

9.00 Introduction to Psychology
A Harry Potter Final
19 December 2000
350 total points

SCORE

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TOTAL

So.....to continue: As you may recall, Harry Potter is an 11 yr-old orphan who has been living a miserable life with the Dursley's, his aunt, uncle, and cousin. During the course of the midterm, he received some odd letters and eventually an even odder visit from a very odd, very large man named Hagrid. From Hagrid, he learned that: a) he was a wizard, b) he was a famous wizard, having somehow caused the downfall of the evil Lord Voldemort when he, Harry, was a mere 1 year old, and c) that he was expected to go to school in the fall at Hogwarts School of Witchcraft and Wizardry. The Dursleys don't like wizards and don't like this plan but Hagrid told them to boil their heads and that seems to be the end of the discussion. Then everyone went to sleep.....That is where we begin.

PLEASE NOTE: As before, Harry Potter provides the story but not the content of this exam. If you think that the story is confusing you, please ask and I will explain the meaning of any question. We are not trying to be tricky. Write your answers on the exam. Use the back of pages if needed. Good luck.

#1 (5 pts) "Harry woke early the next morning. Although he could tell it was daylight, he kept his eyes shut tight. 'It was a dream,' he told himself firmly." If he had been in a normal dreaming state, which of the following would be true. You may pick more than one answer. Maybe you should. Pick no more than five answers.

He would be making eye movements similar to those made while awake.

The mass electrical activity of his brain (as measured by an EEG) would be characteristic of "slow wave sleep".

Voluntary muscle activity would be blocked. His muscle tone would be relatively limp / flaccid.

He must have been asleep for at least four hours (assuming that this was a full dream period).

He would have to stop eating those anchovy and liverwurst sandwiches before bed.

#2 (5) If it was a dream, thought Harry, it would make excellent material for his next session with his Freudian psychoanalyst. His analyst, a conventional Freudian, would

believe which of the following statements about dreams? **G**

- a. The dream could be readily interpreted because the symbols in dreams are common to all people.
- b. The latent content of the dream could be interpreted but the manifest content of the dream would be repressed.
- c. The dream lets you see the desires of the ego, uninfluenced by the demands of the id or superego.
- d. The role of the dream is to wake the sleeper at the correct moment to face the problems of the day.
- e. Dreaming that you are a wizard is a common sign that you have to stop eating those anchovy and liverwurst sandwiches before bed.
- f. All of the above (except e).
- g. None of the above

#3 (10) Actually, it was not a dream. Harry, now fully awake, realizes that an owl is knocking on the window. It is delivering the wizarding newspaper, The Daily Prophet. Owls have always been considered to be smart birds. Harry, in his sleepy state, thinks that it would be interesting to design a test to measure the intelligence of birds. He knows that "one criterion of a test's adequacy is its **reliability**.....Even more critical than reliability is a test's **validity**" (p630-1). What do these terms, "reliability" and "validity", mean in the context of evaluating a mental test?

Reliability means that it measures the same thing each time.
Validity means that it measures what you claim it is measuring.

#4. (10) Hagrid wakes up and announces that they need to go to London to get Harry's school supplies (robes, wand, cauldron, etc). Harry wonders if you can get all that in London. However, it turns out that, when you tap on the wall of the Leaky Caldron pub, you are admitted into Diagon Alley and this turns out to be the wizard shopping district. Once he starts meeting witches (female) and wizards (male), it becomes clear that Harry is famous. His fame arises from the fact that, as a baby, he somehow defeated evil Lord Voldemort (remember?). Anyway, everyone treats him very nicely and with considerable deference. You would think that this would be great. After all, he has been treated badly all his life. However, all this kindness and attention makes Harry feel somewhat uncomfortable. Why? Social Exchange Theory (491ff) would have an answer. What would that answer be? (If you have no clue, offer some other reason that is based on what you have learned in this course.) ANSWER ON NEXT PAGE

The short answer is reciprocity. Potter is not in a position to reciprocate and, even though he is on the winning end of the deal, it feels bad. (I am sure that there are other clever answers)

#5. (15) They go to Madame Malkin's to get Harry's robes. You have to get fitted for a robe. It looks like getting fitted for a dress. Harry, as a conventional 11-yr old boy, thinks this is weird but he joins the line of other 11-yr olds and gets fitted. This is an example of

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complying with social pressure. Please describe three factors that modulate compliance and, for each one, describe an experiment that illustrates this factor at work.

Oh, there are lots of possibilities.

