ID# _____ Exam 2 PS 306, Fall 2000

Once again, keep in mind that the Skidmore Honor Code is in effect. As you leave the exam, you will need to sign a sheet indicating that you have adhered to the Honor Code. Read each question carefully and answer each question completely. Show all your work…that's the only way I can give you partial credit. If you spot any errors in the design of a study, please point them out and indicate how you would go about correcting them. Good luck on this exam!

1. You should know a bit about the bystander apathy effect (e.g., some discussion in the textbook and some discussion in class). Remember that Lance Shotland studied the extent to which people were more or less likely to go to the aid of a woman being accosted by a man if it did ("I don't know why I married you!") or did not ("I don't know you!") appear that the two people were in a relationship. Suppose that you were interested in designing a study in which you looked at this variable (Level of Relationship) and also at the number of bystanders present. You are limited to 3 levels of the Number of Bystanders variable, but you are free to choose which they are. [20 pts]

a. Briefly describe the design that you would use for this study (completely between/independent groups, completely within/repeated measures, or mixed) and tell me why you would choose to do so.

First of all, you should recognize that a repeated measures design doesn't seem appropriate for this type of study. The participant would probably catch on that something unusual was going on if women were being accosted with these words as he/she walked along. Thus, one would use an independent groups design for both factors. For the Number of Bystanders, you need to be sure to include one level that has no one else present (as a control). You could probably make an argument for the number of bystanders present for the other two levels, though you would want them to be fairly different from one another. You should also be sure to run the study in randomize replications. You should also think of the DV that you would use in this study. What would it be?

b. You want to have a minimum *n* of 25 for this study. Describe the study you would conduct in sufficient detail that I can see that you have given thought to how you would actually go about constructing the experiment and collecting the data.

You would need a minimum of 150 participants for the 2x3 independent groups design. A person would be randomly assigned to a particular condition (People in a Relationship and No Other Bystanders present; People not in a Relationship and No Other Bystanders present, etc.). You would need to describe how you would expose the participant to the treatment (Walking down a hallway? Going from one building to another?), as well as how you would measure the DV.

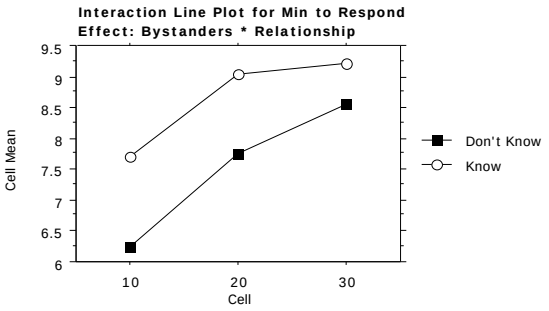
2. Regardless of how you might have chosen to design your study, Dr. Richard Head has come up with his own study to address this issue. He has 2 levels of the Relationship variable (Don't Know Each Other vs. Know Each Other) and 3 levels of the Number of Bystanders (10, 20, and 30). He decides to use an independent groups design, so it's a 2x3 independent groups design. He uses the time to intervene in the altercation as his dependent variable. If the participant hasn't responded after 10 minutes, that person is given a score of 10. Below is a partially completed course table from his study. Complete the source table and then analyze the data as completely as you can. [25 pts]

ANOVA Table for Min to Respond

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Bystanders	2	78.217	39.108	56.578	<.0001	113.156	1.000
Relationship	1	38.533	38.533	55.746	<.0001	55.746	1.000
Bystanders * Relationship	2	3.617	1.808	2.616	.0775	5.232	.501
Residual	114	78.800	.691				

Means Table for Min to Respond
Effect: Bystanders * Relationship

	Count	Mean	Std. Dev.	Std. Err.
10, Don't Know	20	6.250	.851	.190
10, Know	20	7.700	.923	.206
20, Don't Know	20	7.750	.910	.204
20, Know	20	9.050	.686	.153
30, Don't Know	20	8.550	.887	.198
30, Know	20	9.200	.696	.156



First of all, note that Dr. Head doesn't have a good control group, so you should comment on the fact that the smallest number of bystanders is 10. That's a big problem!

Nonetheless, you would analyze the data by focusing on the two main effects (because the interaction is not quite significant). The source table would be completed as seen above. The next step would be the interpretation of the two main effects.

The main effect for relationship does not require a post hoc test, because it has only two levels. Thus, you would simply compare the mean for Know (M = 8.65) with the mean for Don't Know (M = 7.51) and conclude that people respond more rapidly if they think that the two people don't know one another than if they think that the two people are strangers.

