Barkan etal (2012) data analysis using randomly generated data - V4

Yvonne JIN

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df <- read\_sav("NOCHECK - [RRR] Barkan et al. (2012) Ethical dissonance [Yvonne Yaqi Jin] - V2\_June 22, 2022\_09.35.sav")

# Study response processing

General measurements score calculation: Manipulation check and MASC uses averaged score of individual items.

## Manipulation Check - Self Esteem Scale

df$ManiCheck <- df %>% dplyr::select(starts\_with("ManiCheck")) %>% rowMeans()  
# Add package name before function "select"   
# to prevent confusion with same name functions in other packages

## Study 3 MASC - Multi Aspect Scale of Cheating

df$MASC\_set1 <- df %>% dplyr::select(starts\_with("MASC\_set1")) %>% rowMeans()  
df$MASC\_set2 <- df %>% dplyr::select(starts\_with("MASC\_set2")) %>% rowMeans()  
df$MASC\_set3 <- df %>% dplyr::select(starts\_with("MASC\_set3")) %>% rowMeans()

## Study 3 BIDR - The Balanced Inventory of Desirable Responding

Scoring: Respondents are asked to rate the 40-items on a 7 point scale according to their level of agreement with the item (stated as propositions). The scoring key is balanced. All even number statements of self-deceptive positivity (former 20 statements) are negatively keyed. All odd number statements of impression management (latter 20 statements) are negatively keyed. After reversing the negatively keyed items, one point is added for each extreme response (6 or 7). Total scores on the both constructs can range from 0 to 20. Thus, high scores are only attained by respondents who give exaggeratedly desirable responses. All 40 items may be summed to give an overall measure of social desirable responding.

#-------------------------------#  
### self deceptive positivity  
  
# positively keyed statements  
BIDR\_self\_deceptive\_odd <- df %>%   
dplyr::select("BIDR\_Self\_deceptive\_2","BIDR\_Self\_deceptive\_4","BIDR\_Self\_deceptive\_6","BIDR\_Self\_deceptive\_8","BIDR\_Self\_deceptive\_10","BIDR\_Self\_deceptive\_12","BIDR\_Self\_deceptive\_14","BIDR\_Self\_deceptive\_16","BIDR\_Self\_deceptive\_18","BIDR\_Self\_deceptive\_20")

# iterate the item to avoid counting variables like "BIDR\_Self\_deceptive\_DO\_20"  
  
BIDR\_self\_deceptive\_odd\_recode <- as.data.frame(ifelse(BIDR\_self\_deceptive\_odd > 5, 1,0))  
  
# negatively keyed statements  
BIDR\_self\_deceptive\_even <- df %>% dplyr::select("BIDR\_Self\_deceptive\_1","BIDR\_Self\_deceptive\_3","BIDR\_Self\_deceptive\_5","BIDR\_Self\_deceptive\_7","BIDR\_Self\_deceptive\_9","BIDR\_Self\_deceptive\_11","BIDR\_Self\_deceptive\_13","BIDR\_Self\_deceptive\_15","BIDR\_Self\_deceptive\_17","BIDR\_Self\_deceptive\_19")  
  
BIDR\_self\_deceptive\_even\_recode <- as.data.frame(ifelse(BIDR\_self\_deceptive\_even < 3, 1,0))  
  
#----------------------------#  
### impression management  
  
# positively keyed statements  
BIDR\_impre\_manage\_even <- df %>%   
 dplyr::select("BIDR\_Impre\_manage\_2","BIDR\_Impre\_manage\_4","BIDR\_Impre\_manage\_6","BIDR\_Impre\_manage\_8","BIDR\_Impre\_manage\_10","BIDR\_Impre\_manage\_12","BIDR\_Impre\_manage\_14","BIDR\_Impre\_manage\_16","BIDR\_Impre\_manage\_18","BIDR\_Impre\_manage\_20")  
  
BIDR\_impre\_manage\_even\_recode <- as.data.frame(ifelse(BIDR\_impre\_manage\_even > 5, 1,0))  
  
# negatively keyed statements   
BIDR\_impre\_manage\_odd <- df %>%   
dplyr::select("BIDR\_Impre\_manage\_1","BIDR\_Impre\_manage\_3","BIDR\_Impre\_manage\_5","BIDR\_Impre\_manage\_7","BIDR\_Impre\_manage\_9","BIDR\_Impre\_manage\_11","BIDR\_Impre\_manage\_13","BIDR\_Impre\_manage\_15","BIDR\_Impre\_manage\_17","BIDR\_Impre\_manage\_19")   
# iterate the item to avoid counting variables like"BIDR\_Impre\_manage\_DO\_11"  
  
BIDR\_impre\_manage\_odd\_recode <- as.data.frame(ifelse(BIDR\_impre\_manage\_odd < 3, 1,0))  
  
#------------------------------------------#  
# merge all recoded score into one dataframe  
  
recode\_BIDR\_self\_deceptive <- BIDR\_self\_deceptive\_odd\_recode %>%   
 cbind(BIDR\_self\_deceptive\_even\_recode)   
  
recode\_BIDR\_impre\_manage <- BIDR\_impre\_manage\_odd\_recode %>%  
 cbind(BIDR\_impre\_manage\_even\_recode)   
  
# add up recoded score to form an overall score, add to main dataframe  
df$BIDR\_self\_deceptive <- recode\_BIDR\_self\_deceptive %>% rowSums()  
df$BIDR\_impre\_manage <- recode\_BIDR\_impre\_manage %>% rowSums()

## Condition marking

Conditions allocated for each participants and the order of experiments presented are marked in Qualtrics by variables starting with “FL”.

# find block order of conditions  
block\_order <- df %>% dplyr::select(starts\_with("FL"))  
colnames(block\_order)

## [1] "FL\_9\_DO\_RecallManipulation\_EthicalDissonancebyWriting\_UnethicalB"  
## [2] "FL\_9\_DO\_RecallManipulation\_EthicalDissonanceWithoutWriting"   
## [3] "FL\_9\_DO\_RecallManipulation\_WorthyConduct"   
## [4] "FL\_9\_DO\_RecallManipulation\_Neutral"   
## [5] "FL\_9\_DO\_RecallManipulation\_NegativeValence"   
## [6] "FL\_11\_DO\_Experiment1\_HiringDecisionasHR"   
## [7] "FL\_11\_DO\_FL\_25"   
## [8] "FL\_25\_DO\_Experiment2scenario1\_JobInterviewAdvice"   
## [9] "FL\_25\_DO\_FL\_27"   
## [10] "FL\_27\_DO\_Experiment2scenario2\_ExchangingProductAdvice\_Female"   
## [11] "FL\_27\_DO\_Experiment2scenario2\_ExchangingProductAdvice\_Male"   
## [12] "FL\_38\_DO\_MultiAspectScaleofCheatingMASC\_Set1"   
## [13] "FL\_38\_DO\_MultiAspectScaleofCheatingMASC\_Set2"   
## [14] "FL\_38\_DO\_MultiAspectScaleofCheatingMASC\_Set3"   
## [15] "FL\_38\_DO\_BalancedInventoryofDesirableRespondingBIDR\_SelfDeceptiv"  
## [16] "FL\_38\_DO\_BalancedInventoryofDesirableRespondingBIDR\_ImpressionMa"

# Mark study presentation order  
df$study\_order = ifelse(df$FL\_11\_DO\_Experiment1\_HiringDecisionasHR == 1,"Exp1First","Exp2First")

Slicing dataframe into five recall conditions.