- 1) Number – how many people are pressuring you
 - 2) Number – how many people are on your side
 - 3) Strength (authority) – who is providing the pressure.
 - 4) Intensity/distance – how is the pressure applied? Directly? By email, etc.
 - 5) You could have something about believing the speaker.
- Lots of relevant experiment. Milgram, asch, etc

#6. (10) After buying Harry a beautiful snowy owl as a pet, they go to Ollivanders - The wand shop. Magic wands, it turns out, are all different. Moreover, you do not choose the wand. The wand chooses you. The fit between wizard and wand seems to be based on the personality of each. This implies that personality is something relatively stable so that the personality of an 11-yr old can form the basis of a life-long association between a wizard and a wand. That sounds consistent with a Trait theory of personality. Please give a brief description of trait theory and please describe one piece of evidence that supports that theory ANSWER ON NEXT PAGE

Trait theory holds that we have a limited set of basic personality traits that are constant over time. These are probably innate. One line of evidence, for example, would be the breeding of dogs for specific dispositions. There are various human exps where baby behavior predicts adult behavior.

#7. (10) There are alternatives to Trait theories. These tend to stress the role of environment in different ways. Please give a brief description of one such theory and please describe one piece of evidence that supports that theory.

Any of the various behaviorist / social learning theories will do. Evidence would be things like imitation of aggression (the bobo doll exp)

#8. (5) After a bad month at the Dursley's, it was time for Harry to go off to school (Hogwart's is a boarding school. Did I mention that?). You get to Hogwart's by taking the train from platform nine and three-quarters at King's Cross Station in London. Uncle Vernon dropped Harry off at the station with his trunk and his owl. This left Harry with the problem of finding platform nine and three-quarters. It did not seem to be visible so he looked for someone to ask. He figured that he should ask a wizard but how was he going to find one. He looked for someone a bit odd. He found a man who was shouting that his mind was being controlled by the machine that printed train tickets. This didn't seem like a wizard. This man sounded as if he were c.

- | | | |
|-------------------------|---------------------|------------------------------------|
| a. neurotic | b. hypomanic | c. a paranoid schizophrenic |
| d. obsessive/compulsive | | e. a melatonic schizophrenic |
| f. agoraphobic | g. all of the above | h. correct |

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#9 (10) Using your answer to #8, is there any evidence that this disorder has any genetic basis? Please explain your answer, with evidence.

NOTE: If someone has the wrong answer to #8 make the best of their answers to 9 & 10 & 11.

Yes, you can trace it in families. You can find genes that appear to be defective (though no one gene accounts for the genetic link)

#10 (10) Is there evidence that environmental factors contribute to this disorder? Please explain your answer.

Yup, evidence that stress pushes susceptible people into schizo.

#11 (10) If this guy was brought to your clinic, how would you treat this patient? Please explain your answer.

Well, I think I would use an anti-psychotic drug to control the florid symptoms. I would also want to include some psychotherapy and some cumminity-based support but my HMO won't pay for it.

#12. (5) Fortunately, Harry hears some people talking about "muggles". This leads him to frame the following argument.

- a. All wizards refer to non-wizarding folk as "muggles".
- b. These people refer to non-wizarding folk as "muggles".

Therefore: These people are wizards.

This is an example of _____(p326ff)

- a) the availability heuristic **b) deductive reasoning** c) confirmation bias
- d) inductive reasoning e) magical thinking f) railway psychosis

#13 (20) Even though his thought processes (as illustrated in #12) are a bit shaky, Harry is right. These are wizards. This is the Weasley family and they do help him onto the train. (Just walk between platforms 9 and 10 and try not to be scared.). He takes an immediate liking to Ron Weasley who will turn out to be his best friend. On the train, he also meets Draco Malfoy. He takes an immediate disliking to Draco who will turn out to be his enemy. He also takes an immediate disliking to Hermione Granger but she will turn out to be a great friend.

What factors govern our attraction to other people? Please pick two factors that influence our choice of others as friends (NOTE: These can be factors related to romantic attraction. Don't worry about the fact that Harry and Ron are not romantically involved.

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You can talk about love or friendship.) For each factor, explain the factor and cite one piece of experimental evidence that this factor does play a role in the establishment of relationships between people.

Endless possibilities

Good looks (the computer match dance would do here)

Arousal (shaky bridge exp)

Reciprocity in various forms (gift giving)

Similarity (religion, SES, etc)

#14 (10) It could be that Harry's failure to form an initial friendship with Hermione has to do with the fact that he is an 11-yr old boy. How might Freud explain the lack of interest (or even antipathy) of 11 yr old boys for girls? (A one or two word answer....like the name of a stage....gets you a couple of points. Full credit requires a bit more of a story.)

