

AP Psychology Free Response Questions (FRQs) Sample Answers (1999-2019, 2021)

How to Answer FRQ questions:

Define (if possible or asked) and apply the terms using the exact words from the question. Always answer FRQs in full sentences.

Most questions only require you apply the term. Applying the term means you should *explain the consequences, implications, or inferences that relate to the given person and scenario.*

For example,

Erica enters a new high school and is trying to make friends. Explain how *positive reinforcement* could play a role in *forming friendships*. Definitions alone will NOT be scored.

Answer:

Positive reinforcement is when a behavior is strengthened (i.e., made more likely to recur) or maintained because of the addition of a stimulus (**this is the definition**). If *Erica* approaches a group of students who are looking at her, and if she smiles, says hello, and acts in a courteous manner, then she will be more likely to *form friendships* than if she avoids greeting them (**this is the application of positive reinforcement in the context of the question**).

***Answers below are my own. Most answers are longer and go into slightly more detail than is required for a perfect score.

You are allowed to paraphrase the examples I use below.

Good luck,
Anthony Bianco

1999 FROs

1999 AP Psych Questions: https://secure-media.collegeboard.org/apc/psych_99.pdf

Answers:

Question 1

- A. Body and brain chemistry contribute to a person's eating habits and body weight; hormones and neurotransmitters influence hunger and satiety (i.e., feeling full). For example, if Tiffany's lateral or ventromedial hypothalamus is overactive or lesioned (i.e., damaged), then her body's endocrine system – glands that secrete hormones such as insulin, glucagon, leptin – will cause maladaptive eating habits, and her weight will be affected.

The way a person's brain is structured contributes to their eating habits and body weight because specific brain areas regulate hunger and satiety. Damage to Tiffany's lateral hypothalamus will cause her to stop eating. Conversely, damage to Tiffany's ventromedial hypothalamus will cause her to overeat.

Genetics contribute to a person's eating habits and body weight because specific genes determine the body's structure and function of body organs that influence eating behavior. If, for example, Tiffany has a recessive gene that causes part of the brain to produce more or less of some chemical involved in hunger and satiety (insulin, glucagon, leptin), then she will have an abnormal eating habits and trouble with her weight.

Reinforcement is the strengthening or maintenance of a behavior by the addition of stimulus. Specific foods contain high amounts of sugar and fat. These are primary reinforcers, meaning that the consumption of these foods allows humans to survive, thus making Tiffany experience a brief period of euphoria during consumption. If Tiffany continually eats foods high in sugar and fat, then the positive reinforcement she receives

(i.e., euphoria felt during eating sugar and fats) may alter her eating habits; she may seek out foods high in sugar and fat content more often; and thus, her weight will change.

Modeling is the observation and imitation of others' behavior. If Tiffany sees those around her eating foods high in sugar and fat, for example ice cream, then she might begin to eat such foods.

Cultural factors contribute to eating habits and weight by indicating to people what norms (what is standard, typical) and mores (customs, conventions) are acceptable, unacceptable, and ideal. For example, if Tiffany lives in a society that idolizes women with a slim figure, then she may adjust her eating habits to try to conform to that model.

- B. The implications of genetics on eating habits for weight management may be that if medical professionals can identify genes that influence eating behavior, then they can intervene with medical and behavioral therapies to mediate the effects of the genes. For example, if genetic consulting reveals that Tiffany has a gene that alters the levels of insulin or glucagon, then medical professionals can administer appropriate therapies.

The implications of cultural factors on eating habits and weight are that if a culture promotes a specific body ideal for men and women, then eating habits will change according to that model. If, for example, Tiffany moves to a culture that promotes a healthy body image for women, then her eating habits and weight will change accordingly.

Question 2

- A. A schema is a mental representation or framework. For example, one may develop a schema for what a bird looks like: has a beak, feathers, flies, three "toes." A schema helps explain the perceptions of most participants in the study because these participants

probably have encoded experiences – their own, observed, or vicariously – of men as perpetrators of aggression against women.

Retroactive interference is when old information is forgotten or distorted due to learning new information. For example, learning the name of a new colleague might intervene with the recall of another colleague's name one learned the day before. The photographs shown to participants *after* they had seen the photograph of the man being shouted at by the women may have distorted participants' memory of what was happening in first photograph.

The representativeness heuristic is the phenomenon where one estimates the likelihood of some event by comparing previous examples one has seen or heard about to the current example. Since men have been, rightly or wrongly, portrayed as perpetrators of aggression against women in media – participants might, when asked about the first photo they saw – compare what they have seen and heard about in the past with the fragments of the photograph in their mind, and erroneously conclude that the man is the aggressor in the photograph.

Confirmation bias is searching for information that confirms one's beliefs instead of trying to find evidence that refutes one's beliefs. The participants may focus on how the man who is seated on the park bench in the photo seems to be strong and masculine, and conclude that from his strength and masculinity that he is acting aggressively to woman in the photograph – instead of focusing on the women's actions in the photograph.

Framing refers to how attitudes and behaviors can change depending on the way information is presented. If, for example, the participants were asked a question such as,

“do you think the man in the photo is aggressive?” this will distort way the participants recall seeing the picture. If, instead, the question asked, “what do you remember about the first picture you saw?”, this may allow participants to recall a more accurate interpretation.

2000 FROs

2000 AP Psych Questions: https://secure-media.collegeboard.org/apc/psych_00.pdf

Answers:

1. Extrinsic motivation refers to behavior that is motivated by an external reward rather than an intrinsic reward. For example, creating art for fame or money instead of for the love of art is an example of extrinsic motivation. Since some students at school are motivated by the grades they receive – especially in courses they do not like, understand, or relate to – then their attendance and performance in classes might fall precipitously.

Arousal theory suggests that each individual tries to maintain an optimal level of physiological arousal. Since some students in school are negatively affected by the pressure of formal evaluation, these students may perform better in classes if they are allowed to learn without the anxiety that results from standardized tests and assignments.

Learned helplessness is the phenomenon by which an organism has been conditioned to not respond. Through past negative experiences (failing exams and doing poorly on assignments) some students may withdraw from formal learning. However, if students are not being graded for assignments and tests, then they may take interest in their classes because they are now not being punished for being in the classroom and learning.

The self-fulfilling prophecy is the phenomenon where beliefs influence a person's outcome. If, for example, a teacher receives a negative evaluation record of a student, the teacher might come to believe that that student is an underachiever. As such, the teacher might unconsciously exert less effort in trying to help that student. The student, not receiving any extra help or guidance, will mostly likely continue to perform poorly, if not worse, as school curriculum advances. If a student was not given grades, then teachers at

the school may initially have a positive belief and attitude towards all of the children, and allocate time and resources more equally among all the students.

2. To study the relationship between teenage arrests in New City for violent crimes and the popularity among New City teens watching violent television shows, one must define teenage arrests for violent crimes and violent television shows. Teenage arrests for violent crimes, one could say, are those in which an offender has been arrested for harmful force upon a victim. Violent television shows are those which depict violent crimes (using harmful force upon another person).

We can select participants for this study by going to the New City Police Department and requesting a sample of teenagers arrested for violent crimes. We can then give them a quantifiable survey (e.g., yes or no) asking them whether they have previously watched specific television shows depicting violent crimes.

Whatever the conclusions of this correlational study, it cannot be generalized beyond New City since we do not have a representative sample.

Two ethical considerations of this study that must be abided by are that confidentiality of participants must be kept and participation must be voluntary (i.e., if some of the teenagers do not want to participate, then we cannot force them to).

I do not support the police chief's conclusion that watching violent television leads to teens' committing violent crimes in New City because there may be a third variable that is causing both teens to watch violent television and commit violent crimes.

2001 FROs

2001 AP Psych Questions: https://secure-media.collegeboard.org/apc/psych_01.pdf

Answers:

1. a. The behavioral school of thought believes that anxiety is a conditioned (i.e., learned) response. If, for example, Meghan has a spider crawl on her hand and bite her, then she is likely to develop a phobia of spiders. This means that whenever Meghan sees, hears of, or imagines a spider, she may show a fear response (e.g., screaming, shaking, etc.).

Psychoanalytic and dynamic perspectives believe that the cause of anxiety is internal conflicts. For example, if Meghan's ID and superego demand conflicting pursuits – her ID demands she live more hedonistically (i.e., take part in more pleasurable activities) during college yet her superego demands she live up to her parents' expectation of being the top student in her freshman year – then anxiety emerges.

The biological school of thought believes that anxiety occurs from changes in the brain and body. For example, anxiety may result from an overactive sympathetic nervous system. If Meghan's daily life is stressful, her sympathetic nervous system may be overactive. Abnormal levels of certain neurotransmitters and hormones (e.g., cortisol) might make her feel continually restless and unable to relax.

The cognitive school of thought believes, like the psychoanalytic perspective, that anxiety occurs due to internal conflicts; but instead of a conflict among the ego, superego, and ID, the conflict arises from a person's attribution style: the way they interpret events in their life. If Meghan attributes negative events in her life to be internal, stable, and global, and if she attributes any success to be external, unstable,

and specific, she is more likely to be depressed than someone who has a different attribution style.

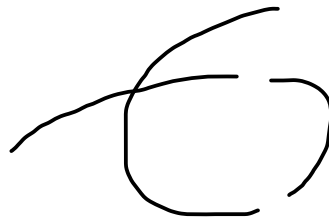
b. One behavioral technique for reducing anxiety is systematic desensitization. A behavioral therapist may ask Meghan to imagine a spider; then show her a picture of spider; ask her to watch a spider crawling around on TV; and gradually work up to allowing Meghan to let a spider crawl on her arm. This technique attempts to extinguish the conditioned response (i.e., fear) that Meghan experiences in the presence of spiders.

One psychoanalytic technique for reducing anxiety is for a therapist to ask Meghan to free associate. During free association, the therapist asks Meghan to talk freely about whatever comes to mind. The therapist may realize that Meghan continually brings up a recurring issue in her life. The therapist may then reveal this to Meghan and uncover the latent cause of her anxiety.

One biological treatment for anxiety is treating someone with anxiolytics (i.e., prescribed medications that reduce anxiety). Meghan might be prescribed a benzodiazepine (e.g., alprazolam, diazepam, lorazepam) by a medical professional to relieve acute episodes of anxiety.

One cognitive treatment of anxiety is for a therapist to try to change someone's attribution style; that is, the way they interpret events in their life. A therapist may try to help Meghan see that it was her studious habits that led her to perform well in math; instead of her good grade in math being a one-time result because of an easy-going math teacher.

