-`ˏ ♡ ˎ´- notes from paper ramblings ⋆˚⊠₀ ₊⊹

H1: Public stigma of combined epilepsy and depression is significantly higher/different than depression alone.
H2: Public stigma of combined epilepsy and depression is significantly higher/different than epilepsy alone.
H3: There is a significant interaction between Epilepsy + Depression.
H4: Familiarity is the strongest predictor for stigma for all groups tested.
> Familiarity will be a higher predictor of stigma than knowledge, for all groups tested.

Demographics - control for general population extrapolation. Collected demographic data to ensure sample was consistent with larger general population, so that results could be extrapolated for wider use.

Points:

- Do I need the interaction element?
- Justify the reasoning for a factorial design.
- Additive vs Non-Additive
- Nature of the stigma
    - does it superimpose
    - does one mediate the other
    - do they just add

Measures

Vignette

- Discrete nominal
- Categorical (nominal) - distinct groups values not ordered or ranked

AQ7/SDS

- Discrete ordinal - distinct group values have order
- Likert

Knowledge

- Discrete nominal
- Binary response = Categorical

Demographics - all categorical

Age/Education

- Discrete ordinal

Gender/Employment

- Discrete nominal

Investigating layered stigma of epilepsy and depression

- For discussion: think about what didn't work
- Justify measurements that needed high ethical approval
- Familiarity/closeness to illness -> personal experience, address lack of clinical diagnosis, representative of general population
- Categorise highlights together in Zotero

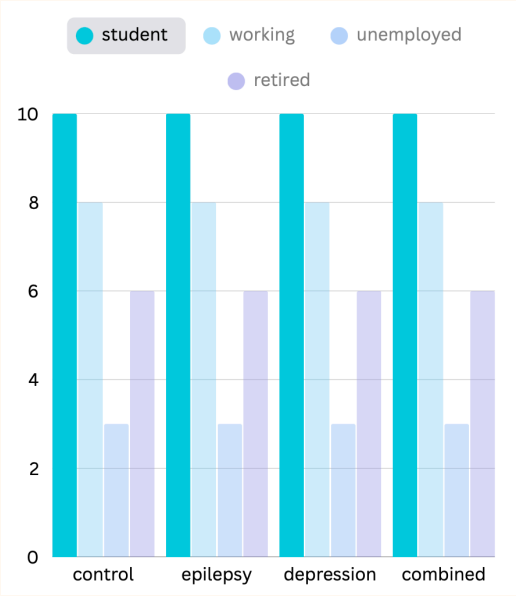
- Justification for biology: multifield epidemic requires a multifield response.
- Talk about Epilepsy knowledge + Depression knowledge questionnaire papers
- What comparing to what? Why? Why using those tests? What is it used for? What does it tell me?
- Brief explanation of everything, but be convincing.
- Look at papers that use AQ27 and SDS to see what stats analysis they used!
- Same for HIV/IDU and Schizophrenia/Drug use papers
- Qualtrics -> Justify all of the questions. Short, sleek graphs of sociodemographics and familiarity
    - chi^2 test? regression table?

what things to analyse

demographics x vignette

> distribution of vignette respondents

> age, gender, education level, employment status



- fake data mock up

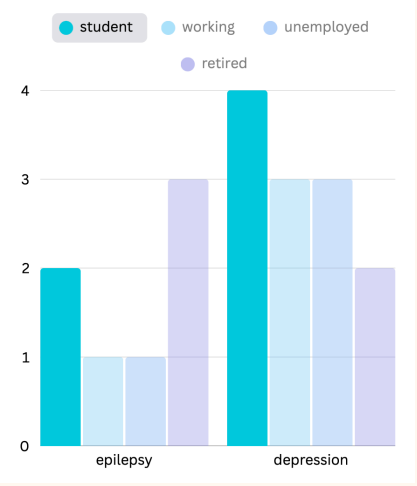
why? ensures even distribution of vignettes to demographics, to ensure results arent because of only old people getting the depressed guy, and only students getting the control

ideally: the graphs for each vignette are similar

test needed:

