**Psyc492 Exam 1a 2023**

**Procedures for the Exam:**

* **This Examination is given under the honor system. You may not communicate with anyone except Manda about any aspect of this assignment. Submit first page of this doc to Manda with you signature added!**
* **Answer all questions.**
* **Check with you Manda to learn when Exam 1 is due -- she will tell if how to submit it, email, Bb, etc. Be sure to keep a complete copy of the exam – if asked to provide a copy you must do so, even if it means redoing the Exam.**
* **Exams turned in later that day will lose 10%, with an additional 20% each day the Exam is late.**

**There will be an opportunity to re-write the exam. You will get to choose to…**

* + **Re-write the exam based on your previous analyses (can’t recover points from wrong analysis results)**
  + **Re-analyze and re-write the exam, starting with a different data set**
* **Points lost because an exam is handed in late cannot be recovered**

**I have not talked with anyone but Manda about any aspect of this assignment.**

Signed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Story**

You've been hired as the data analyst for a series of studies exploring the effectiveness of "Treatment X" (TxX) which is designed to ameliorate depressive symptomology. For all studies the outcome variable (DV) is the Mental Health Index (MHI -- higher scores are "better"). Analyze the data from each study and answer the questions that are asked. ***Do not provide a complete “results section” for each analysis, just answer the questions!!***

**Be Careful ?!?!?!?**

Carefully read each question! There are no “trick questions” but there are “things you might miss if you don’t read carefully”!!!

Be sure to answer **all parts** of each question. The “boss” might not know enough to separate parts of the question that require different analyses. You have to recognize what analyses are required to answer what part(s) of the question(s) and explain that back to the “boss”!!

Carefully explain your answers – correct answers that are incorrectly or incompletely explained will lose points.

When asked whether results replicate earlier results, be sure to consider the external and measurement validity elements of BOTH studies, not just the pattern of results!

Be very careful in your use of “casual causal language”. Be sure you think there is both initial equivalence and ongoing equivalence when you use causal language.

Be sure to include all the relevant SPSS tables with your answers – both “exclusions” (leaving tables out) and “intrusions” (putting in unnecessary tables) will lose points.

Be sure to present the means you use to answer each question or test each RH:. This is especially important when answering questions about whether a study replicates a previous finding. Answers presented without the respective means will lose points!!!

If you compute an LSDmmd to answer a question or test a RH:, be sure to tell the n, dferror, MSerror, and the LSDmmd value you used – answers presented without this information will lose points.

If you use SPSS EMMEANS analyses to obtain pairwise comparisons, please report exact p-values.

**Study #1 (10 points)**

Moderately depressed adult participants were randomly assigned to receive either weekly sessions of the new TxX therapy or be in a no-treatment control. Four months later, depression was measured from all participants using the MHI.

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| Copy SPSS syntax here | |
| Put SPSS table of ns, means, & stds here. | Put SPSS ANOVA summary table here. |

Do the results support the RH: that TxX “works”?

Can the effect examined in this study be causally interpreted?

**Study #2 (20 points)**

To compare TxX to other available treatments of depression, moderately depressed adolescent participants were randomly assigned to receive twice-weekly sessions of either TxX, standard Cognitive-Behavioral Therapy (CBT), Cogno-Affective Therapy (CAT), or Peer-Based Counseling (PBC). After 2 months of treatment, all participants were assessed for depression using the MHI.

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| Compute lsdmmd  N= k= n= MSerror = LSDmmd = | |
| Copy pairwise comparison table here 🡪 use these results to answer the questions below, | |

Do the results support the RH: that TxX “outperforms” the other therapies?

Can the effect examined in this study be causally interpreted?

Do the results of this study replicate the results of Study #1?

* Does the DV match Study #1?
* Do the IV conditions match Study #1?
* Do the other external validity elements match Study #1?
* If appropriate to answer, do the results of this replicate results from Study #1?

**Study #3 (20 points)**

The next study was designed to examine the time-course of treatment response of moderately depressed adult patients to TxX. Each patient underwent four months of treatment with TxX and completed the MHI before the first treatment session and at the end of each month.

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| Compute lsdmmd  N= k= n= MSerror = LSDmmd = | |
| Copy pairwise comparison table here 🡪 use these results to answer the questions below, | |

Do results support for the **RH:** that there would be a positive linear relationship between MHI and time, with improvement at each successive month?

Can the effect examined in this study be causally interpreted?

Do the results of this study replicate the results of Study #1? (remember to check if the results should be compared!)

**Study #4 (25 points)**

The next study was designed to consider whether TxX worked equally effectively for patients with differing amounts of initial depression. Adult patients were identified who were "moderately" or "severely" depressed. Members of each group were randomly assigned to receive 4 months of TxX, or receive no treatment. MHI data were collected after 4 months of treatment.

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| Put SPSS table of ns, means, & stds here. | Put SPSS ANOVA summary table here. |
| Compute lsdmmd  N= k= n= MSerror = LSDmmd = | |
| Copy pairwise comparison table here 🡪 use these results to answer the questions below, | |

Do the results support the RH: that TxX “works” for both levels of depression, but better for severely depressed patients?

Are the results from Study #1 replicated by this study?

According to this study, do the results from Study #1 show generalization?

* What, if anything, is being generalized? IV? DV? External validity elements?

**Study #5 (25 points)**

This study was designed to compare the time-course of TxX and CBT. Adolescent patients were randomly assigned to the type of treatment they would receive. MHI data were collected at 4 and again at 8 months after treatment began.

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| Compute lsdmmd  N= k= n= MSerror = LSDmmd = | |
| Copy pairwise comparison table here 🡪 use these results to answer the questions below, | |

The research hypothesis was that while both CBT and TxX would show equivalent results after 4 months of treatment and both would show continued improvements during the subsequent 4 months, however, MHI scores would be higher for TxX than for CBT after 8 months. Do the results support this RH:?

Are the results from Study #1 replicated by this study?

According to this study, do the results from Study #1 show generalization?

* What is being generalized? IV? DV? External validity elements?