2. Psychological expectancy or set is an innate or learned way of perceiving or behaving. There are certain principles that human perception follows as described by Gestalt psychologists. For example, if there is a squiggly line with small gaps in it, humans perceive it as a continuous line.



The effects of a psychoactive drug will alter human perception. Specific hallucinogens drastically change human perception because they alter the way the thalamus – a part of the brain that relays sensory information to other parts of the brain that form our perceptions – functions.

Expectation in the classroom can affect student performance. If, for example, a teacher learns, before a student has completed assignments or taken any tests, that Madeline is a gifted student, this may change the way the teacher treats Madeline. The teacher's belief may lead him to treat Madeline differently than other students: paying more attention to her in class and encouraging her development. What began as a positive belief in Madeline manifests into Madeline being a gifted student through her own beliefs and actions.

Human problem solving can be affected by expectancy. Functional fixedness is the phenomenon whereby one views something as only having a fixed use. For example, if someone needs to raise their laptop screen for a better viewing experience

but does not realize that they could use their two large textbooks beside them to prop up the laptop, then they suffer from functional fixedness.

Memory can be altered by the schema we have learned. For example, if one views a picture of a man and a woman holding hands, and then if they are asked several days later how these two people in the photo were related, the participant will likely say the two people in the picture were a couple in love.

2002 FROs

2002 AP Psych Questions: https://secure-media.collegeboard.org/apc/psych_frq_02_10406.pdf

Answers:

1. Appetite is characterized by opposing tendencies. There are two parts of the hypothalamus that are involved in hunger and satiety. Stimulation of the lateral hypothalamus causes an animal to eat. Stimulation of the ventromedial hypothalamus causes an animal to stop eating. Removal or destruction of either area will lead to the opposite effects.

The autonomic nervous system is divided into the sympathetic nervous system and the parasympathetic nervous system. The sympathetic nervous system regulates the 'fight or flight' response. The 'flight or fight' response is the body's response to stress. The parasympathetic nervous system regulates the 'rest and digestion' response. This part of the autonomic nervous system is active when our body is in a relaxed state.

The opponent process theory proposes that colour vision depends upon having different pairs of cones in the retina: red/green, blue/yellow, black/white. When a single pair is activated, for example red/green, only one of the colours (red) can give that colour perception.

The opponent process theory for substance abuse states that our baseline mood trends downward as tolerance develops. If, for example, one begins drinking caffeinated beverages, then their energy/mood is – in the beginning – significantly increased by caffeine intake. However, withdrawal begins when the drug is absent, and our baseline energy/mood trends downward past its normal 'lowest' point. With continually caffeine use, our body develops tolerance of caffeine, and caffeine may eventually only serve to bring our energy/mood up to its once previous baseline.

Nerve firing has opposing tendencies. After excitatory neurotransmitters bind to receptors on a dendrite, sodium ions rush into the cell which cause depolarization of the cell: an action potential. But eventually voltage-gated potassium channels open which decrease the membrane potential and bring it back to the resting state: repolarization.

2. Egocentrism is an inability of a child to see or understand another person's perspective. Egocentrism could have influenced the way she told her older brother her story because Jessie might emphasize irrelevant points of the story (what she wore on the trip), ramble on about trivial details, and continue telling the story longer than her older brother can tolerate.

Observational learning is when an organism observes and then imitates a behavior. After seeing firemen curling up a fire hose at the station a particular way, Jessie may start curling up the garden hose in her backyard the same way she saw the firemen do while telling her story to her older brother.

Overgeneralization is misapplying the rules of language. Jessie, when describing to her old brother the story of riding in the fire truck, may have said, "...and then we rided in the fire truck," instead of "...and then we rode in the fire truck."

Reconstructive memory states that our memories *are not* perfect recollections of events as they were, like a video recording or series of pictures, but often contain misinformation or created episodes. Jessie may not remember specific parts of the trip to the fire station, and when telling her older brother, may unconsciously fill in the missing gaps of her memory with something plausible and congruent with the rest of her story.

A schema is a mental representation or framework. Jessie, when telling her brother the story of her trip, may emphasize that she learned that firemen are the first to

arrive at an accident, and that before she thought firemen only showed up to fight fires.

That is, she may describe to her brother how her schema for what firemen do changed as a result of her trip.

2003 FROs

2003 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap03_frq_psych_23114.pdf

Answers:

1. A. The mean is the sum of scores divided by the number of scores in a distribution. The mean of standardized intelligence tests is 100 with a standard deviation of 15. The median is the middle score in a distribution. The mode is the most common score in a distribution; although some distributions are bimodal, trimodal, or multimodal.

A skewed distribution is one where the mean, median, and mode are not in the center of the distribution. There are positively skewed distributions and negatively skewed distributions.

The mean, median, and mode indicate where the center of a normal distribution is.

A positively skewed distribution is one where the mean is furthest right, the median next, and the mode the furthest left.

The scores of the distributed are: 55, 70, 85, 100, 115, 130, 145

Yes, an individual from group I can have a higher score than the mean for group II. The mean, or average, of group I does not indicate how *any individual scored* in group I. Some individual scores in group I are much higher than the mean; therefore, any individual score might be higher than the mean of group II.

B. Norms for standardized intelligence tests are periodically updated because of the Flynn effect. With the passage of time, individual scores on intelligence tests rise. Therefore, the tests are periodically updated to represent new averages and outliers.

An intelligence test is biased if its unreliable or invalid. If an intelligence test is unreliable, that means that an individual's score will vary significantly upon retest. If an intelligence test is invalid, that means that what the test claims to measure, does not accurately reflect some trait. For example, if a high score on an intelligence test claims to be positively correlated with post-secondary attendance, but a majority of people with low IQ scores still attend post-secondary, then the IQ test is biased.

2. A. Cognitive dissonance is tension or anxiety that arises when a belief and a behavior are incongruent. For example, if one believes that they want to live a long life yet they also smoke heavily, then anxiety should arise because of the inconsistency between belief and behavior

Conformity is when an individual submits in belief or behavior to what others around them believe or do. For example, if most people at a high school wear a specific sneaker, a newcomer to that school might conform and begin wearing that shoe.

Incentive motivation is when behavior is motivated by a reward. For example, Ariel's parents give her money and bestow praise on her when she plays the clarinet. Ariel likes receiving money and praise, so she continues to play the clarinet for those things; she might not enjoy playing the clarinet for the music she makes with it.

Negative reinforcement is the remove of an unpleasant stimulus to maintain or strengthen a behavior. For example, Caroline always wakes up before her alarm goes off and pushes the stop button because she does not want to hear the unpleasant sound.

Physiological addiction is when tolerance appears. For example, if Jerry begins drinking caffeinated tea regularly, he will need to drink more tea as his tolerance for caffeine develops. If Jerry stops drinking tea, he may experience withdrawal symptoms

(e.g., fatigue, decreased mood) within 24-48 hours. This will cause Jerry to seek out caffeine to reduce withdrawal symptoms.

B. Cognitive dissonance may relate to the development of a smoking habit if the individual believes that smoking is healthy. If they are unaware of the damaging effects of smoking, then they will not feel anxiety or tension when they smoke, and will be less likely to try quitting.

Conformity might relate to the continuation of a smoking habit because an individual may frequently associate with people who smoke. It is difficult to quit smoking if friends, family, and associates smoke.

Incentive motivation can lead to the development of a smoking habit if an individual sees that anyone who smokes gets an extra 15-minute break during work. To receive this break, the individual begins smoking.

Negative reinforcement can lead to the continuation of a smoking habit if it allows one to avoid or escape stress. If smoking gets someone out of doing work, they make continue to smoke if it relieves them of unpleasant work.

Physiological addiction can lead to the continuation of a smoking habit because withdrawal symptoms – negative feelings produced by decreased use of a drug once habitual used – can cause an individual to smoke to alleviate those feelings.

2004 FROs

2004 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap04_frq_psych_36199.pdf

Answers:

1. The research method used by Dr. Franklin is a correlational research design.

The independent variable in the study is the severity of stress and was measured using a standard form that students completed. The dependent variable in the study is the number of days student athletes were absent from high school due to illness.

One appropriate ethical feature of the study is that Dr. Franklin debriefed the 100 high school athletes in her study. One inappropriate ethical feature is that Dr. Franklin coerced female athletes to participate in her study – participation should be voluntary – by persuading the principal to require all female athletes to participate.

One statistical technique that Dr. Franklin could use to represent the relationship between the variables in the study is a scatterplot graph. She could plot severity of stress on the x-axis and days absent from school due to illness on the y-axis.

One aspect of the research design that weakens the validity of Dr. Franklin's conclusion is that she used a correlational research design. A correlational research design can identify a relationship between two variables; but it cannot assign directionality to variables (i.e., it cannot confirm that stress *causes* physical illness). Another aspect of the research design that weakens the validity of the argument is that this study has a limited sample size (student athletes from one school). This study should include a representative sample if it were to be replicated.

2. A critical period with respect to psychology means that there is a specific time some mental or behavioral trait should emerge. For example, there is a critical period after

birth where an infant will bond with whoever or whatever it is in contact with. Another example of a critical period may be the between ages four to puberty for language development in humans. Trying to acquire a first language before or after this time frame is more difficult than if one learns a language during this period.

Fluid intelligence is the ability to solve new problems and use resources in constructive ways. Fluid intelligence peaks in young adulthood and steadily decreases with age. In contrast crystallized intelligence – knowledge and skills acquired through exposure – increases with age.

Group polarization refers to the tendency of a group to make decisions that are more extreme than any of its members would have made on their own. Group polarization will likely occur the longer a group stays engaged in a discussion. For example, an online political discussion between members may become increasingly extremist as one member builds on the arguments of another member.

The James-Lange theory of emotion states that an emotion emerges after a change in one's physiology. With respect to time, when another individual sees, for example, a live bear only several meters away from them, their sympathetic nervous system prepares their body for action. As their body is preparing for action, increasing their heart rate, dilating pupils, and diverting blood, nutrients, oxygen away from digestive and reproductive organs toward muscles, the emotion of fear is felt.

The conditioned stimulus (CS) is one that has been repeatedly paired with the unconditioned stimulus (USC) such that the CS can elicit the conditioned response (CR) without the UCS. For example, the bell in Pavlov's experiment is the CS. The bell

elicits the dog's salivation (CR). With regard to time, the USC must be repeatedly presented *after* the CS or the CS will not elicit the CR.

The refractory period in neural firing is a brief period where the neuron cannot have another action potential. Repolarization must occur and the resting potential must be re-established before the neuron can undergo another action potential.

Sound localization is the ability of a listener to identify where a sound originates. Sound localization is made possible because humans have two ears located on opposing sides of their head. If a sound reaches one's right ear slightly before their left ear, they will correctly identify the sound as originating to the right of them.

