

PSYCHOLOGY 268 - Fall 2000  
FINAL EXAM

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Enter 4-digit ID # 0057 (last 4 of Student ID#)

1. (total 30 points) Please answer part a, and then ANY TWO of the remaining parts. The percent time data apply to all versions of the question. Consider the following data collected on percent time spent on activities by two people:

	Anna Mar Home	Anna August Home		Andrew August Home	Andrew August Camp
Reading	25	25	Exercise	10	40
TV	20	20	Read	15	25
Exercise	0	20	Cooking	20	5
Music	45	35	Computer	40	30
Sewing	10	0	Car work	15	0

a. (10 points) Give one example for each person of a contingency arrangement between two activities that would yield a reinforcement effect. Your example should satisfy Premack's time-based account of reinforcer value and also meet the response deprivation criterion for an effective contingency. Your examples should identify the activities, the contingency relation, and the exact scheduled values to be used. You should specify which of the four hierarchies of value you are using. You should also describe what you expect to be the result of each contingency.

Anna in Mar @ Home: If she exercises for 10, then she can listen to music for 35. This will work b/c she will work ~~longer~~ longer on exercise to make up for the deprived time of listening to music. Also, music is preferred over exercising, so this also meets the Premack rule. For Andrew in August @ Home: If he exercises for 20, then he can work on the computer for 30. This will work b/c he will work longer on exercise to meet the optimal level of computer time. Also, b/c computer is preferred over exercising, this meets the Premack rule.

Answer ANY TWO of the following four questions (10 points each). Your answers to all of these questions should specify for each contingency the time/context of the hierarchies used, both activities, the contingency relation, and the exact amounts of the schedules. Each answer should satisfy Premack's time-based account of reinforcer value and also meet the response deprivation criterion for an effective contingency.

b. Give two contingencies from a single person (please specify a single time and context) that demonstrate that the reinforcement value of a single activity is relative to others, not an absolute or fixed functional role. Explain how your examples demonstrate the relativity of reinforcement.

c. Give two contingencies using the same activity as a reward that demonstrate that the reinforcement value of that activity is idiosyncratic (unique to each person's hierarchy of value). Explain how your answer accomplishes the demonstration. This can be done either by having two identical contingencies, only one of which would be effective, or by having two effective contingencies that must have different schedule values to be effective.

d. Give two contingencies that demonstrate that the reinforcement value of a single activity is specific to its time. Be sure to describe which kind of example you are giving and explain why your example is a demonstration. This can be done either by having two identical contingencies, only one of which would be effective, or by having two effective contingencies that must have different schedule values to be effective. For Anna in Mar, If she ~~sees for~~ exercises for 10, then she can read for 15. For Anna in Aug. - If she exercises 10, then ~~she~~ she can read for 15. This is an example of specific to its time b/c the contingency works @ one time but not the other. The 1<sup>st</sup> contingency will work b/c she will exercise more to meet the optimal level she is deprived of for reading (reading is preferred). The 2<sup>nd</sup> cont. will not work b/c working less on exercising <sup>(10)</sup> than she already does (20) is not going to motivate her to do less of an activity that she likes doing more anyway. Exercise deprivation making her work less ~~on~~ on an activity than she already does defeats the whole purpose.

e. Give two contingencies that demonstrate that the reinforcement value of a single activity is specific to its context. Be sure to describe which kind of example you are giving and explain why your example is a demonstration. This can be done either by having two identical contingencies, only one of which would be effective, or by having two effective contingencies that must have different schedule values to be effective. For Andrew ~~in August~~ @ home, If he exercises for 20, then he can work on computer for 30. For Andrew @ camp. If he exercises for 20, then he can work on computer for 30. This shows that a reinforcement value of an activity is specific to its context b/c the contingency works @ one place and not the other. The 1<sup>st</sup> cont would work b/c he would work ~~harder~~ longer on exercise to make up for the deprived time on the preferred activity - computer. The 2<sup>nd</sup> cont. would not work b/c he is not asking him to work less than normal on activity (20 instead of 40) is not going to motivate him to work the same amt. of time on another (computer - 30)

2. (20 points) Suppose you were asked to implement a motivational program in a third grade class. It is a regular school that meets six hours a day, including the following activities: arithmetic problems, reading and discussing stories, exploring geography, internet searching, handwriting, recess, and fine arts time. Based on your understanding of the study of the fast food restaurant, how would you proceed to improve the quality of the students' work by using access to activities as a motivator? Your answer should include the assessment of the relative values of activities, the establishment of contingencies (be sure to give a specific example), and a simple design for evaluating the project. Finally, describe the costs and benefits of the program for the teachers and make a recommendation about whether or not it should be implemented.