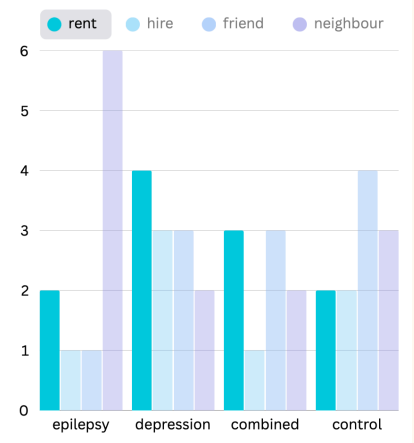
demographics x knowledge for each

to compare reasoning behind why knowledge may be different in responses from different demographics, old people might know more about epilepsy and less about depression so they stigmatise depressed ppl more and epileptics less, for example



vignette x SDS

to see if there is a difference between SDS in the vignettes
> total SDS score on average for respondents in each vignette
> stacked bar chart to show breakdown of SDS components (would you rent, hire, befriend, or be a neighbour to harry)



vignette x AAQ7

> total AAQ7 score for each vignette
> stacked chart to show breakdown of AQ7 components (fear, blame, pity etc)

3 vignettes
depressed loser
fat fuck
combined

every vignette ran through 2 scales; fatphobic and depression stigma scale
demographic chart - 3 groups at top
on y axis, age, gender education,

level of familiarity
if they had depression

separate score for familiarity and one for if they had depression
knowledge

then have means and standard deviation below each vignette groups for each rows

at the end, a chi squared test or anova ??? figure out which one

for stacked bar charts, each bar is the mean of something, do you have the statistical significance test within that ?

fat vs depressed

Table 1
Sociodemographic details of the sample (n = 1007).

Variable	N	%	German general adult population[a]
Gender			
Women	509	50.6	51.0
Men	498	49.4	49.0
Age			
< 20	36	3.6	18.3
21–40	225	22.3	24.5
41–60	390	38.7	29.8
61–80	321	31.9	21.6
> 80	35	3.5	5.8
Education			
Student	4	0.4	3.5
8/9 years	220	22.0	37.0
10 years	320	32.0	28.8
12/13 years	453	45.3	25.8
No education	2	0.2	4.1
BMI[b]			
Underweight	24	2.5	1.5
Normal-weight	435	44.5	34.2
Overweight	359	36.7	36.4
Obesity	160	16.4	23.6

[a] Reference values from German Federal Statistics Office (2015) population aged 18 +.
[b] Reference values from Mensink et al. [3], calculated means across genders.

sociodemographic details of sample

Table 2
Sociodemographics across vignettes.

	Total sample		Vig 1		Vig 2		Vig 3		p-Value[1]
Variable	N	%	N	%	N	%	N	%	
Sex									0.930
Women	509	50.6	165	49.1	169	50.3	164	49.0	
Men	498	49.4	171	50.9	167	49.7	171	51.0	
	M	SD	M	SD	M	SD	M	SD	
Age	52.6	17.3	51.8	17.1	53.5	16.9	52.4	17.8	0.411
	N	%	N	%	N	%	N	%	
Education									0.330
< 12 years	544	54.6	174	52.4	192	57.8	178	53.5	
12 years	453	45.4	158	47.6	140	42.2	155	46.5	
BMI[2]									0.327
Underweight	24	2.5	9	2.7	2.8		6	1.9	
Normal-weight	435	44.5	141	43.0	137	42.2	158	48.6	
Overweight	359	36.7	114	34.8	128	39.4	116	35.7	
Obesity	160	16.4	64	19.5	51	15.7	325	13.9	
Depression[3]									0.219
Yes	43	4.3	10	3.0	19	5.7	14	4.2	
No	952	95.7	234	97.0	312	94.3	316	95.8	

[1] p-values from Chi[2], variable age p-value from oneway ANOVA.

sociodemographic details across vignettes

Table 3
Results for all items of both scales.