Spontaneous recovery is where the conditioned stimulus elicits the conditioned response after extinction has occurred. For example, if a bell is sounded and a dog begins to salivate – despite never having salivated to the presentation of the bell in the last month – spontaneous recovery has occurred.

2005 FROs

2005 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap05_frq_psychology_45694.pdf

Answers:

1. An afterimage is produced because of fatigue in one of the red/green, blue/yellow, black/white pairs of cones. If a colour-inverted American flag (green, yellow, black) was on the wall of a teacher's classroom and a student stared at it for 30 seconds and then looked at a white wall, the student may perceive the American flag on the white wall, even though the flag is not actually present. This hallucination is perceived because of the fatigued cone pairs. When one colour in a pair is fatigued (e.g., green), the opposite-coloured cone becomes active (e.g., red).

The availability heuristic is a shortcut to problem solving where the first thing that is available or that comes to mind is how the problem is confronted. For example, one may be deciding on whether to walk home by one route or another. Upon thinking about the matter, the individual remembers that they saw a news clip saying that someone had recently been kidnapped on the street that is public, heavily lit, and frequently busy. They might then decide on taking a longer, more scenic route home. The potential inaccuracy of this judgement is that the first street is probably safer than the second.

Ethnocentrism is the belief that one's ethnicity or culture is better than another's. An example of ethnocentrism leading to an inaccurate judgement is Jason believing that sports in his culture, such as basketball, are superior to all other sports in other cultures, such as table tennis.

Groupthink is a when individual creativity and responsibility decrease because of group conformity. Jeanine might believe that it is wrong to hurt and torment another girl

at her school, but she might tag along in her social circle's decision to ostracize and belittle a girl her group does not like.

Lack of object permanence is when infants believe that objects and people disappear if they are not heard or in view. A baby might misperceive that an object disappears when it is under a blanket if she still *lacks* object permanence.

Nonrandom assignment of research participants can lead to biased research groups and to support or rejection of a hypothesis. If, for example, a researcher allows participants to choose whether they would like to be in an experimental condition (which receives the independent variable) or the control group, some of the research participants – possibly those more risk-inclined, may hear the words, “experimental group” and be excited by the prospect of being physically or mentally enhanced. Therefore, the experimental group might end up containing many individuals who have specific personality traits that influence the dependent variable; these ‘risk-inclined’ individuals may act differently in the experiment than people who are not risk-inclined. This might bias the experimental data, and mistakenly lead to the support or rejection of the hypothesis being studied.

Optimistic explanatory style may lead to a biased perception. If someone attributes a low score on a recent exam to be external, stable, and global, then they may not change their behavior; and will continue underperforming on exams. If Joe believes that his teacher always gives hard math tests, and more generally that all math teachers give hard tests – that is, he can never study enough to be prepared – then he is likely to continue scoring poorly on math tests due to a lack of effort on his part.

Proactive interference is when old information interferes with the recall of newer information. If, for example, Thomas has recently moved to a new neighborhood, he might, one day after work, accidentally travel to his old address rather than to the home in his new neighborhood.

2. A. The value of diagnostic labeling in psychology is that it can accurately predict future events in some cases. For example, if one is diagnosed with Alzheimer's disease, then a therapist can explain to the patient, family, and friends the future of this person's mental state and what behaviors can be expected (e.g., forgetting, decline in cognitive ability, etc.). However, diagnostic labelling can mislead the patient, therapists, family, and friends. If, for example, Jack is misdiagnosed with ADHD at a young age, not only is there a possibility that he will grow out of his hyperactivity, but a self-fulfilling prophecy might unfold. Jack, his family, and friends may believe and begin to act as though Jack does suffer from ADHD.

It can be argued that children's acquisition of language develops from innate tendency the species has towards language because of the structure of the brain. Noam Chomsky proposed that there is a predisposition towards language in humans, and that there is a critical period for language development. On the other hand, it must be acknowledged that many behaviors – such as language – develop because of observational learning and classical and operant conditioning. In a relatively short time, children readily learn which words and phrases precede rewards and which allow them to escape or avoid unpleasantness and punishment.

Some believe that hypnosis meets some of the criteria for being an altered state of consciousness. This was demonstrated by Ernest Hilgard. When participants did not

orally admit they were in pain yet indicated with the movement of their index finger that they were in pain – participants had their arm in an ice bath and were asked whether they could feel any pain – this is said to have demonstrated the division of consciousness. On the other hand, hypnosis may rely on the degree to which participants conform to others' suggestions. This is demonstrated by many participants who cannot be hypnotized.

- B. There is more value in diagnostic labeling than harm done by it. Diagnostic labelling allows therapists and clinicians to give prognoses (see example given in 2a).

Many aspects of language develop as a function of environment and conditioning; this is demonstrated by all the various dialects that exist in any single language. The innate biological mechanisms that permit language cannot be ignored, but social, geographic, education, and economic circumstances heavily influence pronunciation, diction, and the size of one's lexicon (stock of words one knows).

Currently, there are no brain structures and functions associated with hypnosis; as such, I believe hypnosis is largely a function of how suggestible the person being hypnotized is.

2006 FROs

2006 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap06_frq_psychology_51792.pdf

Answers:

1. A. One advantage of using a case study is that a researcher can study a rare disorder in detail.

One advantage of using a correlational research design is that a researcher can investigate if there is a relationship between variables for which it would be impossible or ethically wrong to study: for example, children's academic performance and parental relationship status (i.e., do children of divorced parents perform worse in school than children of parents who are married and live together?).

One advantage of using an experimental design is that a researcher can establish a cause-and-effect relationship.

- B. One disadvantage of using a case study is that the results cannot be generalized to the broader population because the sample size is small.

One disadvantage of using a correlational research design is that one cannot attribute causation; that is, one cannot say if a change in one variable is responsible for the change in the other variable.

Several disadvantages of using an experiment design are that it is costly, complicated, and requires more ethical considerations than a correlational design.

One way to study the effects of vitamin J on memory with a case study is to select a random participant from a set of applications and ask them to incorporate vitamin J into their diet. Before asking them to start the vitamin J trial, ask them to complete a

simple word-recall test, and get a baseline score. After the researcher has a baseline score, ask them to take vitamin J everyday for a month, and then ask them to come in weekly to complete similar word-recall tests.

One way to study the effects of vitamin J on memory with a correlational research design is to find a representative sample of people who have already been taking vitamin J and ask them to take a word-recall test. If the mean score of those taking vitamin J is statistically significant compared to the control group (those not taking vitamin J), then the researcher may conclude that there is a positive relationship between vitamin J and memory.

One way to study the effects of vitamin J on memory using an experimental design is to take a representative sample from a population, randomly assign participants to either the experimental group (receives independent variable: vitamin J) and the control group (receives placebo), and after some period, give each group a word-recall test. If the experimental group scores significantly higher than the control group on the word-recall test – and the experiment is replicated by other researchers using a similar design – then researchers may conclude that vitamin J causes improvements in memory.

2. Approach-avoidance conflict is when anxiety arises when there are desirable and undesirable features about some activity or thing. Zoey may want to purchase a car that is on sale – but which is only on sale for a short period of time. She would like to do more research on the car's performance before she buys it but would also like to buy it at a significantly reduced price (only available for a limited time). In other

words, she feels anxious about potentially buying a faulty car, but would like to buy a car on sale.

The central route to persuasion is when a decision is made about something based on the features of the thing. Zoey may be visiting several local car dealers and consulting with her friends about the comfort, fuel economy, maintenance costs, and other characteristics of each model of car. Zoey may choose to buy a specific car because of a combination of these features. The central route to persuasion can be contrasted with the peripheral route to persuasion whereby a decision is arrived at based on information other than the features of a thing, such as whether a celebrity drives a certain model of car.

Heuristics are mental shortcuts used to solve problems. In trying to decide which car to buy, Zoey might think about which car her friend owns, and decide to buy that car (availability heuristic).

Individualism is the collection of idiosyncratic behaviors, thoughts, and beliefs of an individual. Zoey might consider buying a car that suits her lifestyle and beliefs. Her parents, friends, or the car dealers may try to persuade her with features that do not appeal to her – such as electronic conveniences certain cars come with – but Zoey may be more concerned about the carbon emissions of the car, and other ways in which one car is better for the environment than another car.

Rationalization is a psychoanalytic defense mechanism where a person rationalizes an action. Zoey might buy a very expensive car and rationalize it by saying that “everyone I know bought a car twice as expensive as me; therefore, I made a good decision.”

Self-efficacy is the belief one has about their ability to complete a task. If Zoey scores high on self-efficacy, then she will research her options, deliberate, and make the right decision on which car to buy.

The autonomic nervous system can be divided into the sympathetic nervous system and the parasympathetic nervous system. Zoey's sympathetic nervous system is active when she is feeling anxious about buying a car. After Zoey buys a car, her parasympathetic nervous system should return her to a state of calmness.

The foot-in-the-door phenomenon is when someone asks for a small favour before asking for a larger favour. The local car dealers may ask Zoey to take the car for a test drive before they ask her whether she would like to buy a car.

2007 FROs

2007 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap07_psychology_frq.pdf

Answers:

1. A. The mere exposure effect states that people prefer what is familiar, even if they have only been exposed to something once before, over something novel. The mere exposure effect can help play a role in Ellie's quest for friendship if Ellie makes herself visible and known to the others at the psychology club meeting. The more familiar other students in the club become with her, the more likely she is to form friendships.

A mnemonic device is a memory aid. A mnemonic device that could help play a role in Ellie's quest for friendship is chunking. Ellie will be learning the names of new people at her psychology club meeting, and to help remember all of them, Ellie could chunk them in alphabetical order. For example, when trying to remember the list, Caroline, Brianna, Alison, Catriona, Abigail, she could chunk the names alphabetically "AABCC."

Schachter's two-factor theory states that an emotion emerges from physiological arousal and a cognitive label. As Ellie enters the meeting, the members of the psychology club may be excited by a new member and associate the site of Ellie with joy.

The locus of control is whether one believes that they can enact change and determine the outcome of events or whether one believes the outcome of events is beyond their control. If Ellie has an internal locus of control (i.e., she believes she has some control over events in her life), she will be more likely to act in a way that brings her closer to people and enables her to form friendships. For example, Ellie might approach everyone at the meeting and introduce herself.

B. In-group bias is the tendency of people in a group to prefer individuals of their own group over out-group members. In-group bias may hinder Ellie's chances of forming friendships if the members of the psychology club are closed off to new members or if Ellie is too different from them.

