ID# _____ Final Exam PS 306, Spring 2003

As always, the Skidmore Honor Code is in effect. As was the case on the earlier exams, you should think of a point as a minute, so you should be able to complete a 10-point question in about 10 minutes. Read each question carefully and answer it completely, showing all your work. Thanks for a pleasant class. Have a wonderful summer!

1. You know about the Milgram study, but what about the Hofling, et al. (1966) study of obedience? [from Gross] [5 pts]

Identical boxes of capsules were placed in 22 wards of both public and private psychiatric hospitals. The capsules were, in fact, placebos (consisting of glucose). But the containers were labeled '5 mg capsules of Astrofen' (not a real drug); the labels also indicated that the normal dose is 5 mg with a maximum daily dose of 10 mg.

While the nurse was on duty, a 'doctor' ('Dr. Smith from the Psychiatric Department') instructed the nurse, by telephone, to give 20 mg of Astrofen to his patient, a Mr. Jones, as he was in a desperate hurry and the patient needed the capsules. He said that he would come in to see Mr. Jones in 10 minutes time and would sign the authorization document for the drug when he got there.

To comply with his request, the nurse would be breaking three basic procedural rules:

(i) the dose was above the maximum daily dose of 10 mg;
(ii) drugs should only be given after written authority has been obtained;
(iii) the nurse must be absolutely sure that 'Dr. Smith' is a genuine doctor.

A real doctor was posted nearby, unseen by the nurse, and observed what the nurse did following the telephone call—comply, refuse, or try to contact another doctor. Whatever the nurse's course of action, the observer-doctor then revealed to the nurse what was really going on.

If you were a member of an IRB, would you have approved this study? Why or why not? [And although you would not know the results of the study as a member of an IRB, 21/22 nurses administered the 'drug.']

2. How many participants would you need with a minimum n = 30? [8 pts]

A completely repeated measures (within) 3x5 design	
A completely repeated measures (within) 2x9 design	
A mixed 3x3 design, with the first factor repeated measures (within)	
A mixed 2x9 design, with the second factor repeated measures (within)	

3. Faces appear to be interesting stimuli to children (e.g., Fantz, 1961). To test that hypothesis, suppose that three different stimuli were presented to children of four different ages (1, 2, 3, and 4 months of age). The three different ovoids (seen below) were filled with face-like features (Face), filled with the same features in a scrambled fashion (Scrambled Face), or filled with an equivalent amount of black ink at the top of the ovoid (No Face). First of all, tell me why these particular stimuli were chosen. [2 pts]

The DV is the amount of time (in seconds) that the children spend looking at the stimuli in a 2-min test. Complete the source table below and interpret the results of this study as completely as you can. [15 pts]

ANOVA Table for Looking Time

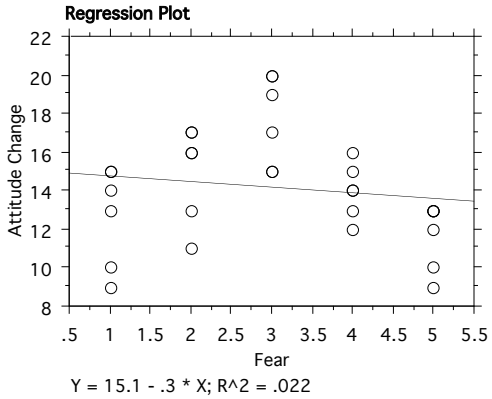
	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Age		286.0			<.0001	141.851	1.000
Type of Face		7349.0			<.0001	3644.149	1.000
Age * Type of Face				59.9	<.0001	359.421	1.000
Residual			2.0				

Means Table for Looking Time
Effect: Age * Type of Face

	Count	Mean	Std. Dev.	Std. Err.
1 mo., Face	5	38.000	1.581	.707
1 mo., No Face	5	20.800	1.924	.860
1 mo., Scram Face	5	33.000	1.581	.707
2 mo., Face	5	42.400	2.074	.927
2 mo., No Face	5	20.800	1.483	.663
2 mo., Scram Face	5	38.200	1.304	.583
3 mo., Face	5	50.400	1.673	.748
3 mo., No Face	5	17.600	.894	.400
3 mo., Scram Face	5	42.200	.837	.374
4 mo., Face	5	41.600	1.140	.510
4 mo., No Face	5	13.000	1.000	.447
4 mo., Scram Face	5	44.800	.837	.374