## ethical dissonance & writing response   
ethi\_dis\_write <- df %>% filter(FL\_9\_DO\_RecallManipulation\_EthicalDissonancebyWriting\_UnethicalB == 1) %>%  
 dplyr::select("study\_order",  
 "ManiCheck", # precalculated average  
 starts\_with("Exp1"),  
 starts\_with("Exp2"),  
 "MASC\_set1", "MASC\_set2", "MASC\_set3", # precalculated average  
 "BIDR\_self\_deceptive","BIDR\_impre\_manage", # precalculated  
 age:CountryName) %>% #demographic data and condition marker  
 mutate(condition = "Dissonance\_write")  
  
## ethical dissonance & writing response   
ethi\_dis\_nowrite <- df %>% filter(FL\_9\_DO\_RecallManipulation\_EthicalDissonanceWithoutWriting == 1) %>%  
 dplyr::select("study\_order",  
 "ManiCheck",   
 starts\_with("Exp1"),  
 starts\_with("Exp2"),  
 "MASC\_set1", "MASC\_set2", "MASC\_set3",   
 "BIDR\_self\_deceptive","BIDR\_impre\_manage",   
 age:CountryName) %>%   
 mutate(condition = "Dissonance\_no\_write")  
  
## control: worthy conduct  
con\_worthy <- df %>% filter(FL\_9\_DO\_RecallManipulation\_WorthyConduct == 1) %>%  
 dplyr::select("study\_order",  
 "ManiCheck",  
 starts\_with("Exp1"),  
 starts\_with("Exp2"),  
 "MASC\_set1", "MASC\_set2", "MASC\_set3",  
 "BIDR\_self\_deceptive","BIDR\_impre\_manage",  
 age:CountryName) %>%  
 mutate(condition = "Worthy") # control condition: worthy conduct  
  
## control: neutral event  
con\_neutral <- df %>% filter(FL\_9\_DO\_RecallManipulation\_Neutral == 1) %>%  
 dplyr::select("study\_order",  
 "ManiCheck",  
 starts\_with("Exp1"),  
 starts\_with("Exp2"),  
 "MASC\_set1", "MASC\_set2", "MASC\_set3",  
 "BIDR\_self\_deceptive","BIDR\_impre\_manage",  
 age:CountryName) %>%   
 mutate(condition = "Neutral") # control condition: Neutral behavior  
  
## control: neutral event  
con\_nega <- df %>% filter(FL\_9\_DO\_RecallManipulation\_NegativeValence ==1) %>%  
 dplyr::select("study\_order",  
 "ManiCheck",  
 starts\_with("Exp1"),  
 starts\_with("Exp2"),  
 "MASC\_set1", "MASC\_set2", "MASC\_set3",  
 "BIDR\_self\_deceptive","BIDR\_impre\_manage",  
 age:CountryName) %>%  
 mutate(condition = "Negative") # control condition: negative valence

Combine data segments with condition marking.

cleaned\_df <- ethi\_dis\_write %>%   
 rbind(ethi\_dis\_nowrite) %>%  
 rbind(con\_worthy) %>%  
 rbind(con\_neutral) %>%  
 rbind(con\_nega)   
  
colnames(cleaned\_df)

## [1] "study\_order" "ManiCheck" "Exp1\_prob\_hiring"   
## [4] "Exp1\_loyalty" "Exp1\_honesty" "Exp2\_S1\_seen\_wrong"   
## [7] "Exp2\_S1\_self\_action" "Exp2\_S1\_guide\_other" "Exp2\_S2F\_seen\_wrong"   
## [10] "Exp2\_S2F\_self\_action" "Exp2\_S2F\_guide\_other" "Exp2\_S2M\_seen\_wrong"   
## [13] "Exp2\_S2M\_self\_action" "Exp2\_S2M\_guide\_other" "MASC\_set1"   
## [16] "MASC\_set2" "MASC\_set3" "BIDR\_self\_deceptive"   
## [19] "BIDR\_impre\_manage" "age" "gender"   
## [22] "origcount" "residence" "soc\_class"   
## [25] "engunder" "funnel\_pay" "assignmentId"   
## [28] "hitId" "CountryCode" "CountryName"   
## [31] "condition"

# Response formatting for study 1 and study 2 DVs

Change the data type of DVs to numeric, so the ANOVA test and ggstatsplot works properly.

DVs <- c("Exp1\_prob\_hiring", "Exp1\_loyalty","Exp1\_honesty", "Exp2\_S1\_seen\_wrong", "Exp2\_S1\_self\_action", "Exp2\_S1\_guide\_other", "Exp2\_S2F\_seen\_wrong", "Exp2\_S2F\_self\_action", "Exp2\_S2F\_guide\_other", "Exp2\_S2M\_seen\_wrong", "Exp2\_S2M\_self\_action","Exp2\_S2M\_guide\_other")  
cleaned\_df[DVs] <- sapply(cleaned\_df[DVs],as.numeric)

Merge study 2 scenario 2, female and male case together.

cleaned\_df$Exp2\_S2\_seen\_wrong\_T2 = coalesce(cleaned\_df$Exp2\_S2F\_seen\_wrong,cleaned\_df$Exp2\_S2M\_seen\_wrong)  
cleaned\_df$Exp2\_S2\_self\_action\_T2 = coalesce(cleaned\_df$Exp2\_S2F\_self\_action,cleaned\_df$Exp2\_S2M\_self\_action)  
cleaned\_df$Exp2\_S2\_guide\_other\_T2 = coalesce(cleaned\_df$Exp2\_S2F\_guide\_other,cleaned\_df$Exp2\_S2M\_guide\_other)

# output cleaned data  
write.csv(cleaned\_df, "stimulated\_cleaned\_data.csv",fileEncoding = "UTF-8")

# Descriptive data

# Manipulation Check  
## overall  
jmv::descriptives(data = cleaned\_df, vars = vars(ManiCheck))

## Descriptives   
## ───────────────────────────────────   
## ManiCheck   
## ───────────────────────────────────   
## N 1000   
## Missing 0   
## Mean 2.9947   
## Median 3.0000   
## Standard deviation 0.55788   
## Minimum 1.5000   
## Maximum 4.5000   
## ───────────────────────────────────