Regression is a psychoanalytic defence mechanism where a person exhibits past behavior because of stress or trauma. Regression may hinder Ellie's chances to form friendships at the psychology club meeting if, upon becoming nervous at the sight of so many new people, she begins to cry or act petulantly.

Operant conditioning is one form of learning where the consequences of behavior determine the probability of behavior recurring. Operant conditioning can hinder Ellie's chances of forming new friendships at the club meeting if she is punished for being there or for approaching members of the club. If Ellie is treated callously, ignored, or is made uncomfortable by the members of the club, she is not likely to join and will be even less likely to make friendships.

A circadian rhythm is the approximately 24-hour-metabolic cycle that humans' bodies experience. Since Ellie is a new student at Skinner High School, she may have recently moved from across the country and has travelled across two time zones. Her circadian rhythm may still be adapting to her new time schedule, and she may not have gotten enough sleep before her day at school. She may appear tired, groggy, and unwilling to approach students at the psychology club meeting; therefore, her chances of forming friendships will be reduced.

2. Two characteristic symptoms of schizophrenia are catatonia – someone who assumes a rigid body posture for a significant duration – and hallucinations – perceptions without corresponding environmental stimuli (e.g., hearing voices when there are no voices).

A research finding that supports a genetic basis for schizophrenia is that if one identical twin is diagnosed with schizophrenia, then the other twin has a 50% chance of also having schizophrenia.

The dopamine hypothesis regarding the origins of schizophrenia is that the disorder is related to an excess of dopamine. This is demonstrated by drugs that act as antagonists at dopamine receptors, meaning that there is less dopamine binding. When such drugs are taken, there is a lessening of schizophrenic symptoms. Conversely, drugs that increase dopamine availability and binding, such as cocaine, increase the severity of schizophrenic symptoms.

Medications used to treat schizophrenia act as antagonists at dopaminergic neurons (i.e., neurons that have dopamine receptors).

One risk inherent in using medications that treat schizophrenia is tardive dyskinesia. Tardive dyskinesia is where one suffers from muscle tremors and stiffness because the antipsychotic drugs significantly lower the amount of dopamine available for binding. Dopamine is known to be involved in muscle movement, so decreasing dopamine with antipsychotics to relieve the effects of schizophrenia might result in tardive dyskinesia.

Two characteristics that differentiate schizophrenia from dissociative identity disorder (DID) are that DID patients are more likely to have suffered from child abuse

and DID patients are *less likely* to be relieved of their symptoms when they are given antipsychotic medications (which are used to treat schizophrenia).

2008 FROs

2008 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap08_psychology_frq.pdf

Answers:

1. A) Skinner's operant conditioning states that the consequences of a behavior either strengthen (make it more likely to recur) or weaken (make it less likely to recur) it. For example, if a baby's babbling is positively reinforced, the baby is more likely to babble again.

Bandura's social learning theory states that behavior is often learned through observation. If a baby sees a parent playing with blocks a certain way, the baby is likely to try to play with the blocks like the parent.

Ainsworth's attachment research demonstrates that there are different forms of attachment: secure, anxious, and avoidant. An infant who has a secure attachment style is more likely than the others to cry and seek her parents in a novel situation, if she has been left alone.

Baumrind's research on parenting styles shows that there are different forms of parenting: permissive, authoritarian, and authoritative. Each style carries its own consequences. Children reared under a permissive parenting style are likely to be more dependent and have emotional control problems later in life.

B) One action the Smith-Garcias's use to manage their child's tantrums is negative punishment or omission training. Negative punishment, also known as omission training, is used to stop undesirable behavior by removing something valuable. When their child has a tantrum, the parents can remove toys and other valuable things that the child plays with, and immediately give the toys back when the child stops crying and acts calmly.

Bandura's social learning theory can help teach sharing behavior. If the Smith-Garcias's overtly and happily share items between themselves in front of their child, their child will imitate this behavior when they are around others.

Ainsworth's attachment research can help teach self-reliance if, when the child begins crying in trying something new or when they realize they are alone, the parent briefly steps in to provide encouragement and demonstrates that the child can complete tasks and explore on their own.

Baumrind's research on parenting styles can help teach self-esteem if the parents use an authoritative parenting style. This style of parenting uses reinforcement as often as punishment in shaping a child's behavior; as well as providing the child with easy-to-understand explanations for why certain behavior is desirable. If, for example, Michelle is encouraged by her parents to write a song and finish it by a specific date so that they can show it to relatives, and when she does this on time, the parents congratulate her for her accomplishment, Michelle is likely to gain self-esteem.

2. A) The control group is the second condition in which participants estimated the length of lines without hearing estimates of confederates.

The participant in the first condition did not know the other five people were confederates.

The operational definition of the dependent variable is the participants' estimates of the line length.

The hypothesis of the experiment is that if an individual's decisions are made after several other people give their answers, then an individual will conform to what the others have said.

The participants in this experiment should be debriefed as to the actual purpose of the study after the experiment. The participants should be told that the study is not about perceptual abilities but is about conformity.

The participants' estimates of line length in the study might be related to cognitive dissonance because the participants in the first condition may genuinely believe that the line length is something different than what they have said, that is, they believe the line is one length but have given an inaccurate estimate (i.e., their belief and behavior is incongruent). They probably feel a significant amount of anxiety because of this incongruence.

Maslow's hierarchy of needs might be related to the participants' estimate of line length in the study because the third tier of Maslow's hierarchy is love and belongingness. If participants lower needs are satisfied (physiological and safety needs), then they may give an inaccurate estimate of line length to satisfy the need to be a part of the group (i.e., to feel a sense of belonging). Giving the accurate answer might ostracize them from the group and not satisfy their need to feel a part of a group.

2009 FROs

2009 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap09_frq_psychology.pdf

Answers:

1. Extrinsic motivation is when someone is moved to act because of a reward they are to receive rather than for activity itself. If Dimitri and Linda are rewarded with money, a trophy, and praise for winning, they are likely to learn and perform their new dance routine as best they can.

Punishment reduces the probability of a behavior recurring. If Dimitri and Linda are made to repeat a dance technique 10 times if they make any mistake in their new dance routine, this could serve as punishment.

Proactive interference is when older information interferes with the recall of newer information. When the music cues, Dimitri and Linda may accidentally begin an old dance routine they had learned prior to the newest routine.

Endorphins are a type of neurotransmitter that mitigate pain and stress. After vigorously practicing their new dance routine for the competition, endorphins alleviate some of the pain that Dimitri and Linda feel from vigorous exercise.

The vestibular system is responsible for the orientation of our body in space and keeps us balanced. Dimitri's and Linda's vestibular systems are responsible for keeping them upright as they perform their new dance in the competition.

Divergent thinking is brainstorming new ideas and connections when trying to solve problems. When performing their new routine, they might improvise several dance steps in order for the dance to be better choreographed instead of simply walking in-between dance segments.

Introversion is the personality trait describing someone who is reserved and does not gain as much pleasure from being around other people as someone who is extroverted. If either Dmitri or Linda score high on introversion, then they may not be willing to perform their dance in front of a large audience or in public.

2. (a) A cognitive map is a mental representation of one's physical environment. A cognitive map can help James on his driving test if he has made a mental map of where his road test will take place.

The cerebellum is a part of the brain that coordinates fine muscle movements, posture, and eye tracking. While James is scanning the road during his road test, his cerebellum will be active as he tracks the other cars and objects in his visual field.

Observational learning occurs if an organism observes and then imitates another. Observational learning can help James on his road tests if he watches others take their road test and imitates how they drive.

Human factors are all those factors which influence the behavior of some task. For example, the way the interior of the car on James' road test is designed can influence how he performs. If James can see and operate the car with ease, he is likely to perform better on his road test.

(b) The reticular formation is a set of neurons in the midbrain that are responsible for arousal, consciousness, and sleep. James' reticular formation will be active – because it is keeping him awake and alert – as he is writing the test.

Predictive validity is the ability of a test to approximate future performance. If the written driving test has high predictive validity, a high score on the written test should mean that

the person who received that score will be a safe driver; for example, if James scores highly on the written test, then he will get into fewer automobile accidents. If the written test has low predictive validity, a score on the test will not accurately estimate what kind of a driver someone is.

Semantic memory is our memory of facts and information. The written driving test will ask for facts and information regarding road signs, speed limits, traffic lights, and much more; James will use his semantic memory to answer these questions.

2010 FROs

2010 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap10_frq_psychology.pdf

Answers:

1. The serial-position effect is the tendency of an individual to recall the first (primacy effect) and last (recency effect) items in a list. For example, if Joey is asked to study a list of words, she will be more likely to recall the first and last words of the list; she will recall fewer words in the middle of the list.

Functional fixedness refers to the inability to use an object other than what its intended use is. If, for example, one needs to prop up a laptop, one could use the large textbooks beside them to do so. But functional fixedness means being unable or incapable of doing this. If one suffers from functional fixedness, one may have trouble problem solving.

Operational definitions are those that are observable (i.e., able to be seen) and quantifiable (i.e., able to be counted). If variables are not quantifiable or observable, then one cannot replicate an experiment. If, for example, Sarah finds support for the hypothesis, “wearing a red shirt makes you happy,” but does not operationally define what happiness is, then other researchers cannot replicate her experiment and verify her findings.

A double-blind research design is one where neither the participants nor the researchers know who is in the control group or experimental group. A double-blind research design minimizes the likelihood of experimenter bias.

Operant conditioning is a type of learning where the consequences of a behavior influence the likelihood of that behavior recurring (i.e., happening again). If one engages in superstitious behavior and if the behavior is positively reinforced, then superstitious behavior is likely to recur. For example, if one consciously avoided walking under a ladder and then a second later, managed to avoid an accident, that will strengthen the likelihood that the person will avoid walking under ladders in the future.

Reinforcement is the addition of a stimulus that strengthens the likelihood that a behavior will recur. If Rain enjoys playing the violin but is continually positively reinforced with money, awards, and praise, this may lead to the overjustification effect. Thus, Rain's intrinsic motivation for playing the violin will decrease because of all of the positive reinforcement.

The myelin sheath is a fatty covering on the axons of *some* neurons. The myelin sheath increases the rate of an action potential by allowing depolarization to occur only at the nodes of Ranvier instead of along the entire axon.

2. The cocktail party effect is one's ability to focus on one stimulus while filtering out irrelevant stimuli. At the pep rally, there will be noise during the coach's speech, but listeners in the far back of the rally will be able to filter out irrelevant noises and hear the speech.

Conformity is when an individual yields to group influence. Some students may believe that the colours the student leaders have chosen for the shirts are the wrong shade or tint, but a portion of students who disagree will eventually yield to the majority of

students and leaders who have decided that the colours accurately represent the school flag.