Item	Vig 1 obesity		Vig 2 depression		Vig 3 double stigma		Scale
	M	SD	M	SD	M	SD	
Stigmatized condition: No difference							
Predicable…unpredictable	2.80	0.91	2.87	1.08	2.80	1.02	DS
Normal…weird	2.79	1.00	2.80	1.08	2.82	0.97	DS
Harmless…dangerous	2.35	1.15	2.23	1.17	2.18	1.15	DS
comprehensible…incomprehensible	2.99	0.98	2.98	1.08	3.08	1.04	DS
Good self-control…poor self-control	3.40	1.05	2.91	1.17	3.36	1.04	FPS
Stigmatized condition: Higher Double Stigma							
No willpower…has willpower[1]	3.51	0.97	3.57	1.14	3.85	1.03	DS/FPS
Secure…insecure[2]	3.230	1.02	3.85	1.13	4.01	1.02	FPS
High self-esteem…low self-esteem[2]	3.14	1.02	4.04	1.10	4.09	1.06	FPS
Attractive…unattractive[3]	3.49	1.06	3.05	1.06	3.64	1.06	FPS
Fast…slow[3]	3.70	1.05	3.43	1.08	3.78	1.00	FPS
Having endurance…having no endurance[1]	3.57	1.04	3.51	1.15	3.87	1.09	FPS
Active…inactive[1]	3.59	1.02	3.68	1.16	3.91	1.05	FPS
Strong…weak[1]	3.23	1.08	3.56	1.11	3.69	1.07	FPS
Undereats…overeats[2]	4.13	0.88	2.78	0.90	3.98	1.11	FPS
Independent…needy[2]	2.76	1.04	3.70	1.11	3.61	1.10	DS
Intelligent…Less intelligent[4]	2.81	0.79	2.61	0.93	3.05	1.89	DS
Independent…dependent (on others)[2]	2.83	1.02	3.28	1.15	3.38	0.096	DS
Imaginative…unimaginative[5]	3.15	0.87	3.31	1.01	3.45	0.87	DS
Stigmatized condition: Lower Double Stigma							
Dislikes food…likes food[4]	4.23	0.87	2.89	1.01	3.91	1.01	FPS
Eats too little…eats too much[2]	4.13	0.88	2.78	0.90	3.98	1.11	FPS
Stigmatized condition: No double stigma							
Shapely…shapeless[3]	3.56	1.11	2.56	1.14	3.76	1.05	FPS
Self-sacrificing…self-indulgent[3]	3.46	1.02	2.54	1.02	3.32	1.08	DS/FPS
Industrious…Lazy[3]	3.09	0.91	2.73	0.95	3.10	0.090	DS/FPS
Familiar…strange[6]	2.78	0.90	3.02	1.05	2.97	1.01	DS

DS – Depression Stigma; FPS – Fat Phobia Scale.
[1] Vignette 1–3 and Vignette 2–3.
[2] Vignette 1–2 and Vignette 1–3.
[3] Vignette 1–2 and Vignette 2–3.
[4] All comparisons.
[5] Vignette 2–3.
[6] Vignette 1–2.

Table 4
Stigmatizing attitudes across vignettes.

	Vig 1 obesity		Vig 2 depression		Vig 3 double stigma		p-Value[1]
Outcome	M	SD	M	SD	M	SD	
FPS	3.56	0.60	3.23	0.47	3.73	0.55	< 0.001[2]
Depression	2.99	0.65	3.00	0.65	3.16	0.54	< 0.004[3]

[1] P-value from ANOVA.
[2] All comparisons were significant.
[3] Significant differences: Vignette 1–3 and vignette 2–3.

HIV and tuberculosis: The construction and management of double stigma
Amrita Daftary
https://doi.org/10.1016/j.socscimed.2012.01.027

Double Stigma and Help-Seeking Barriers Among Blacks With a Behavioral Health Disorder
https://psycnet.apa.org/manuscript/2022-16360-001.pdf

Correlations and mean comparisons on the key variables

Spearman's Rank Correlation was conducted to test the inter-correlations of study variables after a KS test showed non-normal distribution of those variables. Table 2 provides the correlation coefficients for the key variables. All correlations were statistically significant ($p < .05$) in the predicted directions and did not exceed the recommended cut-off for multi-collinearity ($r > 0.80$) (Katz, 2011). Specifically, racial stigma was positively correlated with self-stigma ($r=0.26$), depressive symptoms ($r=0.16$), and help-seeking barriers ($r=0.29$); self-stigma ($r=0.26$) and depressive symptoms ($r=0.28$) were positively related with help-seeking barriers; and both mediators, self-stigma, and depressive symptoms, were positively associated with each other ($r=0.28$).

method:

questionnaire - qualtrics

demographics - age, gender, education level, employment
familiarity - 1-11 score closeness of respondent with persons with disorder(s)
knowledge - 5 T/F questions to assess basic level of knowledge about disorder(s)
aq27 - adapted version to include 7 of the 9 categories of stigma
sds - social distance scale, adapted to include renting and hiring
vignettes - control, epilepsy, depression, combined

