioning.

The opponent-color processing theory says that there are 3 groups of opposing colors. This theory explains the phenomenon of afterimages. Colors are paired together such as red and green. After looking at a red spot on a page for 60 seconds, you will see green if you stare at a ~~white~~ blank sheet of paper. Blue & yellow are

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opposing colors as well as black and white.
~~According to this theory you can not see both~~
~~pairs of colors at the same time.~~

An opposing tendency explanation for drug use can be found in ~~the~~ a theory of motivation. This theory assumes that for every thrilling action that occurs an immediate counter action follows. A person using drugs initially will feel a high but that will be followed by a stronger counter action, the ~~symptom~~ symptoms of withdrawal. As the person continues the drug use, the initial high gets weaker and weaker while the negative feeling gets stronger and stronger. This leads to an addiction as the user wants to attain their greatest high, but this will never happen because the negative opposing feeling is actually becoming stronger, every time they use the drug.

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Nerve firing displays opposing tendencies when an action potential occurs. A neuron has a slightly negative polarization. When sodium ions are let in through the gates, the neuron becomes more ~~positive~~ positive and depolarizes. This causes an action potential which is an all-or-none phenomenon. The neuron either fires or it does not. If the neuron fires the gates are opened again allowing sodium ions to flow out of the cell making it slightly negative again. There is a brief resting between firings, called a refractory period. Then the first stage of the opposing tendencies can occur again.

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The human organism displays various reactions that are characterized by opposing tendencies. One of these opposing processes is seen through the autonomic nervous system. The autonomic nervous system is made up of the sympathetic and the parasympathetic. The sympathetic nervous system is in response to intense stimuli. Heart rate increases, pupils get ~~smaller~~ larger, more adrenalin is produced and pumped through the body. To counteract the parasympathetic shuts this all down and the heart rate decreases, ~~eyes~~ pupils ~~get~~ become smaller & adrenalin is decreased.

Drug use also shows opposing processes in that ~~the~~ body knows that the substance is bad for it, but it needs it anyway. The body develops a tolerance and an addiction to the drug which later could cause medical damage. Also people know the dangers and adverse side effects, but want to continue using the drug, some for social reasons, some ~~for~~ for physiological reasons.

Color vision uses opposite receptors in that it uses both rods and cones to receipt the black and white parts and the color components. Rods receipt the black & white while cones receipt the color to relay them to the occipital lobe of the brain to be processed.

Nerve firing involves the principle of "all or nothing" - Either the action potential is

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completely fired or none of it is fired.
None is fired during the recovery stage directly after a firing. ~~After~~ ^{terminal} ~~but~~ ^{axons} fire neurons across the synaptic gap to be received by the dendrites.

Appetite involves opposite tendencies in regulating hunger. The hypothalamus, which regulates hunger can be triggered ~~at~~ ^{at} the sight ^{mention} or smell of food even if the person isn't "hungry". Appetite is not necessarily based on a need for nutrients, although most of the time it is.

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① Opposing tendencies present in appetite reactions occur during the psychological disorder of bulimia. The craving of food causes a binge on food, the opposing mechanism then follows. Instead of digesting the nutrients the hunger in the body craves for, the individual purges and thus, no nutrients can be taken in. The opposite

~~The autonomic nervous system has opposing tendencies because~~
tendency is ~~bulimia~~ obesity. An individual has food craving when the body does not need nutrients but the individual eats the food anyway, ~~an unnecessary amount~~.

The autonomic nervous system works to respond to the brain's commands in the cerebellum ~~however~~, ~~similarly~~ the system responds to increased threat with the Fight or Flight response. A tendency used to protect the individual. The opposing mechanism is when the autonomic nervous system shuts down or freezes up during a threatening situation.

Rods help ~~color~~ vision in black and white and they are mostly on the outside of the retina. They help in peripheral vision. Cones are the opposite physiological tendency
a) they are in the center of the

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retina.

Drug use triggers opposing mechanisms as, for instance, a stimulant causes a euphoric high and increased heart rate. The opposing tendency being when the drug wears off, the body slows down to a depressed state ~~until~~ and the individual feels a low and a craving for the high again. The withdrawal is the opposite tendency to the high felt during drug use.

Nerve firing occurs when a stimulus is felt and the brain interprets it, a bottom-up type processing. Bottom up processing ~~is~~ is the natural tendency of the body. The opposing tendency is when a limb is severed, but the individual still feels it. The phantom feelings of top down processing. This is the opposite because ~~while~~ while the ~~body doesn't~~ nerves don't feel the stimulus, the brain still interprets it anyway.