## by condition  
jmv::descriptives(  
 formula = ManiCheck ~ condition,  
 data = cleaned\_df,  
 missing = FALSE,  
 median = FALSE,  
 variance = TRUE,  
 min = FALSE,  
 max = FALSE,  
 ci = TRUE)

## Descriptives   
## ───────────────────────────────────────────────────────────────   
## condition ManiCheck   
## ───────────────────────────────────────────────────────────────   
## N Dissonance\_no\_write 199   
## Dissonance\_write 200   
## Negative 200   
## Neutral 201   
## Worthy 200   
## Mean Dissonance\_no\_write 3.0235   
## Dissonance\_write 2.9975   
## Negative 2.9250   
## Neutral 2.9751   
## Worthy 3.0525   
## 95% CI mean lower bound Dissonance\_no\_write 2.9396   
## Dissonance\_write 2.9205   
## Negative 2.8454   
## Neutral 2.8993   
## Worthy 2.9833   
## 95% CI mean upper bound Dissonance\_no\_write 3.1073   
## Dissonance\_write 3.0745   
## Negative 3.0046   
## Neutral 3.0509   
## Worthy 3.1217   
## Standard deviation Dissonance\_no\_write 0.60373   
## Dissonance\_write 0.55554   
## Negative 0.57462   
## Neutral 0.54817   
## Worthy 0.49946   
## Variance Dissonance\_no\_write 0.36449   
## Dissonance\_write 0.30862   
## Negative 0.33019   
## Neutral 0.30049   
## Worthy 0.24946   
## ───────────────────────────────────────────────────────────────

# Study 1  
## total  
jmv::descriptives(data = cleaned\_df, vars = vars(Exp1\_prob\_hiring, Exp1\_loyalty, Exp1\_honesty))

## Descriptives   
## ──────────────────────────────────────────────────────────────────────────   
## Exp1\_prob\_hiring Exp1\_loyalty Exp1\_honesty   
## ──────────────────────────────────────────────────────────────────────────   
## N 1000 1000 1000   
## Missing 0 0 0   
## Mean 4.9990 4.9600 4.9280   
## Median 5.0000 5.0000 5.0000   
## Standard deviation 2.6122 2.5991 2.5560   
## Minimum 1.0000 1.0000 1.0000   
## Maximum 9.0000 9.0000 9.0000   
## ──────────────────────────────────────────────────────────────────────────

## by condition  
jmv::descriptives(  
 formula = Exp1\_prob\_hiring + Exp1\_loyalty + Exp1\_honesty ~ condition,  
 data = cleaned\_df,  
 missing = FALSE, median = FALSE)

## Descriptives   
## ─────────────────────────────────────────────────────────────────────────────────────────────────   
## condition Exp1\_prob\_hiring Exp1\_loyalty Exp1\_honesty   
## ─────────────────────────────────────────────────────────────────────────────────────────────────   
## N Dissonance\_no\_write 199 199 199   
## Dissonance\_write 200 200 200   
## Negative 200 200 200   
## Neutral 201 201 201   
## Worthy 200 200 200   
## Mean Dissonance\_no\_write 4.9849 4.9146 5.0402   
## Dissonance\_write 5.1450 4.8450 4.9800   
## Negative 4.9450 5.2400 4.7150   
## Neutral 5.0398 4.8607 4.8308   
## Worthy 4.8800 4.9400 5.0750   
## Standard deviation Dissonance\_no\_write 2.5256 2.6738 2.6871   
## Dissonance\_write 2.5996 2.6450 2.5381   
## Negative 2.6414 2.5564 2.5389   
## Neutral 2.6605 2.5594 2.5261   
## Worthy 2.6497 2.5650 2.4941   
## Minimum Dissonance\_no\_write 1.0000 1.0000 1.0000   
## Dissonance\_write 1.0000 1.0000 1.0000   
## Negative 1.0000 1.0000 1.0000   
## Neutral 1.0000 1.0000 1.0000   
## Worthy 1.0000 1.0000 1.0000   
## Maximum Dissonance\_no\_write 9.0000 9.0000 9.0000   
## Dissonance\_write 9.0000 9.0000 9.0000   
## Negative 9.0000 9.0000 9.0000   
## Neutral 9.0000 9.0000 9.0000   
## Worthy 9.0000 9.0000 9.0000   
## ─────────────────────────────────────────────────────────────────────────────────────────────────

# Study 2 scenario 1  
## total  
jmv::descriptives(  
 data = cleaned\_df,  
 vars = vars(Exp2\_S1\_seen\_wrong, Exp2\_S1\_self\_action, Exp2\_S1\_guide\_other),  
 missing = FALSE, median = FALSE)

## Descriptives   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Exp2\_S1\_seen\_wrong Exp2\_S1\_self\_action Exp2\_S1\_guide\_other   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## N 1000 1000 1000   
## Mean 5.1420 5.0940 5.1420   
## Standard deviation 2.6040 2.6363 2.5870   
## Minimum 1.0000 1.0000 1.0000   
## Maximum 9.0000 9.0000 9.0000   
## ──────────────────────────────────────────────────────────────────────────────────────────

## by condition  
jmv::descriptives(  
 formula = Exp2\_S1\_seen\_wrong + Exp2\_S1\_self\_action + Exp2\_S1\_guide\_other ~ condition,  
 data = cleaned\_df,  
 missing = FALSE, median = FALSE)

## Descriptives   
## ─────────────────────────────────────────────────────────────────────────────────────────────────────────────────   
## condition Exp2\_S1\_seen\_wrong Exp2\_S1\_self\_action Exp2\_S1\_guide\_other   
## ─────────────────────────────────────────────────────────────────────────────────────────────────────────────────   
## N Dissonance\_no\_write 199 199 199   
## Dissonance\_write 200 200 200   
## Negative 200 200 200   
## Neutral 201 201 201   
## Worthy 200 200 200   
## Mean Dissonance\_no\_write 5.0352 5.0553 5.1005   
## Dissonance\_write 4.8900 4.9850 5.2550   
## Negative 5.1700 5.0150 5.2300   
## Neutral 5.1294 5.3632 5.0100   
## Worthy 5.4850 5.0500 5.1150   
## Standard deviation Dissonance\_no\_write 2.6080 2.5863 2.5366   
## Dissonance\_write 2.5926 2.6627 2.5598   
## Negative 2.6621 2.6362 2.6233   
## Neutral 2.5046 2.6538 2.6476   
## Worthy 2.6391 2.6500 2.5836   
## Minimum Dissonance\_no\_write 1.0000 1.0000 1.0000   
## Dissonance\_write 1.0000 1.0000 1.0000   
## Negative 1.0000 1.0000 1.0000   
## Neutral 1.0000 1.0000 1.0000   
## Worthy 1.0000 1.0000 1.0000   
## Maximum Dissonance\_no\_write 9.0000 9.0000 9.0000   
## Dissonance\_write 9.0000 9.0000 9.0000   
## Negative 9.0000 9.0000 9.0000   
## Neutral 9.0000 9.0000 9.0000   
## Worthy 9.0000 9.0000 9.0000   
## ─────────────────────────────────────────────────────────────────────────────────────────────────────────────────