The main effect for Number of Bystanders does require Tukey's HSD, because there are three levels. Each of the three means (M_{10} = 6.975, M_{20} = 8.4, M_{30} = 8.875) comes from 40 participants. Thus, HSD = .44 (q = 3.36). So, you could conclude that people respond more quickly when 10 bystanders are present compared to 20 or 30. They also respond more quickly with 20 than with 30 bystanders.

3. Remember that I mentioned the Huck & Sandler book that provides short synopses of flawed studies that were actually published? Well, here's one of them:

Most bumper stickers that we see around town these days tend to be fairly mild in content ("I brake for animals"; "Don't laugh, your daughter might be in this van"). It was not too long ago, however, that bumper stickers were more political and considerably more hostile in their tone, such as "America, love it or leave it" and "Off the pigs." In the late 1960s this last slogan was associated in part with members of the Black Panther Party—a group that had a history of violent encounters with the police, particularly in California. After receiving complaints of police harassment in the form of traffic citations from black students in his class, one college professor decided to look further into the issue.

Through campus advertising, 45 possible participants were selected and then screened to yield the final group of 15, including 5 black, 5 white, and 5 Chicano students, all with excellent driving records. There were three males and two females in each group. The students' own cars were inspected for safety violations, declared satisfactory, and then used in the study after the application of a Day-glo orange Black Panther sticker. The students all promised to drive safely and went off into the world. Within 17 days they had rolled up a total of 33 citations. Lest you worry unduly, a fund of $500 had been set aside to pay the accumulated fines—the depletion of the fund marking the end of the study.

The students made no attempt to talk the police officers out of issuing the tickets, nor did they go to court to protest the citations. According to the author, their encounters with the police "ranged from affable and 'standard polite' to surly" (p. 29), with an occasional search being made of the vehicle. No relationships to race, sex, ethnicity, or personal appearance to number of citations were found.

The professor and the students took the results as evidence of unconstitutional violation of civil rights. How would you judge this case? [10 pts]

Here are a couple of serious problems:
1. No "control" group is present. Thus, you have nothing to which you could compare these data. You need to know how many citations would have been given to people with a "mild" bumper sticker…or no bumper sticker at all.

2. "Participants" were not blind to conditions. Thus, when they were driving around, they could have been influenced (maybe in a subtle fashion) by the knowledge that they had the bumper sticker on the car. Such knowledge may also have influenced their interactions with the police.

In designing this study, you would need to have at least two groups (offensive bumper sticker vs. mild bumper sticker). You would need to apply the bumper stickers in such a way that the driver would not know which sticker was on the car as he or she was driving along.

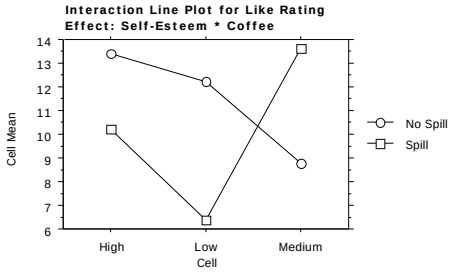
4. Several social psychologists (Helmrich, Aronson, & LeFan, 1970) examined the effects of seeing a person commit a social blunder. The participants were divided into three conditions on the basis of their self-esteem scores (Low, Medium, High). Some participants in each self-esteem group saw a competent person accidentally spill a cup of coffee on the floor (Spill). The other participants saw the competent person in the same situation but not spilling the coffee (No Spill). All participants were asked to indicate how much they liked the person on a 20-point scale (20 = like a lot). Below is a partially completed source table from this study. Complete the source table and then interpret the results as completely as you can. [25 pts]

ANOVA Table for Like Rating

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Self-Esteem	2	34.067	17.033	7.300	.0033	14.600	.915
Coffee	1	14.700	14.700	6.300	.0192	6.300	.674
Self-Esteem * Coffee	2	152.600	76.300	32.700	<.0001	65.400	1.000
Residual	24	56.000	2.333				

Means Table for Like Rating
Effect: Self-Esteem * Coffee

	Count	Mean	Std. Dev.	Std. Err.
High, No Spill	5	13.400	1.517	.678
High, Spill	5	10.200	1.483	.663
Low, No Spill	5	12.200	1.483	.663
Low, Spill	5	6.400	1.517	.678
Medium, No Spill	5	8.800	1.483	.663
Medium, Spill	5	13.600	1.673	.748



The interaction is significant (p < .05), so you would focus your attention on explaining the interaction. To do so, you would first need the graph (shown above) and then you would need to compute HSD. In this case, HSD = 2.99 (q = 4.37). Thus, I would explain the interaction as follows:

People with Low and High SE liked the person who didn't spill the coffee more than the person who did spill the coffee. However, people with Medium SE liked the person who did spill the coffee more than the person who did not spill the coffee.