I would first survey the class ~~and find~~ to find out their preferred activities. Based on what I found, I would use the info to establish contingencies to motivate them. For example a student spent 30 on internet searching and 10 on handwriting. I would give him the contingency of if and only if he would work longer on handwriting ( $\frac{1}{2}$  the day), then the next day he could spend ~~as much~~ time ~~required~~ on internet searching. The student knew that if did not meet this requirement ( $\frac{1}{2}$  day) then he would not get to work on internet. To evaluate, I would first observe his handwriting time w/o the intervention (baseline), then I would give him the contingency (intervention) & measure the time spent on handwriting. <sup>He did work more on handwriting</sup> I would once again not use the intervention & measure the ~~# of~~ time on handwriting (baseline). Again, implement the intervention to measure the time spent on handwriting. <sup>Increase in time of handwriting</sup>

The costs of this would be that the other activities ~~would~~ may be looked over and not worked on b/c we were spending so much time on handwriting. The benefit would be that it would motivate him to work more on handwriting. The contingency was effective. I think this should be implemented b/c it did help to increase in an area that was lacking.

Please answer ANY TWO of the following THREE questions (3, 4, and 5), worth 15 points each:

3. (15 points) Suppose you were working at a fitness center with two sets of aerobic exercisers, helping them acquire basic skills in getting a decent aerobic workout. With group A you gave them set sequences of 4 movements and durations, occasionally changing the order and gradually increasing the duration. At all points you showed them exactly how to move and counted out the sequences, often leading them by loudly counting the movements over a public address system. With group B you demonstrated to them a couple of times the same set of 4 movements that when repeated would result in elevated heart and respiration rates. After that first day you encouraged them to do those exercises in whatever sequences they liked, and you suggested that they pay attention to changes in their own pulse and breathing rates. Two months later both groups were able to do all 4 exercises acceptably, and you asked them to do two things. First they were asked to create a new routine that would yield 15 minutes of elevated heart and respiration rates. Second they were asked to learn a set routine that was to be taped for a local TV commercial for the fitness center. Describe how each group would do on each new task and justify your answer based on the effects of their different learning histories.

Group A would not do well on the 1<sup>st</sup> activity b/c they previously learned through imitation, so making up a new routine on their own would be hard b/c they ~~could not~~ ~~have~~ ~~learned~~ they didn't learn that before. Group B, however, would do well on the 1<sup>st</sup> activity b/c they ~~learn~~ were taught to do things on their own in the first place, so making up their own routine would be easier for them, since that is what they were taught to do. For the 2<sup>nd</sup> activity, Group A would do well @ this what they were taught to do. They learned through imitation and having everything set for them. Group B would not do so well as well b/c they were never learned how to ~~make~~ imitate or follow someone (they learned on their own), so following a set routine would be more difficult.

4. (15 points) Generate your own example of classical conditioning using the neutral stimuli of the printed words big and speed along with the eliciting relation (like a reflex) between a puff of air in the eye and an eyeblink (blowing air in the eye results in a clear blink). Your example should include all of the following components: a description of a conditioning procedure that would produce different reactions to the two stimuli, a description of a procedure (a trial) that tests for the direct effects of successful conditioning, a description of a procedure that would test for physically mediated generalization, a description of a procedure that would test for semantically mediated generalization, and the likely results of the three test procedures for an intact adult human.

The conditioning procedure? would be to give a puff of air in the eye when they were shown <sup>words</sup> big and speed. The trial test would be that I showed the word big and speed, and set if the person blinks. I expect that he would b/c every other time the word was shown, there was a air puff given which produced an eye blink. A test for physically mediated would be show the word big for big and speed for speed and observe if the person blinks. To test for semantically mediated generalization, I would show the word big for big and a race car for speed. The likely results would be that an intact adult human would

[continue your answer on the next page if needed]

more likely blink @ the semantic generalization cards b/c they are able to understand what the cards mean and that the other cards mean the same thing (which would produce a puff of air)

5. (15 points) Give an example of a form of rule governed behavior that would be useful in the face of an ineffective ("defective") contingency. Your answer would include both an original example of a defective contingency and the specific rule-based procedure to support the appropriate behavior that you think should occur. How would this rule-governed performance be useful or productive in dealing successfully with the natural relation between actions and their outcomes that you have described?

\*\*\*\*\* [end of the set of three questions, choose two of them]\*\*\*\*\*

6. 20 points) Suppose it is your task to find a way to decrease the frequency of people walking across a set of railroad tracks in an area that has no marked crossing zone with warning devices. There is real risk of injury because there are multiple tracks that are used frequently for moving cars. You have been asked to set up a punishment program to eliminate this problem before someone is hurt. What context for crossing outside of the marked safe zone would you identify first as part of your plan? What punishing consequence would you use? What characteristics would you include in your punishment system to maximize the likelihood that it would be effective? What additional element would you need to include to make the plan maximally effective? Be sure that your answer is specific to this context.

First of all, I would identify why people walk across a set of railroad tracks ~~there are no~~ w/ no marked crossing zone w/ warning signals. The punishing sequence I would use would be retribution by giving ~~the person~~ <sup>people</sup> tickets ~~with~~ after ~~the~~ they cross these tracks. To maximize the likelihood that the punishment would be effective, I would give the ticket right after they crossed the tracks. I would also make it severe by making the ticket very high (\$100). The final characteristic would be to be consistent in giving out the tickets, ~~do~~ give one everytime ~~that~~ someone crosses those tracks. The additional element I would implement would be to reward the desired behavior. In this case, give out coupons @ the railroad tracks w/ ~~warning signs~~ crossing zones.

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