# Study scenario 2  
## total   
jmv::descriptives(  
 data = cleaned\_df,  
 vars = vars(Exp2\_S2\_seen\_wrong\_T2, Exp2\_S2\_self\_action\_T2, Exp2\_S2\_guide\_other\_T2),  
 missing = FALSE, median = FALSE)

## Descriptives   
## ───────────────────────────────────────────────────────────────────────────────────────────────────   
## Exp2\_S2\_seen\_wrong\_T2 Exp2\_S2\_self\_action\_T2 Exp2\_S2\_guide\_other\_T2   
## ───────────────────────────────────────────────────────────────────────────────────────────────────   
## N 1000 1000 1000   
## Mean 5.0620 5.0780 4.9700   
## Standard deviation 2.4804 2.5827 2.6130   
## Minimum 1.0000 1.0000 1.0000   
## Maximum 9.0000 9.0000 9.0000   
## ───────────────────────────────────────────────────────────────────────────────────────────────────

## by condition  
jmv::descriptives(  
 formula = Exp2\_S2\_seen\_wrong\_T2 + Exp2\_S2\_self\_action\_T2 + Exp2\_S2\_guide\_other\_T2 ~ condition,  
 data = cleaned\_df,  
 missing = FALSE, median = FALSE)

## Descriptives   
## ──────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────   
## condition Exp2\_S2\_seen\_wrong\_T2 Exp2\_S2\_self\_action\_T2 Exp2\_S2\_guide\_other\_T2   
## ──────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────   
## N Dissonance\_no\_write 199 199 199   
## Dissonance\_write 200 200 200   
## Negative 200 200 200   
## Neutral 201 201 201   
## Worthy 200 200 200   
## Mean Dissonance\_no\_write 5.2663 4.8442 5.1508   
## Dissonance\_write 5.4100 5.0050 4.7400   
## Negative 4.8350 5.2050 5.3500   
## Neutral 5.0299 5.0547 4.4876   
## Worthy 4.7700 5.2800 5.1250   
## Standard deviation Dissonance\_no\_write 2.4109 2.6055 2.5893   
## Dissonance\_write 2.3386 2.5053 2.6357   
## Negative 2.5258 2.7295 2.5770   
## Neutral 2.5766 2.6042 2.6117   
## Worthy 2.5057 2.4641 2.5832   
## Minimum Dissonance\_no\_write 1.0000 1.0000 1.0000   
## Dissonance\_write 1.0000 1.0000 1.0000   
## Negative 1.0000 1.0000 1.0000   
## Neutral 1.0000 1.0000 1.0000   
## Worthy 1.0000 1.0000 1.0000   
## Maximum Dissonance\_no\_write 9.0000 9.0000 9.0000   
## Dissonance\_write 9.0000 9.0000 9.0000   
## Negative 9.0000 9.0000 9.0000   
## Neutral 9.0000 9.0000 9.0000   
## Worthy 9.0000 9.0000 9.0000   
## ──────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────

# Study 3  
## total  
jmv::descriptives(  
 data = cleaned\_df,  
 vars = vars(MASC\_set1, MASC\_set2, MASC\_set3, BIDR\_self\_deceptive, BIDR\_impre\_manage))

## Descriptives   
## ─────────────────────────────────────────────────────────────────────────────────────────────────────────   
## MASC\_set1 MASC\_set2 MASC\_set3 BIDR\_self\_deceptive BIDR\_impre\_manage   
## ─────────────────────────────────────────────────────────────────────────────────────────────────────────   
## N 1000 1000 1000 1000 1000   
## Missing 0 0 0 0 0   
## Mean 4.2504 3.7433 4.0185 5.7450 5.6970   
## Median 4.2500 3.7500 4.0000 6.0000 6.0000   
## Standard deviation 0.36106 0.40792 1.4358 2.0323 1.9988   
## Minimum 3.1250 2.5833 1.0000 1.0000 1.0000   
## Maximum 5.3125 4.9167 7.0000 13.000 13.000   
## ─────────────────────────────────────────────────────────────────────────────────────────────────────────

## condition  
jmv::descriptives(  
 formula = MASC\_set1 + MASC\_set2 + MASC\_set3 + BIDR\_self\_deceptive + BIDR\_impre\_manage ~ condition,  
 data = cleaned\_df,  
 missing = FALSE, median = FALSE)

## Descriptives   
## ────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────   
## condition MASC\_set1 MASC\_set2 MASC\_set3 BIDR\_self\_deceptive BIDR\_impre\_manage   
## ────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────   
## N Dissonance\_no\_write 199 199 199 199 199   
## Dissonance\_write 200 200 200 200 200   
## Negative 200 200 200 200 200   
## Neutral 201 201 201 201 201   
## Worthy 200 200 200 200 200   
## Mean Dissonance\_no\_write 4.2349 3.7638 4.0653 5.8141 5.7337   
## Dissonance\_write 4.2606 3.7846 4.0050 5.8150 5.7200   
## Negative 4.2606 3.7033 4.0500 5.6550 5.6550   
## Neutral 4.2525 3.7430 4.0373 5.7612 5.6915   
## Worthy 4.2431 3.7221 3.9350 5.6800 5.6850   
## Standard deviation Dissonance\_no\_write 0.36058 0.36706 1.4867 1.9438 2.1259   
## Dissonance\_write 0.35328 0.41757 1.4562 2.1480 1.8866   
## Negative 0.35978 0.43863 1.3800 2.0899 1.9965   
## Neutral 0.38679 0.42743 1.4688 1.9138 2.1271   
## Worthy 0.34636 0.38305 1.3948 2.0710 1.8609   
## Minimum Dissonance\_no\_write 3.3750 2.8333 1.0000 1.0000 1.0000   
## Dissonance\_write 3.2500 2.5833 1.0000 2.0000 1.0000   
## Negative 3.1250 2.7500 1.0000 1.0000 1.0000   
## Neutral 3.1875 2.5833 1.0000 1.0000 1.0000   
## Worthy 3.1875 2.5833 1.0000 2.0000 2.0000   
## Maximum Dissonance\_no\_write 5.0000 4.6667 7.0000 12.000 13.000   
## Dissonance\_write 5.1250 4.9167 7.0000 13.000 10.000   
## Negative 5.2500 4.9167 7.0000 12.000 11.000   
## Neutral 5.3125 4.9167 7.0000 13.000 12.000   
## Worthy 5.1250 4.7500 7.0000 12.000 11.000   
## ────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────────