Deindividuation is when an individual acts mischievously because they believe they will be less likely to be identified in a uniform group. Since large groups of students are wearing the matching shirts, they will be more likely to act mischievously (engage in vandalism, disruptive behavior) because they will be less likely to be identified.

Figure ground is a Gestalt principle whereby an image can be divided into the foreground and background. One who is wearing a green shirt in the group of students wearing yellow shirts will appear as figure and the students wearing yellow shirts will appear as the background.

The occipital lobe is located at the back of the head and is primarily involved in processing visual information. When the cheerleaders are performing their routine, onlookers' occipital lobes will be active.

Procedural memory is implicit memory for tasks. Procedural memory is what people usually refer to as 'muscle memory'. As the cheerleaders perform their routine, they will be relying on many of the unconscious movements and actions they have developed through training.

The sympathetic nervous system is responsible for our 'fight or flight' response. As the band plays and the students sing along, many students will become excited and their sympathetic nervous system will increase their heart rate, cause pupil dilation, and increase their breathing rate.

2011 FROs

2011 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap11_frq_psychology.pdf

Answers:

1. The independent variable in this study is feedback. The dependent variable in the study is the number of figures correctly identified.

Foveal vision is where visual acuity is sharpest. When participants stare at the center of the screen their fovea centralis, a part of the eye with the most cones and which is responsible for foveal vision, is pointing in that direction. Participants visual acuity is sharpest – they will be able to best identify the geometric figures – if the figures are presented in the central of the screen.

Feature detection is the ability to identify the isolated parts of objects and recognize how they make up the greater entity. The lines, edges, and curves of the incomplete geometric figures' participants see on the screen are the features of these figures.

The Gestalt principle of closure when a person identifies a geometric figure as complete when it is incomplete. For example, an incomplete rectangle may be identified as a rectangle if the lines seem to connect.

Participants will correctly identify some of the incomplete geometric figures presented because of the Gestalt principle of closure.

Random assignment is when a researcher randomly assigns participants to either the control group or to the experimental group. The conclusions of any research study depend on the random allocation of participants to either group. Random assignment

minimizes bias in research because both the control group and experimental group should have samples representative of the broader population.

Statistical significance means that there is a large enough difference between the measurements of the control group and experimental group such that one can safely assume that the difference between the two groups is the independent variable. In other words, if the experiment reveals statistical significance, then one can establish a cause-and-effect relationship.

2. A. Broca's area is a part of the brain responsible for executing the muscle movements involved in speech. As Savannah speaks in Japanese during her exam, Broca's area will be active as enunciates the words.

Phonemes are the smallest units of language. For example, the 'k' sound in cat is a phoneme. In preparing for her exam, Savannah will have to use phonemes to speak the basic words of Japanese.

Modeling is when an organism observes and then imitates the behavior of another organism. If Savannah has watched her teacher pronounce Japanese words, she will likely pronounce them the same way her teacher does; and therefore she do well on the exam.

Chunking is a mnemonic device where a long list of items to be remembered is chunked into more manageable units. If Savannah chunks Japanese words she needs to recall into acronyms or categories, she will be more likely to recall them on her exam.

Encoding failure is when information from short-term/working memory fails to be integrated into long-term memory. If Savannah does not *repeat* the Japanese words she

is to remember or *elaborate* on how those words relate to other words in her Japanese lexicon, then she will recall fewer words on her exam.

The optimal period for language acquisition is between five through puberty. Since Savannah is in middle school, she may be at the tail end of the critical period for language development; and therefore, may do worse on her exam compared someone who is younger.

Self-efficacy is the positive or negative belief that one has about their ability to complete a task. Since Savannah believes she spoke Japanese fluently, one can assume that she is confident in herself. Her confidence may or may not correlate with her test performance.

Confirmation bias is searching for information that confirms one's own beliefs. In telling her family about the exam, Savannah might only communicate instances of her exam where she performed well instead of identifying moments where she mispronounced words or forget them entirely.

2012 FROs

2012 AP Psych Questions:

https://secure-media.collegeboard.org/apc/ap12_frq_psychology.pdf

Answers:

1. The availability heuristic is a problem-solving method where a person solves a problem with what initially – or whatever information is available to them – comes to mind. Annabelle may have an older friend who goes to university. When she is deciding where to apply, Annabelle might recall her friend – and then where her friend goes to school – and decide to apply to that school.

Compliance is when an individual complies with a request. If Annabelle’s parents ask her to look into XYZ university and for her to write up a short summary of its benefits, Annabelle will be more likely to comply with their request for her to attend this university, when they ask her to attend XYZ university (foot-in-the-door phenomenon).

The prefrontal cortex is a part of the brain responsible for executive decision making, emotional control, and abstract reasoning. When Annabelle is weighing the trade-offs between which university to attend, her prefrontal cortex will be active.

Prospective memory is a type of memory where one must remember to perform an action in the future. Annabelle will be using her prospective memory when she remembers to submit all her university applications by their specific dates.

Agoraphobia is a fear and avoidance of places where one feels trapped (e.g., large, crowded places). If Annabelle suffers from agoraphobia, this might make it hard for her to adapt to post-secondary life since college classrooms and campuses are often crowded. She will experience anxiety in such spaces.

Crystallized intelligence is all the knowledge and experience one has accumulated over time. Annabelle's crystallized intelligence will help her achieve good grades on her tests and assignments in post-secondary.

Ethnocentrism is a belief that one's own ethnicity and culture are superior to others. If Annabelle is ethnocentric, then she will have a difficult time adapting to the diversity of ethnicities found at most universities. For example, she may refuse to try the restaurants closest to her dorm because they are unfamiliar ethnic cuisines.

2. Rods are a photoreceptor located in the retina. There are more rods located on the outer areas of the retina which produce peripheral vision. When Joey identifies a stranger in her peripheral vision, the rods in her eyes will have been responsible for detecting that person.

If a person is shown a list of unrelated words and then is asked to recall the items on that list, they will more likely recall the first and last words in the list. For example, if Michelle sees the list dog, exam, computer, fist, yogurt, table, she will be more likely to recall dog, exam, yogurt, and table than exam computer, and fist.

Low levels of serotonin are correlated with depression. For example, if Jason suffers from depression, then it is likely the level of serotonin in his brain is lower than the average individual's.

Depth perception is one's ability to judge the distance between two objects. Retinal disparity refers to the different images each eye transmits to the brain (due to the eyes being separated).

The primary motor cortex, located in the frontal lobe, is responsible for body movement. When Rain is moving his bow across the strings of his violin, his motor cortex is responsible for coordinating the muscle movements of his arm and hand.

Performance can increase (i.e., social facilitation) or decrease (i.e., social impairment) in the presence of others. For example, if Mimi plays a piano piece with ease, then the presence of others may increase her performance; that is, she may perform the piece better with others around than if she was alone. On the contrary, if Mimi recently learned a new piano piece and is still struggling with the fingering, then the presence of others may make her perform the piece worse than when she performed it alone.

Proximity is the Gestalt principle that says that objects that are close together tend to be perceived as belonging to a group. For example, if Jerry sees five people standing close together, Jerry will likely perceive those being as being friends or part of a group.

2013 FROs

2013 AP Psych Questions:

https://secure-media.collegeboard.org/digitalServices/pdf/ap/apcentral/ap13_frq_psychology.pdf

Answers:

1. A. One way to refute John's argument is to indicate that correlational research does not imply causation. The research John cites suggests that there is a relationship between incentives and student reading; it does not demonstrate that incentives *cause* students to read more.

The overjustification effect suggests that external rewards may decrease students' intrinsic motivation for reading. If Elsa enjoys reading – and is then given a free pizza coupon for reading – then she might stop reading for enjoyment; she is likely to go on reading merely for the pizza coupon.

B. John has recommended a fixed-ratio schedule of reinforcement (free pizza coupon for every 10 books read). A better schedule of reinforcement – one that would lead to more books being read faster – would be the variable-ratio schedule of reinforcement. Students could receive a free pizza coupon, on average, for every five books they read: Sometimes they receive a free coupon after reading seven books, sometimes 10, sometimes after one, sometimes after only two.

C. Belief perseverance is when someone continues to believe something despite receiving contrary evidence. A reader of John's argument might continue to believe his argument despite the reader being told that a new experiment was conducted, and the conclusion of that research is that reading incentives *decrease* reading scores.

The central route to persuasion is when persuasion is based on the facts, information, or logical analysis of an entity rather than information not pertinent to the entity. For example, in selling a car, the central route to persuasion can be used by the salesman: he may talk about the

features of the car (gas milage, horsepower, warranty, seating availability, colour options, etc.). The central route of persuasion may lead to the reader to accept John's argument if the reader is swayed by John's logic and facts (e.g., the research showing a relation between use of...).

Retroactive interference is when new information interferes with the recall of older information. If, for example, the reader learned about John's argument, this may cause them to have trouble remembering what they previously knew about the relationship between intrinsic motivation and reading. Maybe they had read a study that suggested that students read more books when they are interested in the books that are available to them.

Source amnesia is the inability to recall where, when, or how one learned some information. If someone who has read John's argument is explaining them to a colleague, they may not recall where or how they got this information. This is an example of source amnesia.

2. Part A. The operational definition of the dependent variable is the participants score on the memory/recall test.

The ethical flaw in the study is that the researcher provided a list of the names and test scores for everyone in a letter to all participants.

The research design flaw in the study can be corrected by randomly sampling a population and then randomly assigning participants to either the experimental or control group. The study does not have a representative sample nor were participants randomly assigned.

Statistical significance means that the difference between the experimental group and control group is large enough to say that the independent variable is causing the difference. If there was a significant statistical difference between the distributed versus massed practiced groups, that means that the independent variable is responsible for the difference.

Part B.

Fluid intelligence is the ability to think abstractly and solve new problems what information and resources are available. Fluid intelligence tends to decrease with age. The group with younger participants, group A, will score higher on fluid intelligence. Since they score higher on fluid intelligence, this may influence their score on the recall test: maybe they were better able to make connections between all the vocabulary words, for example.

The circadian rhythm are metabolic processes that recur on an approximately 24-hour cycle. One's circadian rhythm changes with age; older adults tend to get tired earlier in the night. Since group B is over sixty years of age, they will have greater difficulty studying during the hours 6:30-8:30pm. This could compromise the findings of the study.

