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PSYCHOLOGY 268 - Fall 2000  
FINAL EXAM

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No Name Please Alt code for Posting: \_\_\_\_\_ Enter 4-digit ID # 5129 (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.

If Anna (March @ Home) exercises 10 she can read 20. Reading is used as the reinforcer since it is of higher value and yet she is still deprived of her full desired reading.

If Andrew (at Home / Aug.) exercises for 20 he can do computer work 35. Computer is the reinforcer because of its value and it is still deprived (preferred at 40).

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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.

If Anna at home in August sews for 10 she can exercise 15. Exercise is of more value so is an effective reinforcer for sewing in August.

If Anna at home in March sews 10 and can exercise for 15. This is an ineffective contingency because in March Anna values sewing more than exercise so exercise cannot be used as a reinforcer. (10)

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.

If Andrew (in Aug @ Home) exercises 15 he can do computer 35. Here computer is an effective reinforcer of exercising because it is of higher value (90 time spent) than exercise.

If Andrew (in Aug @ Camp) exercises 15 to get computer at 25 it is an ineffective contingency because at camp computer cannot reinforce exercise because exercise is of higher value (value being time spent) (10)

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 survey the students to identify their favorite activities out of those performed. At baseline I would evaluate their performance on these activities noting the quality of work. Using ABAB design, during intervention the students would be aware that their performance on all of these activities Monday through Thursday would determine what activities they choose to do on Friday. So during intervention their performance quality would be monitored and if they reached good performance they would be allowed to pick their two favorite activities and be able to do only those two on Friday. So if Suzie did well on all activities, on Friday she could have internet searching for 3 hours and fine arts time for 3 hours since those are her favorite. The benefits for the teachers would be that the level of the performance of the students would be better and the students may show more effort and motivation when working toward their reward. The costs of this program would be the time spent monitoring all of the students and whether or not they would be able to manage all of the students being able to choose their own activities. It may be difficult to have enough supervisors for all of the activities. I would recommend the program if there was enough staff to monitor the program because it is a good way to keep the children at a higher level of performance on all activities instead of just the preferred ones.

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.

With the new task of creating a new routine for elevated heart and respiration, Group B would have faster acquisition and be able to adapt easier because they were trained to do movements that would result in elevated heart and respiration. Group A would have slower acquisition/adaptation because they were taught the movements in a way that gradually increases duration which would work slower at increasing heart and respiration rates.

When asked to learn a set routine to be taped Group A would have faster acquisition because they were taught by being shown exactly how to move and even to count out the sequences so they would be more in sync for a TV commercial. Group B would have slow acquisition/adaptation because they were only given the bases on the mats and encouraged to use whatever sequences they wanted + to pay attention to their own breathing. They were not taught to function as a group in sync with one another.

- ④ (15 points) Generate your own example of classical conditioning using the neutral stimuli of the printed words dig 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.

When shown the word dig on a card a puff of air would be delivered into the eye. Also conditioned would be a card with the word speed on it in which the air would not be given. We would condition until the presenting of the "dig" card would cause (to) blink before the stimulus (puff of air) is delivered, and the "speed" card would still elicit no reaction. To test for physically mediated generalization we would have two cards one with the word "big" (phys. similar to dig) and one with the word breed (phys. similar to speed). If generalized, the presenting of "big" would elicit the blinking response (remember the stimulus is removed - air) and the card with "breed" would produce no response as was conditioned. To test for semantic meaning

(continue your answer on the next page if needed)

We would have a card with a picture of a shovel on it (semantically similar to dig) and one with the picture of a person running on it (speed). Again, without the stimulus, if it is generalized, the card with the shovel will elicit a blinking response. The card with a person running will still show no response.

The likely results of these test procedures on an adult would occur just as described if the stimulus is conditioned properly and thoroughly. If conditioned, the response would be likely to occur.

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.

I would first identify that there is a real risk of injury when outside the marked safe zone. As a punishing consequence, anyone who is found outside the safe zone is required to attend a meeting with a mortician who will show the person what happens to people who are hit by trains, by either showing the actual body, or pictures taken of the body. This punishment is immediate and severe because it is a very explicit frightening view of reality meant to teach them a lesson. To likely make this effective it would happen the day following the incident of violation and in addition if they were to be found doing this again they would be told they would have to speak at a funeral of someone who died that way and explain why it was wrong (severe public humiliation), this would make the plan maximally effective, another variation would be that they'd have to volunteer on a rescue team for one year that cleaned up accidents that occurred on railroad tracks.

(10)