# Age and Gender distribution  
jmv::descriptives(  
 data = cleaned\_df,  
 vars = vars(age, gender))

##   
## DESCRIPTIVES  
##   
## Descriptives   
## ──────────────────────────────────────────   
## age gender   
## ──────────────────────────────────────────   
## N 1000 1000   
## Missing 0 0   
## Mean 50.430 2.5110   
## Median 51.000 3.0000   
## Standard deviation 28.796 1.1077   
## Minimum 0.0000 1.0000   
## Maximum 100.00 4.0000   
## ──────────────────────────────────────────

# plot descriptive table  
#tableby.control()  
#table\_one <- tableby(age ~ ., data = cleaned\_df)   
#table\_one  
#summary(table\_one, title = "Descriptive Data")

# Planned Analysis - Main Analysis

## Manipulation check - ANOVA

jmv::ANOVA(  
 formula = ManiCheck ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - ManiCheck   
## ─────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ─────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 1.8829 4 0.47072 1.5156 0.19545   
## condition 1.8829 4 0.47072 1.5156 0.19545 0.00606   
## Residuals 309.0331 995 0.31059   
## ─────────────────────────────────────────────────────────────────────────────────────────

## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 2.6690 4 995 0.03105   
## ────────────────────────────────────────

# plot the APA style table   
ANOVA\_mani\_check <- lm(ManiCheck ~ condition, data = cleaned\_df)

# plot ggstatsplot and save  
ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = ManiCheck, x = condition,  
 originaltheme = TRUE,  
 ylab = "Manipulation Check", xlab = "Conditions")

Chart, diagram

Description automatically generated

# save the table and plot to local folder. Might interrupt with knitting, hence disabled after export.  
apa.aov.table(ANOVA\_mani\_check, filename = "Manipulation check ANOVA.doc",table.number = 1)  
ggsave("ManipulationCheck\_plot.png",plot = ManipulationCheck\_plot,  
 width = 9, height = 5.5,dpi = 600)

## Study 1 - ANOVA

Study 1 DV1 - Likelihood of Hiring the canditate with ethically questionable behavior.

jmv::ANOVA(  
 formula = Exp1\_prob\_hiring ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 emmTables = TRUE)

## ANOVA - Exp1\_prob\_hiring   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 8.0526 4 2.0132 0.29419 0.88183   
## condition 8.0526 4 2.0132 0.29419 0.88183 0.00118   
## Residuals 6808.9464 995 6.8432   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.80689 4 995 0.52081   
## ────────────────────────────────────────

ANOVA\_Study1\_DV1 <- lm(Exp1\_prob\_hiring ~ condition, data = cleaned\_df)

# plot ggstatsplot and save  
ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = Exp1\_prob\_hiring, x = condition,  
 originaltheme = TRUE,  
 ylab = "Study 1 Likelihood of hiring", xlab = "Conditions")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_Study1\_DV1, filename = "Exp1 DV1 ANOVA.doc",table.number = 2)  
ggsave(  
 "Study1DV1Hiring.png", plot = last\_plot(),  
 width = 9, height = 5.5, dpi = 600)

Study 1 DV2 - Perceived Loyalty to company if the candidate is hired.

jmv::ANOVA(  
 formula = Exp1\_loyalty ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 emmTables = TRUE)

## ANOVA - Exp1\_loyalty   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 20.798 4 5.1994 0.76899 0.54547   
## condition 20.798 4 5.1994 0.76899 0.54547 0.00308   
## Residuals 6727.602 995 6.7614   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.19355 4 995 0.94181   
## ────────────────────────────────────────

ANOVA\_exp1\_DV2 <- lm(Exp1\_loyalty ~ condition, data = cleaned\_df)

# plot ggstatsplot and save  
ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = Exp1\_loyalty, x = condition,  
 originaltheme = TRUE,  
 ylab = "Study 1 Perceived Loyalty", xlab = "Conditions")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_exp1\_DV2, filename = "Exp1 DV2 ANOVA.doc",table.number = 3)  
ggsave(  
 "Study1DV2Loyalty.png", plot = last\_plot(),  
 width = 9, height = 5.5, dpi = 600)

Study 1 DV3 - Perceived honesty of the candidate.

jmv::ANOVA(  
 formula = Exp1\_honesty ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 emmTables = TRUE)

## ANOVA - Exp1\_honesty   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 18.339 4 4.5847 0.70090 0.59141   
## condition 18.339 4 4.5847 0.70090 0.59141 0.00281   
## Residuals 6508.477 995 6.5412   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 1.2563 4 995 0.28548   
## ────────────────────────────────────────

ANOVA\_exp1\_DV3 <- lm(Exp1\_honesty ~ condition, data = cleaned\_df)

# plot ggstatsplot and save  
ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = Exp1\_honesty, x = condition,  
 originaltheme = TRUE,  
 ylab = "Study 1 Perceived Honesty", xlab = "Conditions")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_exp1\_DV3, filename = "Exp1 DV3 ANOVA.doc",table.number = 4)  
ggsave(  
 "Study1DV3Honesty.png", plot = last\_plot(),  
 width = 9, height = 5.5, dpi = 600)

## Study 2 - Repeated ANOVA

Pivot to long format for ggstatsplot.

# add a column of unique participant ID  
cleaned\_df <- dplyr::mutate(cleaned\_df, ID = row\_number())  
  
#pivot longer  
df\_s2DV1 <- pivot\_longer(cleaned\_df, cols = c(Exp2\_S1\_seen\_wrong, Exp2\_S2\_seen\_wrong\_T2),names\_to = "scenario",values\_to = "Exp2\_seen\_wrong")   
df\_s2DV2 <- pivot\_longer(cleaned\_df, cols = c(Exp2\_S1\_self\_action, Exp2\_S2\_self\_action\_T2),names\_to = "scenario",values\_to = "Exp2\_self\_action")   
df\_s2DV3<- pivot\_longer(cleaned\_df, cols = c(Exp2\_S1\_guide\_other, Exp2\_S2\_guide\_other\_T2),names\_to = "scenario",values\_to = "Exp2\_guide\_other")   
  
# combine three DVs  
df\_s2long <- df\_s2DV1 %>% dplyr::select("ID","condition","scenario","Exp2\_seen\_wrong") %>% dplyr::mutate(Exp2\_seen\_wrong = as.numeric(Exp2\_seen\_wrong)) %>%  
 cbind(Exp2\_self\_action = as.numeric(df\_s2DV2$Exp2\_self\_action)) %>%  
 cbind(Exp2\_guide\_other = as.numeric(df\_s2DV3$Exp2\_guide\_other))  
  