I am looking for something like "Harry is in the latent stage, having been scared out of interest in his mother and, by extension, all women during the course of his oedipal stage crises. He will recover with the onset of puberty (and will spend vol 4 trying to ask a girl to the dance)

#15 (10) Other, older students on the train have no problem forming attachments between males and females. Evolutionary Psychology is very interested in the formation of heterosexual relationships. According to most evolutionary psychologists, evolutionary history has lead men and women to want different things from a relationship. Please describe the differences and offer an evolutionary explanation for those differences.

Men want to spread their genes and, as a result, want lots of partners. They are very worried about their women who should only have sex with them so those other genes don't get in there.

Women want commitment so someone will help take care of the kid, etc. Lots of variation possible in the basic story.

#16 (10) What do you think about the evolutionary account? Please tell us your opinion and defend that opinion with facts from the course. NOTE: There is no correct opinion here. You can put forth any opinion you like, as long as you can defend it with material from the course.

Well, me? I think it is a bit simple minded. It is a start but it either explains not enough or way too mvch. In its support, I would say that evolutionary psych is bolstered by the evidence that all people across time and culture seem to show some preferences (e.g. for healthy partners). Anyway, look for any plausible account.

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#17. (10) Hogwarts is a castle. The new students are ushered into the great hall where the start of term banquet is about to begin. The ceiling of the great hall is bewitched to look like the sky outside. Painting the ceiling to look like the sky is an old trick but it never works perfectly. Why doesn't painting fool us into thinking that it is the real thing? DO NOT say "because the artist can't paint sufficiently realistic scenes". Your answer should reveal some knowledge of visual perception. Do tell us why it is hard to represent the world using a flat sheet of canvas, covered with pigment, spread by a brush

A 2D image will only be an accurate representation of a 3D world from a single viewpoint and with one eye closed and without movement. Those conditions are rare....and then the artist has to be very good.

#18 (10) Before they can sit down to dinner, the new students must be assigned to one of four "houses". This is done by the "Sorting Hat". The Sorting Hat looks like a battered old wizard's hat...until it starts to sing

".....
There's nothing hidden in your head
The Sorting Hat can't see
So try me on and I will tell you
Where you ought to be....." (117)

There are a lot of psychologists who would love to have a tool of this kind. Freud would have great use for a device that would allow him to see into the unconscious. After all, there are lots of memories in the Freudian unconscious that are very hard to access. Cognitive psychologists might be similarly interested. After all, there are a lot of implicit memories that are not available for conscious recall.

What are the differences between the Freudian unconscious and what has been called the "cognitive unconscious", the home of things like implicit memories? Please make sure that your answer defines these two senses of the word "unconscious".

The critical bit here is that the Freudian unconscious is full of material that has been actively repressed to protect the ego. The cognitive unconscious is just hidden...more benignly.

#19 (5) The sorting hat would also interests those cognitive psychologists who think that your knowledge is represented in a "semantic network" in your head. Maybe they could find out if the representation of "apple" is really closer to "cherries" than it is to "truck". Right now, researchers have to rely on indirect methods like semantic priming tasks. In such a task, you might be shown the word "apple". Which of the following would be evidence for semantic priming?

- 6) After seeing "apple", you would be more likely to give a positive rating to apples if asked about food preferences.
- 7) After seeing "apple", you would be faster to identify a noun than a verb because "apple" is a noun.

8) After seeing "apple", you would be faster to identify "cherry" as a word than to identify "truck" as word because of spreading activation.

- 9) After seeing "apple", you would be slower to identify "cherry" as a word than to identify "truck" as word because of spreading inhibition.
- 10) a, b & c are all examples of semantic priming.
- 11) Nope, a, b, and d are all examples of semantic priming
- 12) Apples do not produce semantic priming. That is like comparing apples and oranges.

#20 (5) If the sorting hat can see everything in the head, it would be able to see all of the these structures except one. Which of these is not in the brain (or, at least, in the head)?

- a Glial cells (47) b. hypothalamus (24) c. amygdala (27)
- d. adrenal cortex (62)** e. All of these are parts of the brain

#21 (5) Pick one of the answers (a-d) in #20 and define it.

- A,. Support cells in the brain
- B. a small area below the thalamus and critical for regulation of hunger, thirst, sex, etc.
- C. A chunk of the limbic system with important roles in memory and emotion (notably aggression)
- D. Adrenal cortex is on top of the kidneys and pumps adrenaline (norepinephrine) into the blood stream.