- vignettes were presented at random
- order of questions was randomised within blocks (familiarity, knowledge, aq27, sds) to reduce risk of respondent fatigue skewing data

collection of data

when was data collected? data collected from march 15th - march 27th 2025

Recruitment flyers with the contact information were mounted in local commune health centers where local PLHWUD usually receive care. Those who were interested in learning more about the study could either call the research staff or meet them in the commune health centers.The PLHWUD eligibility criteria included: 1) being age 18 and above; 2) being HIV seropositive; 3) currently using opiates or having had a history of opiate use, and 4) currently not receiving either antiretroviral therapy (ART) or methadone maintenance therapy (MMT). When recruiting PLWHUD, the research staff fully disclosed the study purpose, procedures, nature of confidentiality, voluntary participation, and potential risk and benefits to the potential participants following a standardized script. The prospective participants were also informed that their decision to participate in the study and their response to the assessment questions would not affect their health care services. Written informed consent was obtained from all participants before data collection. A total of 241 PLHWUD were recruited and participated in the study.

collected mainly in York due to local canvassing area
online collections restricted to UK residents
Online:

- SurveyCircle
- SurveySwap
- PollPool
- Reddit
- InterPals
- FaceBook marketing/advertising

- eMail - sent to academic groups at the uni of york and distributed by the following departments:

In-person:

- Flyer - QR code printed onto paper, posted in doors around York, as well as blu-tacked on poster boards around the university (one outside nisa and one on the library printer, couple of bus stops and lamp posts but nothing significant i cant remember where)
    - total sent: 238 + 500 + 70 + 150 = 958 ish
- Word of mouth I guess?

participants completed the questionnaire online, using qualtrics
the participants took approximately _ minutes on average to complete the survey
no benefit to doing the survey, no reward or incentive offered.

measures in data

two scales used to measure stigma against person in vignette:
aq27:

- Blame: Attributing responsibility for the illness to the person with schizophrenia.
- **Anger:** Experiencing negative emotions towards the person.
- **Pity:** Feeling sorry for the person.
- **Help:** Desiring to help the person.
- **Dangerousness:** Perceiving the person as a threat.
- **Fear:** Experiencing fear or anxiety around the person.
- **Avoidance:** Avoiding contact with the person.
- **Segregation:** Believing the person should be separated from society.
- **Coercion:** Believing the person should be forced into treatment.

removed segregation and avoidance, as also using SDS

SDS:

- to what extent will the respondent socially distance themselves from the person in the vignette, a high score in the SDS means they will absolutely avoid the person and a low score means they have no desire to socially distance themselves

for reasoning behind stigma:
familiarity: from never knowing or meeting someone with a disorder, to having the disorder themselves, how familiar is the respondent with the disorder being analysed
knowledge: 5 true or false questions to analyse how much basic knowledge of the disorder do respondents have

participants' demographics were also collected to ensure validity of sample size and relevance to the wider UK general population

statistical analysis

what statistical analysis will be done, how, and what will it hopefully produce?

Firstly, demographics of all participants were summarised. [statistical test] was performed to ensure that the sample group was representative of a wider general UK population.

Statistical analysis

Firstly, descriptive statistics of demographics, years of heroin use, years since HIV diagnosis, perceived drug-related and HIV-related stigma, internalized drug-related and HIV-related shame, and mental health status were summarized. Paired t-test was used to compare the mean scores of the participants' perceived drug-related stigma with perceived HIV-related stigma and internalized drug-related shame with internalized HIV-related shame. Secondly, multiple linear regressions were conducted to identify factors associated with perceived drug-related stigma and internalized drug-related shame, as well as perceived HIV-related stigma and internalized HIV-related shame, respectively. Participants' demographics (age, marital status, education (years), and currently working status), years of heroin use, and years since HIV diagnosis were included in the models, because literature has indicated an individual's social-demographic characteristics, including gender, education, and employment status, may create social conditions that facilitate stigma related to drug use or HIV [18,20]. Standardized regression coefficients and their significance levels were reported. Thirdly, a structural equation model (SEM) was built to assess the relationships among different types and layers of stigma and mental health status. Based on the factor analysis in a previous study [32], we constructed drug-related stigma and HIV-related stigma as latent variables of their corresponding subscales (perceived stigma and internalized shame) in the SEM. Demographics (age, marital status, education, and working status), years of heroin use, and years since HIV diagnosis were controlled as covariates in the SEM. We assessed model fit with the following indicators: Chi-square statistic, which tends to always reject the model when large samples were used since it is sensitive to sample size; Comparative Fit Index (CFI), where a score higher than 0.90 is an acceptable fit; Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR), where a score of less than 0.08 indicates a good fit for both of them [35]. All statistical analyses were conducted using the SAS for Windows version 9.4 (SAS Institute, Cart, NC).