# rename the scenario variable for plotting   
df\_s2long <- df\_s2long %>%   
 mutate(scenario = case\_when(  
 scenario == "Exp2\_S1\_seen\_wrong" ~ "Scenario 1 Leaking interview questions",  
 scenario == "Exp2\_S2\_seen\_wrong\_T2" ~ "Scenario 2 Changing used product"))

Study 2 DV2 - Perception of suggested actions as wrong.

jmv::anovaRM(  
 data = cleaned\_df,  
 rm = list(  
 list(  
 label="scenario",  
 levels=c("S1", "S2"))),  
 rmCells = list(  
 list(  
 measure="Exp2\_S1\_seen\_wrong",  
 cell="S1"),  
 list(  
 measure="Exp2\_S2\_seen\_wrong\_T2",  
 cell="S2")),  
 bs = condition,  
 effectSize = "eta",  
 rmTerms = ~ scenario,  
 bsTerms = ~ condition,  
 leveneTest = TRUE,  
 #emMeans = ~ scenario:condition,  
 emmTables = TRUE,  
 groupSumm = TRUE)

##   
## REPEATED MEASURES ANOVA  
##   
## Within Subjects Effects   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## scenario 3.1736 1 3.1736 0.50144 0.47904 0.00025   
## scenario:condition 92.4966 4 23.1242 3.65371 0.00580 0.00716   
## Residual 6297.3034 995 6.3289   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##

## Between Subjects Effects   
## ──────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────   
## condition 6.2895 4 1.5724 0.23981 0.91584 0.00049   
## Residual 6523.9025 995 6.5567   
## ──────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## ASSUMPTIONS  
##   
## Homogeneity of Variances Test (Levene's)   
## ─────────────────────────────────────────────────────────────   
## F df1 df2 p   
## ─────────────────────────────────────────────────────────────   
## Exp2\_S1\_seen\_wrong 0.66907 4 995 0.61353   
## Exp2\_S2\_seen\_wrong\_T2 1.58287 4 995 0.17664   
## ─────────────────────────────────────────────────────────────   
##   
##   
## Group Summary   
## ──────────────────────────────────────────   
## condition N Excluded   
## ──────────────────────────────────────────   
## Dissonance\_no\_write 199 0   
## Dissonance\_write 200 0   
## Negative 200 0   
## Neutral 201 0   
## Worthy 200 0   
## ──────────────────────────────────────────

# ggstatsplot for condition comparisons in between-subjects designs repeated across all levels of a grouping variable.  
# link to tutorial: https://indrajeetpatil.github.io/ggstatsplot/reference/grouped\_ggbetweenstats.html

ggstatsplot::grouped\_ggbetweenstats(  
 data = df\_s2long, y = Exp2\_seen\_wrong, x = condition,  
 grouping.var = scenario,  
 ylab = "Perceived unethicality",xlab = "Conditions") Diagram

Description automatically generated

ggsave(  
 "Study2DV1SeenWrong.png", plot = last\_plot(),  
 width = 11.8, height = 6, dpi = 600)

Study 2 DV2 - Likelihood of the self conducting similar behavior.

jmv::anovaRM(  
 data = cleaned\_df,  
 rm = list(  
 list(  
 label="scenario",  
 levels=c("S1", "S2"))),  
 rmCells = list(  
 list(  
 measure="Exp2\_S1\_self\_action",  
 cell="S1"),  
 list(  
 measure="Exp2\_S2\_self\_action\_T2",  
 cell="S2")),  
 bs = condition,  
 effectSize = "eta",  
 rmTerms = ~ scenario,  
 bsTerms = ~ condition,  
 leveneTest = TRUE,  
 #emMeans = ~ scenario:condition,  
 emmTables = TRUE,  
 groupSumm = TRUE)

##   
## REPEATED MEASURES ANOVA  
##   
## Within Subjects Effects   
## ────────────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ────────────────────────────────────────────────────────────────────────────────────────────────   
## scenario 0.12645 1 0.12645 0.017775 0.89396 0.00001   
## scenario:condition 22.80635 4 5.70159 0.801501 0.52427 0.00168   
## Residual 7078.06565 995 7.11363   
## ────────────────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##

## Between Subjects Effects   
## ──────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────   
## condition 19.505 4 4.8763 0.74798 0.55943 0.00143   
## Residual 6486.703 995 6.5193   
## ──────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## ASSUMPTIONS  
##   
## Homogeneity of Variances Test (Levene's)   
## ──────────────────────────────────────────────────────────────   
## F df1 df2 p   
## ──────────────────────────────────────────────────────────────   
## Exp2\_S1\_self\_action 0.26660 4 995 0.89949   
## Exp2\_S2\_self\_action\_T2 1.47802 4 995 0.20670   
## ──────────────────────────────────────────────────────────────   
##   
##   
## Group Summary   
## ──────────────────────────────────────────   
## condition N Excluded   
## ──────────────────────────────────────────   
## Dissonance\_no\_write 199 0   
## Dissonance\_write 200 0   
## Negative 200 0   
## Neutral 201 0   
## Worthy 200 0   
## ──────────────────────────────────────────

ggstatsplot::grouped\_ggbetweenstats(  
 data = df\_s2long, y = Exp2\_self\_action, x = condition,  
 grouping.var = scenario,  
 ylab = "Likelihood of the self conducting suggested behavior", xlab = "Conditions")

Diagram

Description automatically generated

ggsave(  
 "Study2DV2SelfAction.png", plot = last\_plot(),  
 width = 11.8, height = 6, dpi = 600)

Study 2 DV3 - Likelihood of advising others to perform unethical but self-benefiting behavior.

jmv::anovaRM(  
 data = cleaned\_df,  
 rm = list(  
 list(  
 label="scenario",  
 levels=c("S1", "S2"))),  
 rmCells = list(  
 list(  
 measure="Exp2\_S1\_guide\_other",  
 cell="S1"),  
 list(  
 measure="Exp2\_S2\_guide\_other\_T2",  
 cell="S2")),  
 bs = condition,  
 effectSize = "eta",  
 rmTerms = ~ scenario,  
 bsTerms = ~ condition,  
 leveneTest = TRUE,  
 #emMeans = ~ scenario:condition,  
 emmTables = TRUE,  
 groupSumm = TRUE)

##   
## REPEATED MEASURES ANOVA  
##   
## Within Subjects Effects   
## ──────────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────────   
## scenario 14.694 1 14.6935 2.1604 0.14193 0.00109   
## scenario:condition 40.857 4 10.2143 1.5018 0.19951 0.00302   
## Residual 6767.351 995 6.8014   
## ──────────────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##