2014 FROs

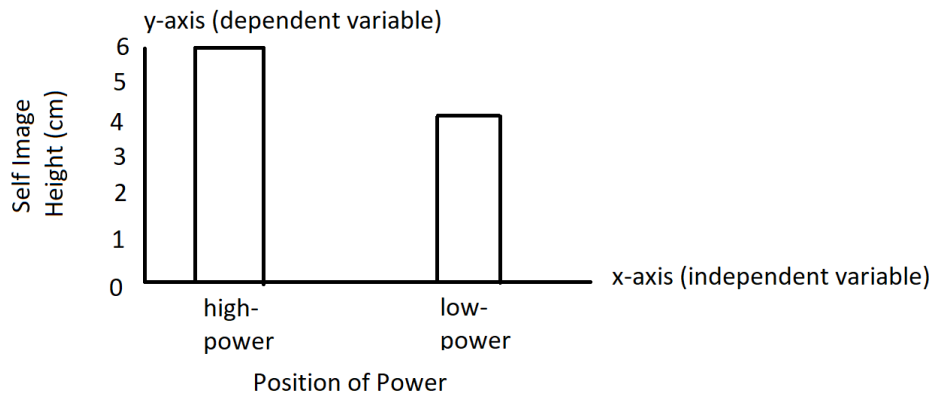
2014 AP Psych Questions:

https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap14_frq_psychology.pdf

Answers:

1. The levels of the independent variables are the high-power condition (i.e., recalling a time when a participant had power over others) and the low-power condition (i.e., recalling a time when someone else had power).

The researchers measure the dependent variable by asking participants to adjust the height (in centimeters) of an electronic graphical image (an avatar) of themselves.



The researchers can conclude that there is a cause-and-effect relationship between the independent variable and dependent variable because this is an experimental design, the researchers randomly assigned participants to either the experimental group or control group, and they found a statistically significant difference between the two conditions.

Statistical significance means that there is a larger enough difference between the experimental group and control group to conclude that the difference is not due to chance and that the difference between the groups is the independent variable.

Researchers must debrief participants because they deceived participants: participants thought that they were participating in a business simulation.

2. An authoritarian parenting style is when parents are overly strict and punitive with their children. If Abram's parents raised him with an authoritarian parenting style, then Abram might be withdrawn from peers, social gatherings, study-groups, and extracurricular activities at his college. Not only might he miss out in getting help with his classes, but he may become lonely and feel isolated, which could further affect his ability to succeed.

Erik Erikson's psychosocial stage, identity versus role confusion states that between the ages of 12-18, a teenager either develops a sense of who they are and what they want to become or they do not. If Abram has developed an idea of what he wants to become, choosing a college major and classes should come with ease. If he has not developed an idea for who he is and what he wants to do with his life, then he may be plagued with indecision during college.

Unconditional positive regard is when a person accepts another person regardless of their beliefs, behavior, or lifestyle. If Abram's parents accept him – regardless of his decisions in college and performance – he will feel more confident in himself.

Divergent thinking involves brainstorming multiple solutions to solve problem. If Abram is struggling to find time to study, he could think of different ways to manage his school work and time.

Elaborative rehearsal is when one relates new information one is learning to old information or ideas. If Abram relates or makes analogies of the ideas and concepts he is learning in his math and science classes to his real life (e.g., my hot cup of tea is cooling off, this is the second law of thermodynamics...), then he will be able to remember the concepts for the tests.

Intrinsic motivation refers to someone doing something because the activity is rewarding – not because they will gain a reward or praise. If Abram has an intrinsic love of learning, then he will do well in the classes he is attending.

Self-efficacy is an individual's belief in their capacity to perform a task. If Abram scores high on self-efficacy, then he is likely confident in himself. His confidence in himself should help him score better on his school exams.

2015 FROs

2015 AP Psych Questions:

https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap15_frq_psychology.pdf

Answers:

1. A. Confirmation bias is searching for information that confirms one's beliefs instead of trying to find evidence that refutes one's beliefs. The researchers might have an existing belief about sugar consumption and hyperactivity (i.e., that sugar consumption leads to hyperactivity), and are projecting that belief onto the children at the class party celebrations.

The availability heuristic is a shortcut to problem solving where the first thing that is available or that comes to mind is how the problem is confronted. When the researchers observe the children getting up out of their seats after eating sugary snacks, they might immediately recall an article they discussed about the effects of sugar on hyperactivity.

The researchers misunderstand the inferences that can be drawn from a correlational research design when they conclude that sugar causes hyperactivity. Correlational studies cannot attribute causation; a correlational research design can only show that there is some relationship between variables.

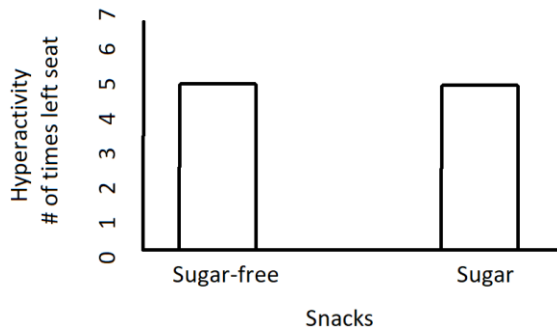
B. A possible hypothesis is if children are given sugary snacks, then they will become hyperactive.

Hyperactivity is the dependent variable. It can be defined as the number of times the children left their seats.

Random assignment is when participants have an equal chance of being in either the control group or experimental group. This can be achieved if researchers put the names into a

computer program that randomly assigns participants to either the control group or experimental group.

C.



2. A. The prefrontal cortex – located in the frontal lobe – is associated with higher cognition, long-term planning, personality, and impulse and emotional control. The prefrontal cortices of both Chandler and Alex will be active as they deliberate and discuss the criteria on which they are basing their decision to buy a new home.

An algorithm is a rule that guarantees the right solution by applying a formula. Chandler and Alex develop a formula – based on their income, expenses, and mortgage rate – for a home that they can afford.

B. Social loafing is the tendency for any individual of a group to put in less effort than required because there are many people in group. When they are packing their belongings into the moving truck, some individuals will begin to put in less effort because there are many people helping Chandler and Alex move.

The alarm stage of the general adaptation syndrome is when someone’s sympathetic nervous system reacts to stress by putting the person’s body into the ‘flight or fight’ response.

When Chandler and Alex learn that they need to move within 48 hours, they will experience the 'flight or fight' response (i.e., increased heart rate, breathing, pupil dilation, etc.).

C. Proactive interference is when old information interferes with the recall of newer information.

When Chandler or Alex is returning home from work, they might drive to their old address, forgetting that they recently moved to a new address.

Sensory habituation/adaptation is a decreasing responsiveness to stimuli due to constant stimulation. If Chandler and Alex's new home is near a busy thoroughfare (i.e., street), they may eventually become unaware of the noise from the traffic. Friends who stay at their home might not be able to sleep, but Chandler and Alex will be clueless as to the reason.

Normative social influence is holding an attitude that is congruent with the consensus of a group and wanting to be liked by the group for holding that attitude. When Chandler and Alex learn that all their neighbors put out liberal election signs in their front yard, they begin to do the same.

2016 FROs

2016 AP Psych Questions:

https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap16_frq_psychology.pdf

Answers:

1.

A) Motor neurons are neurons that execute muscle movements. Ashley's motor neurons help her coordinate all the movements involved in driving a car from New York to California. For example, motor neurons help her guide the steering wheel, press on the brake and gas pedal, and turn her head to observe objects in her field of vision.

Retinal disparity refers to how each eye receives a slightly different image because of the spatial separation between eyes. Retinal disparity will help Ashley judge how far away or close objects like cars and traffic lights are when she is driving to California.

Heuristics are mental shortcuts used when problem solving. A heuristic Ashley might use when becoming uncertain about which road to use is the availability heuristic: The first thing that she thinks of when she gets lost is to look up the directions on her phone.

Procedural memories are those memories that help us complete physical tasks like riding a bike; they are often unconscious memories. Procedural memories help Ashley drive the car; she does not need to apply conscious effort while driving the car since she's been driving for many years.

B)

A circadian rhythm is a metabolic cycle that recurs approximately every 24 hours. Ashley's circadian rhythm may be disrupted due to the time difference when travelling from

New York to California. This may lead to her accident because her sleep-wake cycle is out of its normal rhythm.

A conditioned response (fear) is one that is elicited by a conditioned stimulus (guardrail). After her accident, Ashley tenses up and blinks when she sees a guardrail.

Inattention blindness is when an individual does not perceive something because their attention is focused elsewhere. Inattention blindness may have caused Ashley's accident because she may have been focused on finding the next offramp or exit sign when she should have been focusing on the road in front of her.

2.

A) Distributed practice is when one practices a task periodically in small amounts over a long period (playing piano ten minutes a day for two months before an exam). Distributed practice can help Danny if he practices memorizing the capital cities for a small amount of time every day long before the end of the semester.

A mnemonic device is a memory aid. If Danny chunks the capital cities into continents and makes acronyms out of the chunked lists, he will be better able to recall the capital cities.

A secondary reinforcer is something that has been linked or associated with a primary reinforcer. If Danny is verbally praised or given a gift for practicing the capital cities he must remember, he will be more likely to succeed on the exam.

The Big Five trait of conscientiousness is characterized by punctuality, a positive attitude, and effort. If Danny scores high on the Big Five trait of conscientiousness, then he will be more likely to study and show up prepared for the examination.

B)

Retroactive interference is when new information competes with and displaces older information that one is trying to recall or remember. If Danny is thinking about some psychology terms he needs to remember for an upcoming exam *right before* the geography test, when he tries to recall the capital cities, he may not be able to recall all of the capital cities.

A self-fulfilling prophecy is when one's own beliefs or another person's influence the outcome of an event. For example, if Danny's mother tells Danny that he has always been bad at geography, this might cause Danny to believe that he has no hope at doing well on the exam; he might therefore refuse to study; and subsequently do poorly on the exam.

The sympathetic nervous system is a part of the peripheral nervous system that activates our body's stress response (fight or flight). If Danny's expectations about the geography test cause a lot of anxiousness and excitement (i.e., increased heart rate, fidgeting, sweating) in him during the oral exam, he may forget some cities or slip up during the oral examination.

2017 FROs

2017 AP Psych Questions:

<https://apcentral.collegeboard.org/pdf/ap-psychology-frq-2017.pdf>

Answers:

1. A) Drive reduction theory states that when homeostasis is disrupted (fatigue, hunger, thirst, etc.), then there is a need and a drive to return to homeostasis. For example, if Jessica does not eat any food for several hours, her blood glucose level will drop, and her brain will initiate a set of chemical reactions causing her to seek out food.

External cues are sensory signals from our environment that influence behavior. External cues such as observing people eating, food advertisements, the smell of food, and the sight of food can influence eating behaviour. For example, if Linda sees an advertisement on TV for a type of food she likes, she might feel hungry and seek out food.

