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(You must use your real student ID#)

Exam 3

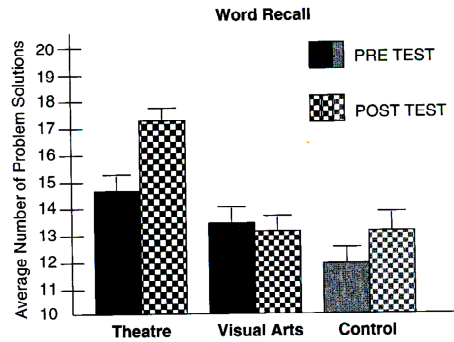
PS 306, Spring 2006

This exam should contain no surprises. Read each question carefully and answer it completely. Show all your work so that I might be able to give you partial credit. There are 135 points in the exam, so it should take you a little over two hours to complete. Finally, I want to thank you for a pleasant semester. I wish you all a peaceful summer, and for the seniors a successful future. Though I'll be on sabbatical next year, I'll be around, so I look forward to seeing many of you throughout the year. Take good care...

1. As clearly and carefully as you can, articulate the difficulties of removing deception by means of a debriefing. Then, using the studies discussed in the Ross et al. paper, describe the *evidence* that process debriefing may be useful in removing the effects of deception? [10 pts]

2. Ethical considerations arise in at least three areas of psychological research: (1) in designing research, which may involve unethical treatment of human participants; (2) in fraudulent research, which may involve the wholesale creation of data; and (3) in determining the authorship on a publication that arises out of the research. Using all of the information you acquired at the end of the semester (articles you read, classroom discussions, textbook), craft an essay that outlines the sorts of concerns that face psychologists and the sorts of safeguards that have been introduced. Make your essay as concrete as possible, using specific examples from the various sources. [25 pts]

3. Noice and Noice (2006) recently published an article entitled “What studies of actors and acting can tell us about memory and cognitive functioning.” In their abstract they state: “The art of acting has been defined as the ability to live truthfully under imaginary circumstances...we first discuss how large amounts of dialogue, learned in a very short period, can be reproduced in real time with complete spontaneity.” In a 2x3 mixed design (Noice, Noice, & Staines, 2004), older adults (65 to 90 years of age) agreed to participate in a study involving instruction to improve cognition and were randomly assigned to one of three conditions. In the Theatre condition, participants were given acting lessons that didn’t focus specifically on memory. In the Visual Arts condition, participants were given an art appreciation class. In the Control condition, participants were given no treatment. Participants received a memory test before and after treatment. What effects would you expect to emerge from the analysis (main effects and interaction)? Interpret the results of the Word Recall test as though you were writing a Discussion section. [10 pts]



4. One area of psychology looks at factors that influence decision-making. One factor that people have studied is how a decision is influenced by the way in which the information is delivered. Even though the information is identical, people's decisions will differ when the information is placed in a different context (frame). Suppose that a researcher was interested in looking at the impact of four different frames on people's willingness to engage in risky behavior (or to be more protective). One scenario involves the participant's willingness to smoke cigarettes. The four frames are: NF = No Frame (so it just asks the participant to imagine that he or she has been smoking for a while and enjoys doing so), AF = Analytical Frame (with statistical information about the scenario, such as how many people die of lung cancer each year), EF = Experiential Frame (which attempts to make the scenario personally relevant by asking the participant to think about a family member dying from lung cancer), and AEF = Analytical + Experiential Frames (which puts the two types of information together). Participants read a series of scenarios and then gave a response that indicated their willingness to engage in risky behavior. The dependent variable is called Protect-Risk, where a positive score indicates a more protective response and a negative score represents a willingness to engage in riskier behavior. Suppose that the researcher is also interested in looking at the impact of age (Young 18-23, Middle 38-43, and Older 58-63). Complete the source table below and interpret the results as completely as you can. Finally, discuss the results as you might in a Discussion section. [20 pts]

ANOVA Table for Protect-Risk

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Frame		46.01			<.0001	172.346	1.000
Age		67.72			<.0001	253.634	1.000
Frame * Age			.39		.2099	8.798	.510
Residual		12.81					