## Between Subjects Effects   
## ─────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ─────────────────────────────────────────────────────────────────────────────────────   
## condition 64.788 4 16.1969 2.4293 0.04618 0.00479   
## Residual 6633.940 995 6.6673   
## ─────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## ASSUMPTIONS  
##   
## Homogeneity of Variances Test (Levene's)   
## ───────────────────────────────────────────────────────────────   
## F df1 df2 p   
## ───────────────────────────────────────────────────────────────   
## Exp2\_S1\_guide\_other 0.339167 4 995 0.85162   
## Exp2\_S2\_guide\_other\_T2 0.087681 4 995 0.98629   
## ───────────────────────────────────────────────────────────────   
##   
##   
## Group Summary   
## ──────────────────────────────────────────   
## condition N Excluded   
## ──────────────────────────────────────────   
## Dissonance\_no\_write 199 0   
## Dissonance\_write 200 0   
## Negative 200 0   
## Neutral 201 0   
## Worthy 200 0   
## ──────────────────────────────────────────

ggstatsplot::grouped\_ggbetweenstats(  
 data = df\_s2long, y = Exp2\_guide\_other, x = condition,  
 grouping.var = scenario,  
 ylab = "Likelihood of advising others to behave unethically", xlab = "Conditions"  
 ) Diagram

Description automatically generated

ggsave(  
 "Study2DV3AdviseOthers.png", plot = last\_plot(),  
 width = 11.8, height = 6, dpi = 600)

## Study 3 - MASC

Calculate ANOVA, generate APA style ANOVA table, and plot ggstatsplot.

# Overall measurements for all participants.  
## MASC set 1  
jmv::ANOVA(  
 formula = MASC\_set1 ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - MASC\_set1   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 0.10094 4 0.025235 0.19294 0.94213   
## condition 0.10094 4 0.025235 0.19294 0.94213 0.00078   
## Residuals 130.13330 995 0.130787   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.60309 4 995 0.66049   
## ────────────────────────────────────────

ANOVA\_study3\_MASC1 <- lm(MASC\_set1 ~ condition, data = cleaned\_df)

ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = MASC\_set1, x = condition,  
 originaltheme = TRUE,  
 ylab = "MASC - Perceived dishonesty", xlab = "Conditions",  
 title = "Multi Aspect Scale of Cheating (MASC) - Likelihood of others to behave dishonestly")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_study3\_MASC1, filename = "Exp3 MASC set1 ANOVA.doc",table.number = 5)  
ggsave(  
 "MASC1\_Dishonesty\_plot.png", plot = last\_plot(),   
 width = 9, height = 5.5, dpi = 600)

## MASC set 2  
jmv::ANOVA(  
 formula = MASC\_set2 ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - MASC\_set2   
## ─────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ─────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 0.83417 4 0.20854 1.2545 0.28622   
## condition 0.83417 4 0.20854 1.2545 0.28622 0.00502   
## Residuals 165.39917 995 0.16623   
## ─────────────────────────────────────────────────────────────────────────────────────────

## ASSUMPTION CHECKS  
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 2.4402 4 995 0.04536   
## ────────────────────────────────────────

ANOVA\_study3\_MASC2 <- lm(MASC\_set2 ~ condition, data = cleaned\_df)

ggstatsplot::ggbetweenstats(  
 data = cleaned\_df,y = MASC\_set2,x = condition,  
 originaltheme = TRUE,  
 ylab = "MASC - Lie detection", xlab = "Conditions",  
 title = "Multi Aspect Scale of Cheating (MASC) - Interpreting common excuses as a lie")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_study3\_MASC2, filename = "Exp3 MASC set2 ANOVA.doc",table.number = 6)  
ggsave(  
 "MASC2\_Lie\_plot.png", plot = last\_plot(),   
 width = 9, height = 5.5, dpi = 600)

## MASC set 3  
jmv::ANOVA(  
 formula = MASC\_set3 ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - MASC\_set3   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 2.1368 4 0.53421 0.25837 0.90460   
## condition 2.1368 4 0.53421 0.25837 0.90460 0.00104   
## Residuals 2057.2709 995 2.06761   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
##   
## ASSUMPTION CHECKS  
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.68175 4 995 0.60467   
## ────────────────────────────────────────

ANOVA\_study3\_MASC3 <- lm(MASC\_set3 ~ condition, data = cleaned\_df)

ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = MASC\_set3, x = condition,  
 originaltheme = TRUE,  
 ylab = "MASC - Predict action in dillemmas", xlab = "Conditions",  
 title = "Multi Aspect Scale of Cheating (MASC) - Likelihood of actors to behave dishonestly in dilemmas")

Chart, funnel chart

Description automatically generated

apa.aov.table(ANOVA\_study3\_MASC3, filename = "Exp3 MASC set3 ANOVA.doc",table.number = 7)  
ggsave(  
 "MASC3\_dilemmas\_plot.png", plot = last\_plot(),   
 width = 9, height = 5.5, dpi = 600)

## Study 3 - BIDR

Calculate ANOVA, generate APA style ANOVA table, and plot ggstatsplot.

## BIDR - self deceptive  
jmv::ANOVA(  
 formula = BIDR\_self\_deceptive ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - BIDR\_self\_deceptive   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 4.4471 4 1.1118 0.26840 0.89836   
## condition 4.4471 4 1.1118 0.26840 0.89836 0.00108   
## Residuals 4121.5279 995 4.1422   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
## ASSUMPTION CHECKS  
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.71281 4 995 0.58323   
## ────────────────────────────────────────

ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = BIDR\_self\_deceptive, x = condition,  
 originaltheme = TRUE,  
 ylab = "BIDR - self deceptive", xlab = "Conditions",  
 title = "Balanced Inventory of Desirable Responding - Self Deceptive Score")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_study3\_BIDR1, filename = "Exp3 BIDR1 ANOVA.doc",table.number = 8)  
ggsave(  
 "BIDR\_SelfDeceptive\_plot.png", plot = last\_plot(),   
 width = 9, height = 5.5, dpi = 600)

## BIDR - impression management  
jmv::ANOVA(  
 formula = BIDR\_impre\_manage ~ condition,  
 data = cleaned\_df,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - BIDR\_impre\_manage   
## ───────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ───────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 0.76096 4 0.19024 0.047435 0.99577   
## condition 0.76096 4 0.19024 0.047435 0.99577 0.00019   
## Residuals 3990.43004 995 4.01048   
## ───────────────────────────────────────────────────────────────────────────────────────────   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 1.1472 4 995 0.33282   
## ────────────────────────────────────────

ANOVA\_study3\_BIDR2 <- lm(BIDR\_impre\_manage ~ condition, data = cleaned\_df)

ggstatsplot::ggbetweenstats(  
 data = cleaned\_df, y = BIDR\_impre\_manage, x = condition,  
 originaltheme = TRUE,  
 ylab = "BIDR - impression management", xlab = "Conditions",  
 title = "Balanced Inventory of Desirable Responding - Impression Management Score")