Dopamine is a neurotransmitter associated with pleasure or euphoria. Since dopamine may be released when eating a meal or at the sight of food, this may cause someone to seek out food and eat more.

Observational learning is when an organism observes and then imitates the behavior of another organism. If Aviva watches her friends at school eating lots of fruits and vegetables every day, then she may begin eating more fruits and vegetables herself.

B) The dependant variable in this study is what number (1-9) the participant wrote for their “Concern for Healthy Eating.”

This is an experimental rather than a correlational research design because there is an independent variable (framing of causes of obesity) that one group experienced (“obesity is a disease”) that another group did not (“obesity is a ‘choice’”).

The most appropriate conclusion one can draw from this study is that if people read that obesity is the result of personal choice and behavior, then they are more likely to say that they are more concerned about eating healthy compared to those who read that obesity is a disease.

2.

The resistance phase of the general adaptation syndrome is when the body prolongs its stress response (releasing neurotransmitters, hormones, breaks down lipids, proteins, etc.) to overcome the stressful event. The resistance phase could have contributed to Sachio's success because his body was physiologically prepared for the exam, even after it was delayed a day.

Implicit memories are unconscious memories often created through repetition. Implicit memories helped Sachio play the difficult piece of music because he has practiced some of the pieces so often that he does not need to apply any conscious effort when playing.

Social facilitation is when performance of a task improves when an audience is present compared to when an audience is not present. Social facilitation helped Sachio perform better because the audience (judges) caused Sachio to perform some of the familiar pieces of music better than when he was practicing them alone.

The basilar membrane is a structure of the inner ear that aids in translating sound waves into neural signals that the brain can interpret. Sachio's basilar membrane contributes to his success by helping him identify the notes he is playing on his saxophone.

The somatosensory cortex is an area of the brain located in the parietal lobe that receives signals from the body's sense of touch. The somatosensory cortex helped Sachio's fingers detect the right amount of pressure to put on each key when he was playing.

Intrinsic motivation is when one does an activity because they enjoy the activity itself rather than for any external reinforcement. Since Sachio enjoys the music he makes with his saxophone, he was more likely to play and practice on his own, which is why he played so well at the audition.

The Big Five personality trait of extraversion is when one gains pleasure from being around others. If Sachio scores high on extraversion, then he will be more likely to be happy performing his music to a panel of judges and discussing music and his career with them afterwards.

2018 FROs

2018 AP Psych Questions:

<https://apcentral.collegeboard.org/pdf/ap18-frq-psychology.pdf>

Answers:

1.

A) Context-dependent memory occurs when recall or performance increases if it takes place in a similar environment where practice took place. Context-dependent memory can help Jackie perform her lead role in the school play if she rehearses on the same stage that the play will be given.

Acetylcholine is a neurotransmitter that is associated with memory and movement. The right amount of acetylcholine in Jackie's body and brain will allow her to remember her lines and perform the appropriate movements in her lead role during the school play.

Our kinesthetic sense is our awareness of the positions and movements of our limbs. Jackie's kinesthetic sense will help her transition from one movement to another – without much consciousness effort – in her lead role in the school play.

Selective attention is our ability to focus on one sensation or perception while simultaneously blocking out irrelevant stimuli. If someone laughs, coughs, or there is other irrelevant noise from the audience during the play, Jackie will filter out these irrelevant stimuli and be able to focus on her lines and performance.

B)

Proactive interference is when older information competes with and blocks the retrieval of newer information one is trying to recall. Proactive interference may hinder Jackie's

performance if, during the play, she can only think of lines from a previous musical that she performed in, instead of the lines and movements required for her lead role in the play.

The Yerkes-Dodson law of arousal states that there is an optimal amount of arousal for performing best on a task. If Jackie comes to the play without enough sleep or has had too many caffeinated beverages, then she is likely to perform worse than if she got enough rest or abstained from the caffeinated beverages.

An external locus of control is when someone believes that, despite any effort or diligence on their part, the outcome of events is outside of their control. If Jackie has an external locus of control, then she believes that her performance in the play will be dependant on fate or destiny, and not how often she rehearses. She may therefore fail to rehearse often enough and perform poorly in the play.

2.

A) The most appropriate conclusion that can be draw from the figure is that there is a positive correlation between stress level and number of absences due to illness: As stress level increases, so do the number of absences due to illness.

The exhaustion phase of the general adaptation syndrome is when the body's stress response has continued for so long that the body has depleted all resources devoted to maintaining the 'flight or fight' response; and therefore the parasympathetic nervous system is activated. Since the body has used up many resources combatting the stressful event, the immune system is weaker during this stage, and we are more likely to become sick. The graph above is consistent with this idea (as stress increases, sickness is more likely to occur).

The institutional review board might not approve the study because it violates one of the APA guidelines for experiments with humans: there should be as little physical and psychological risk as possible when performing experiments on humans.

Deindividuation is when an individual engages in behavior that they normally would not engage in due to being part of a group. Some high school students might use drugs or attend parties and do things they normally would not do because they are a part of a group.

Normative social influence is when someone conforms in belief or behavior in order to be accepted and liked by group members. In order to fit in at a party, some students may binge drink or smoke marijuana to be accepted by their peers.

Cognitive restructuring is when we change the way we perceive an event. Cognitive restructuring can lead to good physical and psychological health if, for example, Anya reinterprets her poor grade on a quiz as an opportunity to learn from her mistakes and try again after some more studying.

Incentive motivation is when an external reward is used to motivate some desired behavior. Incentive motivation can lead to good physical and psychological health if, for example, Alec is told that for every 30 minutes of reading and 30 minutes of physical exercise he completes, he is allowed to play a computer game he enjoys for 15 minutes.

2019 (SET 1) FROs

2019 AP Psych Questions (SET 1):

<https://apcentral.collegeboard.org/pdf/ap19-frq-psychology-set-1.pdf>

Answers:

1) The operational definition of the dependent variable in this study is the percentage of children taking additional candy.

The psychologist's hypothesis that children would take more candy when they left their masks on is supported by the data: in both cases, solo and in a group, children who left their masks on took significantly more candy. The psychologist's other hypothesis that children who came alone would take more than groups of children is not supported by the data. Children who came in a group took significantly more candy than children who came alone.

The psychologist cannot generalize her findings to all children because she only collected data on children who came to her house. The children who came to her house do not represent all children who go trick-or-treating.

The research design is experimental rather than a naturalistic observational study because the psychologist manipulated the variables (mask on/off, solo/group of children). A naturalistic observational study only looks at what happens – researchers do not manipulate variables during naturalistic observation.

Modeling is when an organism observes and then imitates another's behavior. Modeling may have played a role in the groups of children when one child took a piece of candy. The other children in the group observed this and then took a piece of candy for themselves.

Deindividuation is when one feels anonymous because they are a part of a group.

Deindividuation may have played a role in the groups of children – especially the masked groups of children – because they felt like they were a part of the group and not acting as individuals.

Lawrence Kohlberg's preconventional stage of moral development is when an individual judges what is right or wrong based on whether they are rewarded or punished for the behavior. Kohlberg's preconventional stage of moral development may have prevented some children from taking additional candy because they thought that they might be punished for taking candy if they were caught doing so.

2) Crystallized intelligence is knowledge that has come from experience or learning. Since Ludy worked at the library many years ago, he may still remember where all of the categories of books are (fiction, biography, reference, etc.) and might be able to tell parents and children where some books are located.

Altruism is working for the benefit of others with no reward for oneself. Since Ludy is volunteering at the library and not expecting anything in return, he is acting altruistically.

The Big Five personality trait of extraversion is when one gains pleasure from being around others. Since Ludy enjoyed shelving books and being alone where he could focus on a single task – and because of his experience working at a desk job – Ludy probably scores low on the Big Five trait of extraversion.

Broca's area is a part of the brain involved in speech production and is located in the frontal lobe. When Ludy tells children who are being loud that they need to keep it down, Broca's area will be active as he speaks.

Self-efficacy is a belief one has as to whether they will be able to attain a goal. If Ludy scores high in self-efficacy, he will be confident and capable of helping create new programs for disadvantaged children.

Episodic memories are personal memories for events (who, what, where, when, how). When Ludy recalls how much he enjoyed working at the library during high school, he may be thinking of who he worked with, the pleasurable atmosphere of the library, how shelving books was a calming activity, and all the staff that he worked with at the time. These are episodic memories.

One aspect of self-actualization is achieving one's full potential. Since Ludy finds his desk job unfulfilling, he returns to working at the library because he finds it more fulfilling.

2019 (SET 2) FROs

2019 AP Psych Questions (SET 2):

<https://apcentral.collegeboard.org/pdf/ap19-frq-psychology-set-2.pdf>

Answers:

1. A) Compulsion, regarding OCD, is when an individual engages in repetitive behavior or thoughts. For example, checking to see if they have locked their door multiple times throughout the day, avoiding stepping on cracks in cement, or counting the number of red cars they have seen.

Random assignment helps establish cause-and-effect because it reduces the likelihood of confounding variables. By randomly assigning participants to either the control group or experimental group – as opposed to letting them decide which group they would like to be in – there is a more representative set of people in each condition (i.e., any bias of participants will be more equally distributed among control and experimental groups).

A placebo condition – usually a part of the control group – helps establish cause-and-effect by reducing the likelihood of some participant-relevant confounding variables (e.g., the participant's expectations about the drug). For example, by giving a participant a placebo – a drug that has no significant physiological effect – researchers can better measure the real drug's effect on a disease and eliminate any improvement related to the expectations of the person taking the drug.

Groupthink is when a person suppresses his or her beliefs to maintain the group's harmony. Some of the attendees may disagree with Professor Menendez's findings, but refrain from saying anything so that the conference runs smoothly.

Display rules are learned rules for how to express emotions that vary across culture, class, economic status, and other factors. If another doctor or researcher grew up in a culture or environment where it was inappropriate to make comments that may offend someone, he or she may not bring up any flaws with Dr. Menendez's research findings.

Belief perseverance is when an individual holds a belief despite their being a lack of evidence or support for that belief. If another attendee denies the evidence of Dr. Menendez's research findings – granted the study is valid and reliable – that attendee would be suffering from belief perseverance.

The cocktail party effect is when one can filter out irrelevant information from their environment and focus on what is relevant to them. The international conference might have many other discussions taking place simultaneously, but the attendees are able to focus on the discussion related to Dr. Menendez's research findings.

2. A) State-dependent memory is when one has better recall if one is in the same physiological or emotional state as they were during studying or practice. State-dependent memory could help Karl succeed on the four exams if, when he was studying for them he drank caffeine, he drank caffeine during or before his exams. This will create a similar physiological state as when he was studying.