4. Rosenthal conducted a number of studies that were intended to illustrate the operation of experimenter expectancy effects. Other researchers have pointed out that various characteristics of experimenters are likely to affect the experimental outcome. [15 pts]
a. Describe the Rosenthal study that showed the problems that might emerge from the experimenter learning about how the participants were performing on a memory experiment *or* the Rosenthal study that showed the impact of telling the experimenter what to expect in terms of the ratings of pictures of people's faces.
b. What antidote(s) would you suggest to deal with such expectancy effects?
c. Which sort of effect (experimenter expectancy or experimenter characteristic) strikes you as the most problematic, and why.
d. How would you interpret the results of researchers like T. X. Barber, who do not find experimenter expectancy effects?

5. Some researchers, such as McGuire (1968), have studied the relationship between the amount of fear invoked in a persuasive message and the extent of attitude change. Suppose that you observed a set of results such as those seen below. Interpret the results as completely as you can. If a person had a Fear Score of 3, what would be your best estimate of that person's Attitude Change score? [5 pts]



Regression Summary
Attitude Change vs. Fear

Count	30
Num. Missing	0
R	.149
R Squared	.022
Adjusted R Squared	•
RMS Residual	2.924

ANOVA Table
Attitude Change vs. Fear

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	1	5.400	5.400	.632	.4335
Residual	28	239.400	8.550		
Total	29	244.800			

Regression Coefficients
Attitude Change vs. Fear

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	15.100	1.252	15.100	12.061	<.0001
Fear	-.300	.377	-.149	-.795	.4335

6. In an attempt to determine the extent to which fear is an important tool in persuasive messages, Janis and Feshbach (1953) assigned high school students to one of four groups. The message was concerned with dental hygiene and degree of fear arousal was manipulated by the number and nature of consequences of improper care of teeth which were referred to (and shown in color slides); each message also contained factual messages about the causes of tooth decay and some advice about caring for teeth.

The *high fear* condition made 71 references to unpleasant effects, including toothache, painful treatment, and possible secondary diseases, including blindness and cancer; the *moderate fear* condition made 49 references and the *low fear* condition just 18. (Control participants heard a talk about the eye.)

After one week, the effectiveness of the persuasive communications was examined. Suppose that the DV was the extent to which the participants adopted better dental care behaviors (1 = adopted few, 10 = adopted many). Complete the source table below and interpret the results of this study. [10 pts]

ANOVA Table for Behav Adopted

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Fear Condition				191.7	<.0001	575.156	1.000
Residual							

Means Table for Behav Adopted
Effect: Fear Condition

	Count	Mean	Std. Dev.	Std. Err.
Control	20	2.150	.813	.182
High	20	2.800	1.056	.236
Low	20	5.850	.933	.209
Moderate	20	8.450	.945	.211

7a. You are asked to determine if there is an effect of three different noise levels (80, 90, 100 decibels) in the working environments of people on an assembly line. (Assume that the typical noise level in the factory is 80 dB, so 90 dB is louder than normal and 100 dB is much louder than normal.) You decide to use the number of errors made in a 3 hour time period as your dependent variable. You also decide to use a repeated measures design, but you need to explain to the executives at this company why you've chosen to do so. Lay out the pros and cons of such a design now. Then describe *exactly* how you'd conduct the study (i.e. provide me with sufficient detail that I can determine that you would know how to conduct such a study). [15 pts]

7b. Suppose that the results of the study with three levels of the IV came out as seen below. Complete the source table and then interpret the results. [10 pts]

ANOVA Table for Noise Level

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Subject		6.5					
Category for Noise Level			12.4		<.0001	45.243	1.000
Category for Noise Level * Subject			.5				

Means Table for Noise Level
Effect: Category for Noise Level

	Count	Mean	Std. Dev.	Std. Err.
Normal.80dB	10	.600	.699	.221
Louder.90dB	10	1.400	.966	.306
Loudest.100dB	10	2.800	.632	.200