Means Table for Protect-Risk

Effect: Frame * Age

	Count	Mean	Std. Dev.	Std. Err.
AEF, 1.Young	5	6.080	.356	.159
AEF, 2.Middle	5	7.640	.297	.133
AEF, 3.Older	5	8.220	.277	.124
AF, 1.Young	5	3.720	.370	.166
AF, 2.Middle	5	6.060	.680	.304
AF, 3.Older	5	6.820	.402	.180
EF, 1.Young	5	5.820	.653	.292
EF, 2.Middle	5	7.520	.311	.139
EF, 3.Older	5	7.800	.400	.179
NF, 1.Young	5	3.720	.487	.218
NF, 2.Middle	5	6.020	1.023	.458
NF, 3.Older	5	6.320	.427	.191

5. We discussed the problem of experimenter expectancy effects in class. Describe the nature of the problem these effects create and describe the experiments discussed in class that argue for the existence of these effects. Discuss at least two alternatives that might be used in experiments to minimize experimenter expectancy effects. Finally, if experimenter expectancy effects really do exist, why do you think that it might be difficult to prove conclusively that they *do* exist? [10 pts]

6. Suppose that you are interested in studying the impact of noise levels on learning of different types of materials. You need to design a study that uses five levels of white noise (60 dB, which is a low-noise control, 70 dB, 80 dB, 90 dB, and 100 dB). The study will also look at three types of tasks (reading comprehension, mathematical problem solving, and visual problem solving—completing paper-and-pencil mazes). Tell me how you would design your two-factor study, including the dependent variable you would use, the basics of the procedure, etc. Suppose that you want to have a minimum of 25 scores per condition. First tell me how you would design the study as a completely independent groups design and then how your design would change (including the number of participants) if you used a mixed design with noise level as a repeated measures factor and type of task as an independent groups factor. [25 pts]

7. Dr. Kip Werkin is an industrial/organizational psychologist who is interested in the impact of environmental factors (such as noise) on productivity. He has a group of ten workers experience each of a set of background noise levels (70 dB, 80 dB, 90 dB, and 100 dB SPL) as they work on a project that involves creating delicate instruments. (SPL = Sound Pressure Level) The dependent variable is the number of errors made in the construction of the pieces. Complete the source table and tell Dr. Werkin what he should conclude from this study. [10 pts]

ANOVA Table for SPL

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Subject		4.0					
Category for SPL		13.9			<.0001	67.018	1.000
Category for SPL * Subject		5.6					

Means Table for SPL

Effect: Category for SPL

	Count	Mean	Std. Dev.	Std. Err.
SPL 70 dB	10	.200	.422	.133
SPL 80 dB	10	.200	.422	.133
SPL 90 dB	10	1.000	.667	.211
SPL 100 dB	10	1.600	.516	.163

7b. If the *same* data were analyzed with an independent groups ANOVA, complete the source table below. [5 pts]

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Treatment				
Error				
Total				

8. Some people are very focused on their academic success (High Focus) and their self-esteem is likely to be very dependent on academic success. Other people are less focused on academic success (Low Focus) and their self-esteem is likely to be less dependent on academic success (though it may well be affected by success in other realms). Crocker and Knight (2005) report on the impact on self-esteem (the dependent variable) of three levels of Condition: 24 people who learned that they had been *accepted* to graduate school and 24 people who learned that they had been *rejected* from a graduate school (compared to a *baseline* of self-esteem for 24 people who have not yet learned of the outcome of their application). Half of the people in each condition were highly focused on academic success (High) and half were not focused on academic success (Low). Complete the source table below and analyze and interpret the results as completely as you can. Then discuss the results as you might in a Discussion section. [20 pts]

ANOVA Table for Self-Esteem

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Academic Contingency		2.53			<.0001	22.961	.999
Condition		10.06			<.0001	91.288	1.000
Academic Contingency * Condition		2.75			<.0001	24.999	.998
Residual							

Means Table for Self-Esteem

Effect: Academic Contingency * Condition

	Count	Mean	Std. Dev.	Std. Err.
1.Low, 1. Baseline	12	6.000	.402	.116
1.Low, 2. Acceptance	12	6.050	.394	.114
1.Low, 3. Rejection	12	5.633	.253	.073
2.High, 1. Baseline	12	5.633	.365	.105
2.High, 2. Acceptance	12	6.150	.284	.082
2.High, 3. Rejection	12	4.775	.256	.074