#22 (30) Suppose that the Sorting Hat said "I can see neurons and I can see how they work." (For convenience, I am breaking the hat's speech into a series of statements.

I WILL MAKE CHANGES IN HE TEXT

- a. I can see the **DENDRITES** of a neuron collecting information from other neurons or from sensory cells.
- b. I can see the **DELETE** signals travelling down the **DENDRITES** to the cell body.
- c. I can see the cell body summing those signals. If there is enough excitation, an action potential (a spike) is generated and sent down the **AXON** to the next neuron.
- d. Action potentials are all the same size. **YES** The potential is about 0.7 volts AC. **NO - MUCH SMALLER (70 millivolts, as I recall)**
- e. Action potentials can be positive or negative (excitatory or inhibitory). **NOPE. ALL EXCITATORY**
- f. To reach the next neuron, the signal must cross the synapse. **TRUE**
- g. Communication across the synapse is by chemical diffusion. **TRUE**
- h. The chemical used by all neurons is dopamine which is also called "serotonin" or just "neurotransmitter". **NO, LOTS OF DIFFERENT TRANSMITTERS. GENERALLY ONE PER NEURON**
- i. The neurotransmitter is stored in the **VESICLES** of the neuron.

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- j. When released into the synapse, it diffuses across the gap, binds to receptors on the next neuron and we start all over again at the top. **TRUE**

Umm...there are *a few* things wrong with this account of the function of neurons. Please correct each statement as needed. NOTE: Some of the statements....maybe lots of the statements....are just fine. If one is correct, just label it as correct.

#23. (5) When Harry sits on the sorting stool puts on the hat, he hears a little voice in his head thinking about his future. The choice seems to be between *Gryffindor House* "where dwell the brave of heart" and *Slytherin House* "where cunning folk use any means to achieve their ends". "Harry gripped the edges of the stool and thought 'Not Slytherin'. 'Not Slytherin, eh?', said the small voice. 'Are you sure?'" (p121)

Remember, the hat can see your unconscious. Maybe Harry's Id desires a place in Slytherin but this is an unacceptable thought to Harry's conscious self, his Ego. To defend against this thought, Harry's ego has used its defense mechanisms to turn "Slytherin Please!" into "Not Slytherin". This particular defense would be called

- a) **reaction formation** b) transference c) counter-transference
d) rationalization e) repression f) symbolization
g) goal line

#24 (5) Pick one of the other answers to #23 and define it.

- b) The feelings from the outside world get directed by the patient to the analyst.**
c) And the analyst feels the same emotions back again, empathically.
d) rationalization is basically to make an excuse
e) repression – putting the unacceptable in the unconscious
f) Symbolization is the hiding of the unacceptable in dreams by disguising them in symbols.

#25 (10) In the end, the hat puts Harry in Gryffindor. Ron Weasley is placed in the same house. The houses are in more-or-less friendly competition with each for the annual House Cup. By the end of the feast, Harry and Ron are loyal supporters of their house. Is this plausible or is this a flaw in the novel? Do people form group loyalties easily? Do they make snap judgements about members of other groups? Please explain your answer with at least one bit of concrete information (not just your opinion).

Yes, group ID can be very fast. A variety of social psych exps illustrate this point. The kids at camp exp. The persecute the blue eyed kids exp. Klee/kandinsky minimal attachment exp...etc

#26 (10) After the feast, the Gryffindors head up to their dorm in Gryffindor tower. Many of the students have pets. Trevor has a toad. Ron has his rat, Scabbers. Harry has his owl, Hedwig. A lot of the pets seem a bit different than the average pet. The owls, for example, deliver the mail. Harry wonders if they have a language that is like a human

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language. Lots of animals communicate with each other (e.g. bird song). These forms of communication differ in fundamental ways from human language. Please describe **four** properties of human languages that distinguish them from animal communication (p345ff). ANSWER ON NEXT PAGE

Oh, let's see. It is productive, interpersonal, grammatically, complex (might do). You could say that it has lots of words/morphemes. etc

#27 (5) Harry is very worried about the fact that he was not raised in a wizarding family. Being raised by muggles, he thinks he will be way behind in his studies. He wonders if there is a wizard language. If there is, will he be able to learn it? Suppose that there is a wizard language and suppose that it has the properties of other human languages. Which of the following is true?