Distributed practice is when one practices or studies in small increments periodically, instead of cramming or practicing all in the last several days before the exam. Distributed practice can help Karl pass his exams if he spaces out his studying into small increments instead of studying all at once a few hours before each exam.

Long-term potentiation occurs when increased activity at a synapse strengthens the connection – or increases the efficiency – of synaptic firing (e.g., more receptors develop on the dendrite of a neuron due to repeated stimulation). Long-term potentiation will take place as Karl studies for his exams: Neurons that help Karl remember the vast amount of information will undergo changes that enable Karl to recall what he needs to remember for the exam.

Self-efficacy is an individual's belief in their capacity to perform a task. If Karl scores high on self-efficacy, he will believe that he can do well on the exams; and be more likely to spend the time studying for the exams.

Convergent thinking is when one tries to think or create one well-define solution to a problem. Convergent thinking could hinder Karl's contribution to the success of the group project if Karl thought that he could only contribute in one way, and then failed to do so because he was not up to the task (e.g., not being able to do a comprehensive literature review in the given time frame).

Informational social influence is when looks to others' behavior and copies them because one does not have any references as to how to behave. Informational social influence could hinder Karl's contribution to the success of the group project if he blindly follows what the rest of the group members are doing without questioning whether they are in fact correct.

In psychoanalytic theory, regression is a defence mechanism that occurs when someone thinks or acts in a way that is below their current psychological age and is brought on by stress or trauma (e.g., after being made fun of at work, Jim goes home and listens to the soundtrack of his favorite Disney movie). The defense mechanism of regression can hinder Karl's contribution to

the success of the group project if, as a result of stress, he breaks down and begins acting childish in front of the other group members.

2021 (SET 1) FROs

2021 AP Psych Questions (SET 1):

<https://apcentral.collegeboard.org/media/pdf/ap21-frq-psychology-set-1.pdf>

Answers:

Part A

1. Albert Bandura's theory of self-efficacy is an individual's feeling about their competence or effectiveness at a task. Albert Bandura's theory of self-efficacy could apply to Malia's completion of a research paper because Malia's feelings about the research paper (i.e., her interest and knowledge of the topic, researching and writing ability, and the amount of time she can allocate) can positively or negatively influence her completion of the assignment.

The Big Five trait of neuroticism or emotional stability describes whether someone more often experiences perceptions of calmness and security or anxiousness and insecurity. A low score on the neuroticism trait means Malia feels calm and secure – perhaps despite the paper's deadline – and complete the assignment well.

An external locus of control is the perception that events in one's life are beyond one's control. If Malia has an external locus of control, she might believe that her teacher, other students, or even the weather will conspire against her in doing well on the research paper; and therefore she may put less effort into it or not complete it because fate has it that she will do poorly.

Divergent thinking is the process of brainstorming new ideas and solutions to problems. Malia may, instead of merely doing a literature review for her research paper, go out into

the field and interview participants, conduct an experiment, or consult experts in the subject to make her research paper special.

Efferent neurons carry signals from interneurons to muscles and glands. Efferent neurons allow Malia to write down notes during her literature review for her research paper.

Part B

2. Incentive theory is the idea that there are positive or negative stimuli that motivate behaviors. Mr. Barry may ask the students to be quiet and work on an assignment as he marks the research papers during the last hour of class; therefore, he is able to complete some of the marking during school hours and get the students' grades back to them sooner.

Crystallized intelligence is knowledge that one has accumulated over time and increases with age (e.g., number of words one knows). Since the students' research papers were on elementary quantum mechanics – a field Mr. Barry specialized in during university – he can mark the papers quickly and effectively.

2.

The dependent variable in this study is the grade received on the quiz.

The study could be made into an experiment if Mr. Gomez randomly assigned half of his students to group 1 (extra study tips) and half of his students to group 2 (no extra study tips). By randomly assigning participants, Mr. Gomez reduces the likelihood of confounding variables (e.g., maybe some of the students who arrive early to class are already smarter and more diligent students; therefore nullifying the independent variable's effect).

The mode of group one is 3 and the mode of group two is 4. There is a one-point difference between groups.

The mean must be calculated to get the standard deviation.

Mr. Gomez posted the scores of the children with their names. Research data with humans must be kept anonymous and confidential.

Metacognition is the ability to think about one's thinking and abilities. If students have metacognition, they may reflect on their scores and which problems they need help with; and they may then apply the 'extra problem-solving tips' the next time they have a quiz.

The theory of the levels of processing suggests that the more meaningful information is, the easier it is to recall (e.g., someone is more likely to remember a long list of food items to purchase if they are given the category of food items: Ingredients for Eggs Benedict).

The levels of processing can apply to Mr. Barry's students if they make the 'extra problem-solving' strategies personal relevant, categorize them based on problem type, or apply other mnemonics (i.e., memory aids).

2021 (SET 2) FROs

2021 AP Psych Questions (SET 2):

<https://apcentral.collegeboard.org/media/pdf/ap21-frq-psychology-set-2.pdf>

Answers:

Part A

1. The motor cortex, a vertical sliver at the back of the frontal lobe, enables voluntary movement of skeletal muscles. The motor cortex enables Damian to move his fingers while playing the video game.

An algorithm is a step-by-step formula that guarantees some result (e.g., $y=mx+b$). An algorithm can be contrasted with a heuristic: a shortcut for solving a problem, but which *does not always* guarantee the correct result. Damian will have learned many step-by-step procedures for quickly passing through the levels of the video game; thus making him a worthy competitor in his friend group.

The reciprocity norm suggests that we feel obligated to help someone who has helped us. Damian will share some of the algorithms and heuristics he has figured out with his gamer friends who have helped him in a similar manner.

The monocular depth cue of interposition suggests that we perceive an object that occludes another object as closer to us. An enemy target in the Damian's game will be perceived by Damian as closer to him if the enemy blocks out other objects on the screen (e.g., trees, allies, buildings, etc.). As such, Damian will be able to defeat the enemy sooner and proceed to the next level.

A mental set is approaching a problem in a way that has worked in the past. Damian may approach all levels of the game with a similar strategy. But his strategy may not work on the last and hardest level of the game, and he may have to adjust it.

Part B

The behavioral approach suggests that schedules of reinforcement and punishment shape behavior. Damian's parents could get him to apply to college using a fixed-ratio schedule of reinforcement by given Damian money for in-game purchases for every two college applications he completes.

The technique of free association used by some psychoanalysts requires a patient to lie or sit calmly, often directed away from the therapist, and speak freely about whatever comes to mind. Through free association, a therapist aims to uncover hidden problems that may surface; sometimes repeatedly. Damian's psychoanalyst will ask him questions about his life and suggest that he should speak about anything that comes to mind.

2.

- a) The independent variable in this study is forming a mental image of each word pair.
- b) The control group is the group that is not told to form a mental image.
- c) This research design is appropriate for Dr. Jones' study because an experiment can establish a cause-and-effect relationship between mental imagery and memory.
- d) Comparing the standard deviations of both groups indicates that group A's scores are numerically closer together (e.g., 7, 8, 9, 10) than group B's scores (e.g., 1, 4, 7, 10).

e) The ethical problem in this study is that participation was not voluntary; that is, she did not ask if her psychology class wanted to participate.

f) The primacy effect finds that we recall the first items in a list rather well compared to items in the middle of a list. The primacy effect suggests that students in both groups would recall, approximately, the first seven items in the thirty-word pairs better than the items in the middle of the list.

g) The levels of processing model finds that recall improves when information is meaningful. The students in group A, the mental imagery group, were better able to 'deeply' process the thirty-word pairs, and therefore recall more times than the control group.

All Terms on Test (and frequency of terms)

Body/brain chemistry
Brain Structure
Genetics
Reinforcement (2x)
Modeling (2x)
Cultural factors
Schema (2x)
Retroactive interference
Representative heuristic
Confirmation bias
Framing
Extrinsic Motivation (2x)
Arousal Theory (Yerkes-Dodson Law)
Learned helplessness
Self-fulfilling prophecy
Operational definition of variables (2x)
Selection of participants
Generalizability
Ethical considerations (3x)
Perspectives (behavioral, psychoanalytic/dynamic, biological, cognitive)
Human perception
Psychoactive drug
Human problem solving
Memory
Autonomic nervous system (2x)
Colour vision
Drug use
Nerve firing
Egocentrism
Observational learning (2x)
Overgeneralization
Reconstructive memory
Measures of Central Tendency (mean, median, mode)
Skewed distribution
Normal distribution
Positively skewed distribution
Intelligence test
Intelligence test bias
Cognitive dissonance (2x)
Conformity (2x)
Incentive motivation (similar to extrinsic motivation)
Negative reinforcement
Physiological addiction
Validity

Critical period
Fluid intelligence
Group polarization
James-Lange theory of emotion
Conditioned stimulus
Unconditioned stimulus
Classical conditioning
Refractory period in neural firing
Sound localization
Spontaneous recovery
Afterimage
Availability heuristic (2x)
Ethnocentrism (2x)
Groupthink
Lack of object permanence
Nonrandom assignment of research participants
Optimistic explanatory style
Proactive interference
Case study
Correlational study
Experiment
Approach-avoidance conflict
Central route to persuasion
Heuristics (see availability & representative above)
Individualism
Rationalization
Self-efficacy (2x)
Foot-in-door-phenomenon
Mere-exposure-effect
Mnemonic device
Schachter two-factor theory
Locus of control
In-group bias
Regression
Operant conditioning (3x)
Circadian rhythm
Schizophrenia
Dopamine hypothesis of schizophrenia
Tardive dyskinesia
Dissociative identity disorder (DID)
Social learning theory
Attachment theory (Ainsworth)
Baumrind's parenting styles
Control group
Deception
Dependent variable

Hypothesis
Debriefing
Maslow's hierarchy of needs
Punishment
Proactive interference
Endorphins
Vestibular system
Divergent thinking
Introversion
Cognitive map
Cerebellum
Human Factors
Reticular formation
Predictive Validity
Semantic memory
Serial position effect
Functional fixedness
Operational definition
Double-blind research
Myelin sheath
Cocktail party effect
Deindividuation
Figure ground (Gestalt principles)
Occipital lobe
Procedural memory
Sympathetic nervous system
Foveal vision
Feature detectors
Gestalt principle of closure
Random assignment
Statistical significance
Broca's area
Use of phonemes
Chunking
Encoding failure
Age and language acquisition
Confirmation bias
Compliance
Prefrontal cortex
Prospective memory
Agoraphobia
Crystallized intelligence (3x)
Rods, peripheral vision
Serotonin
Retinal disparity, depth perception
Motor cortex