Data Analysis

All analyses were conducted using of Intercooled Stata version 8.2. In the first instance the scale properties of the social distance scale were examined, and then the bivariate relationship between the independent factors (disease characteristic and co-characteristic), the covariates, and social distance. The effect of the order of the presentation of a vignette on social distance was included as a possible confounding variable. Although the presentation of vignettes was randomised, participants would have been unfamiliar with these particular descriptions, and it was felt that repeated exposure to the task may itself influence the judgements.
A multivariable model in which the effects of the independent factors (and interaction effects) were estimated, controlling only for those covariates that were shown to have statistically significant effects on stigma in the bivariate tests. Adjusted cell means (without the model constant) were calculated and the effect of the layering of stigma examined.
The multivariable modelling was, conceptually, a straightforward analysis of social distance as a function of (a) the disease characteristic and (b) the co-characteristic. It was slightly complicated by the repeated measurement of social distance within participants – each of whom was asked to respond to three separate vignettes. The clustering of judgements associated with the repeated measurement of social distance within participants was handled using a two-level, maximum likelihood, multilevel regression analysis. In the model, social distance associated with judgements were represented at level one, and participants were represented at level two [38, 39].

Ethics

The questionnaire was approved by the Department of Biology Ethics Board, at the University of York, prior to distribution and data collection.

Good quote:

"While terms other than 'intersectional stigma' have been proposed, such as 'layered', 'double', 'overlapping', and 'multilevel' stigma, these terms all inadvertently imply mechanisms in addition to describing a theoretical approach. 'Double stigma', for example, implies that the experiences and effects of living with multiple stigmatized identities are simply additive ('doubled'), when in fact they may be multiplicative or interact in other complicated ways to produce a given experience [18–20]." (Turan et al., 2019, p. 2)

To analyze Likert responses with four independent variables, you'll need to use non-parametric statistical tests since Likert data is considered ordinal.Here's a breakdown:

1. **Data Preparation:**
   - Code your Likert responses (e.g., 1=strongly disagree, 5=strongly agree).
   - Identify your dependent variable (the Likert scale items) and your four independent variables.
2. **Descriptive Statistics:**
   - Use the mode (most frequent response) or median as the measure of central tendency.
   - Display the distribution of responses using bar charts.

3. **Inferential Statistics:**
   - **One-Way ANOVA (with Kruskal-Wallis):** If you want to compare the mean Likert scores across your four independent variables (which are categorical).
     - If ANOVA results are significant, you can then use post-hoc tests like the Mann-Whitney U test (Wilcoxon-Mann-Whitney test) to compare the means between specific pairs of your four variables.
     -
   - **Spearman's Correlation:** If you want to assess the relationship between your Likert scale and the continuous independent variables.
   -
   - **Chi-Square Test:** If you want to examine associations between categorical independent variables and categorical dependent variables (e.g., combining Likert responses into categories like "agree" vs. "disagree").
   -
   - **Regression Analysis:** If your dependent variable is measured on an interval scale, you can use multiple linear regression, and if it's ordinal, you can use ordered logistic regression.
   -
4. **Interpretation:**
   - Focus on the p-value to determine statistical significance (usually at $p < 0.05$).
   - Look at effect sizes (e.g., r or Cohen's d) to determine the magnitude of the effect.

	control	epilepsy	depression	combined
aq7 total score				
fear				
blame				
anger				
pity				
help				
danger				
coercion				
SDS total score				
neighbour				
friend				

work				
hire				
rent				
marry				
socialise				

for each vignette:

knowledge score of epilepsy/depression	1	2	3	4	5
total aq7 score					
fear					
blame					
anger					
pity					
help					
danger					
coercion					