- a. Harry will be able to learn the language because the critical period for language learning does not end until about age 25.
- b. Harry will not be able to learn more than the rudiments of the language because the critical period for second language learning does not start until about age 13 or 14 (High school age).
- c. Harry will not be able to learn more than the rudiments of the language because the critical period for language learning is over by age 11 (his current age).
- d. Harry will be able to learn the language but only if both his right and left hemispheres are capable of language learning.
- e. **None of the above**

#27 (5) The next day they have their first classes. The most dramatic of these is Professor Snape's class on Potions. Snape doesn't like Gryffindor and seems to loathe Harry on sight. He begins by quizzing Harry, in public, about things he could not possibly know (but you should).

"Potter! If I wanted to treat a depression, what I might give someone?" (812-815)

- a. a serotonin reuptake inhibitor
- b. a classical antipsychotic
- c. Diazepam
- d. Prozac
- e. A & D (Prozac is a serotonin reuptake inhibitor)
- f. C & D (Diazepam and Prozac are different names for the same drug)
- g. A, C & D (and both drugs are serotonin reuptake inhibitors)
- h. A, B, C, & D.

#28 (10) It is tricky to evaluate how well a psychiatric drug works. Suppose you give a new drug to a depressed patient and that patient is not depressed two weeks later. Please describe two factors that you would need to rule out before you declared that you had

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found a new anti-depressant. (816-817) NOTE: I am sure that there are some silly answers that are sort of "true". You get full points for non-silly answers.

#29 (5) "Potter! Wolfsbane mixed with monkshood will dissolve the *corpus callosum* That is a structure in the brain, Potter. What is it?"

- a) It is the major bundle of axon fibers connecting the two cerebral hemispheres
- b) It is the portion of the brain between the hindbrain and the forebrain
- c) It is a pair of structures lying just above the hypothalamus on each side of the brain.
- d) It is a sub-part of every neuron in the central nervous system.
- e) It is a mystery wrapped in an enigma.

#30 (10) "Potter. Describe a behavioral test that would allow us to tell if I had successfully dissolved Miss Granger's corpus callosum. You may assume, for these purposes that Miss Granger is right handed and that she has normal memory and an intact endocrine system Indeed, assume anything you like, but tell us if you make any other assumptions".

#31 (10) In Professor Flitwick's class on Charms, Harry and Ron start to learn some magic spells. The problem is that, if you are a beginner, a spell can sound just like a string of nonsense syllables. Professor Flitwick said "I will give you a simple spell and then you will repeat it back to me. Here we go...."

"fip dut mok yil saz tirt varl bins jux gof zos rab"

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Most people made mistakes but everyone got some parts right. Predict which syllables students would get right and then explain your answer. DO NOT simply give the name for these effects (You should be talking about two effects).

#32 (10) Hermione Granger got the spell perfectly correct. Assuming that she had not heard it before, please offer a possible way that she could have done this.

#33 (10) After Charms, Harry and Ron are free to go down to Hagrid's cottage. He has invited them for tea. They tell him about how mean Snape had been. " 'He seemed to really hate me!' 'Rubbish', said Hagrid... Yet Harry couldn't help think that Hagrid didn't quite meet his eyes when he said that." (141). Throughout their visit, Harry and Ron are trying to read information from Hagrid's facial expressions. However, they don't really know Hagrid. What is the evidence that the facial expressions of a complete stranger are a reliable guide to the emotional state of that stranger? (476ff)

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#34 (5) Hagrid has a huge boarhound named "Fang". He has a fondness for monsters. Anyway, he says that he found it abandoned in the forest and that it followed him home just like it was a baby duck or goose. Hagrid is sure that Fang thinks that he, Hagrid, is his mother. This would be an example of

- a) transference b) socialization c) imitation d) imprinting
f) teaching an old dog a new trick

#35 (10) Fang looks pretty fierce but Hagrid is sure he is harmless (He will later make the same assertion about Norbert, a pet dragon, and Fluffy, a three-headed dog.). Hagrid believes that aggression is learned and does not have an innate component. Do agree? Why or why not? Make sure that your answer reveals that you learned something about this topic in this course.

#36 (10) Professor McGonagle teaches Transfiguration. She starts her class on the second day with a pop-quiz. "If you did your homework, you will be able to transform the question on this quiz into one that you can answer."

So...Please write a question that you hoped I would ask. Then give a good answer. The question and the answer should reveal your knowledge of Psychology. Asking who won the presidential election or other such clever questions will not be heavily rewarded. After that, you are done. You will have to read the book to get the rest of the story. Enjoy your holidays. I hope to see many of you next term.