In more complex study areas, the independent variables might interact with each other. Interaction effects indicate that a third variable influences the relationship between an independent and dependent variable. In this situation, statisticians say that these variables interact because the relationship between an independent and dependent variable changes depending on the value of a third variable. This type of effect makes the model more complex, but if the real world behaves this way, it is critical to incorporate it in your model. For example, the relationship between condiments and enjoyment probably depends on the type of food—as we'll see in this post!

independent variable: vignette recieved

dependent variable: AQ7 score

second independent variable: knowledge scores

interaction: vignette AND knowledge impacts AQ7 score

interaction: is having 2 disorder bigger stigma than 1

additive vs multiplicative vs stacked

tests to do:

first, test demographics for generalisation possibilities

then, test if vignette received impacts aq7 scores, as well as sds scores
if someone with ep also has dep, does having both make it worse and quantify the specific areas it is worse in
kruskal-wallis for vignette x each aq7 category
vignette x sds total
vignette x sds categories

test if knowledge
use familiarity and knowledge scores in same way as employment age and gender scores, to control for it essentially
treat them like demographics as being used to control for generalisation possibilities
if can: how does knowledge or familiarity impact specific scores, those who had depression were more likely to endorse pity attributions for example. maybe this is because ___ which shows people with depression know xyz

criteria for proving hypothesis?
look through each emotions, or do a combined score, or how to calculate the total?

possibly ask reddit;

what tests should i use for this?

i have a survey with 4 vignettes of scenarios, the respondents then answered an attitudes section (rank their attitudes towards the person in the vignette on a 7-point likert), as well as a social distance section (rank their likeliness to distance themselves in social settings in regards to the person in the scenario, 4-point likert).

respondents also gave demographic details, as well as answering a familiarity and knowledge section for the disorder(s) the person may have in the vignettes.

i want to compare how the vignettes impacted attitude and social distance scores (the stigma). the demographics and familiarity/knowledge were used to check if my sample is representative of the wider public.

i tried ANOVA but failed the assumptions. so i was thinking of doing a kruskal wallis? or should i do chi squared? if im trying to see how the vignettes impacted the stigma, and there is 14 categories of

stigma which i included in the questionnaire through the attitude and social distance scales, should i do a kruskal-wallis for each of the categories, as well as for the total stigma score (sum of all responses in the likert questions)?

is it glaringly obvious that this is the wrong test to do, or would it be appropriate for what i am trying to show?

anova failed normality assumptions?
kruskal-wallis for vignette x aq7/sds categories in a table
%SM percentage of stigma scale maximum to compare stigma for vignettes

if sample size is atleast 30 for each vignette just do anova because normality is whatever at that point

anova for vignette x aq7/sds categories in table
%SM percentage of stigma scale maximum to compare stigma for vignettes

my thing is not which is the biggest stigma! im doing does person with ep and dep have more stigma than person with ep alone. anti stigma campaign is important to bear in mind that there are people who have depression too

ok so plan:
ANOVA vignette x AQ7
shows there is a significant difference in the aq7 categories between vignettes

Kruskal-Walliss vignette x aq7
shows WHERE the significant differences between vignettes come from

%SM percentage of vignette x aq7
shows how much of the possible total percentage score for each aq7 category is attributable to each vignette

statistical tests
the chi square goodness of fit test as the appropriate test here. But it does require you to plug in an assumption that you are testing against. If you are testing for a hypothesis that the 3 groups

have equal populations, then an equal distribution of 1/3 in each group is the appropriate null hypothesis.

This is a classic 2x2 (tattoo x piercings) between-subject design. Assuming your scales are interval scales (the potential levels are nominal< ordinal<interval) you can calculate A) multiple ANOVAS with both factors for each dependent variable. Easy to interpret but you risk alpha inflation (i.e. finding to many significant effects that are actually random). For each DV you get an analysis if Tattoo has an effect, if PIERCING has an effect, and if TATTOO x PIERCING as an effect, meaning that both factors do not add up linearily but affect the others evaluation. B} run a MANOVA that considers all dependent variables jointly. That is the better test but harder to interpret, as you get an overall/omnibus result first that tells you if each of the factors and the interaction has an effect on the joint evaluation and only after that you would dive into the individual analysis.
C) If that's to much to interpret, you can calculate an bias score as the mean across dependent variables, report Cronbach's alpha, and run a single ANOVA with both factors on that.
Critiques will argue that you can't be sure that the measurements are interval/metric. Ignore them for now.
Looking forward to your results. Please post them.