Diagram

Description automatically generated

apa.aov.table(ANOVA\_study3\_BIDR2, filename = "Exp3 BIDR2 ANOVA.doc",table.number = 9)  
ggsave(  
 "BIDR\_ImpressionManagement\_plot.png", plot = last\_plot(),   
 width = 9, height = 5.5, dpi = 600)

# Robustness check - planned contrasts for recall conditions

## Study 1 - planned contrast for ANOVA

contrast1 = c(3, 3,-2,-2,-2)  
contrast2 = c(1,-1, 0, 0, 0)  
# comprehensive data  
cleaned\_df$condition=factor(cleaned\_df$condition)  
contrasts(cleaned\_df$condition) = cbind(contrast1, contrast2)  
  
#Check  
contrasts(cleaned\_df$condition)

## contrast1 contrast2   
## Dissonance\_no\_write 3 1 -0.000000000000000041633  
## Dissonance\_write 3 -1 -0.000000000000000026743  
## Negative -2 0 -0.577350269189625731059  
## Neutral -2 0 0.788675134594812865529  
## Worthy -2 0 -0.211324865405187106715  
##   
## Dissonance\_no\_write -0.000000000000000055511  
## Dissonance\_write -0.000000000000000017154  
## Negative -0.577350269189625731059  
## Neutral -0.211324865405187134471  
## Worthy 0.788675134594812865529

# ANOVA command  
# result in the form of regression  
#summary.lm(aov1)  
  
ANOVA\_mani\_check <- lm(ManiCheck ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_mani\_check)

##   
## Call:  
## lm(formula = ManiCheck ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.5525 -0.3858 0.0025 0.3582 1.4765   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 2.99471 0.01762 169.93 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.00525 0.00720 0.73 0.466   
## conditioncontrast2 0.01298 0.02790 0.47 0.642   
## condition 0.01259 0.03935 0.32 0.749   
## condition 0.08996 0.03940 2.28 0.023 \*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.557 on 995 degrees of freedom  
## Multiple R-squared: 0.00606, Adjusted R-squared: 0.00206   
## F-statistic: 1.52 on 4 and 995 DF, p-value: 0.195

ANOVA\_exp1\_DV1 <- lm(Exp1\_prob\_hiring ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp1\_DV1)

##   
## Call:  
## lm(formula = Exp1\_prob\_hiring ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -4.145 -2.040 0.015 2.055 4.120   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 4.9989 0.0827 60.43 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.0220 0.0338 0.65 0.51   
## conditioncontrast2 -0.0800 0.1310 -0.61 0.54   
## condition 0.0885 0.1847 0.48 0.63   
## condition -0.0713 0.1850 -0.39 0.70   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 2.62 on 995 degrees of freedom  
## Multiple R-squared: 0.00118, Adjusted R-squared: -0.00283   
## F-statistic: 0.294 on 4 and 995 DF, p-value: 0.882

ANOVA\_exp1\_DV2 <- lm(Exp1\_loyalty ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp1\_DV2)

##   
## Call:  
## lm(formula = Exp1\_loyalty ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -4.240 -1.940 0.073 2.139 4.155   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 4.9601 0.0822 60.32 <0.0000000000000002 \*\*\*  
## conditioncontrast1 -0.0268 0.0336 -0.80 0.43   
## conditioncontrast2 0.0348 0.1302 0.27 0.79   
## condition -0.2357 0.1836 -1.28 0.20   
## condition -0.1564 0.1838 -0.85 0.39   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 2.6 on 995 degrees of freedom  
## Multiple R-squared: 0.00308, Adjusted R-squared: -0.000926   
## F-statistic: 0.769 on 4 and 995 DF, p-value: 0.545

ANOVA\_exp1\_DV3 <- lm(Exp1\_honesty ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp1\_DV3)

##   
## Call:  
## lm(formula = Exp1\_honesty ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -4.08 -2.04 -0.04 2.02 4.29   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 4.9282 0.0809 60.93 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.0273 0.0330 0.83 0.41   
## conditioncontrast2 0.0301 0.1280 0.24 0.81   
## condition 0.0153 0.1806 0.08 0.93   
## condition 0.2594 0.1808 1.43 0.15   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 2.56 on 995 degrees of freedom  
## Multiple R-squared: 0.00281, Adjusted R-squared: -0.0012   
## F-statistic: 0.701 on 4 and 995 DF, p-value: 0.591

ANOVA\_exp3\_MASC1 <- lm(MASC\_set1 ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp3\_MASC1)

##   
## Call:  
## lm(formula = MASC\_set1 ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.1356 -0.2349 -0.0106 0.2475 1.0600   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 4.250357 0.011436 371.66 <0.0000000000000002 \*\*\*  
## conditioncontrast1 -0.000861 0.004671 -0.18 0.85   
## conditioncontrast2 -0.012850 0.018105 -0.71 0.48   
## condition -0.002720 0.025533 -0.11 0.92   
## condition -0.012082 0.025569 -0.47 0.64   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.362 on 995 degrees of freedom  
## Multiple R-squared: 0.000775, Adjusted R-squared: -0.00324   
## F-statistic: 0.193 on 4 and 995 DF, p-value: 0.942

ANOVA\_exp3\_MASC2 <- lm(MASC\_set2 ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp3\_MASC2)

##   
## Call:  
## lm(formula = MASC\_set2 ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -1.201 -0.285 0.007 0.278 1.213   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 3.74335 0.01289 290.34 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.01028 0.00527 1.95 0.051 .   
## conditioncontrast2 -0.01038 0.02041 -0.51 0.611   
## condition 0.02728 0.02879 0.95 0.343   
## condition 0.00642 0.02883 0.22 0.824   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.408 on 995 degrees of freedom  
## Multiple R-squared: 0.00502, Adjusted R-squared: 0.00102   
## F-statistic: 1.25 on 4 and 995 DF, p-value: 0.286

ANOVA\_exp3\_MASC3 <- lm(MASC\_set3 ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp3\_MASC3)

##   
## Call:  
## lm(formula = MASC\_set3 ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -3.0653 -1.0373 -0.0373 0.9950 3.0650   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 4.01853 0.04547 88.38 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.00555 0.01857 0.30 0.77   
## conditioncontrast2 0.03016 0.07199 0.42 0.68   
## condition 0.01430 0.10152 0.14 0.89   
## condition -0.08802 0.10166 -0.87 0.39   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 1.44 on 995 degrees of freedom  
## Multiple R-squared: 0.00104, Adjusted R-squared: -0.00298   
## F-statistic: 0.258 on 4 and 995 DF, p-value: 0.905

ANOVA\_exp3\_BIDR1 <- lm(BIDR\_self\_deceptive ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp3\_BIDR1)

##   
## Call:  
## lm(formula = BIDR\_self\_deceptive ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -4.814 -1.655 0.186 1.239 7.239   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 5.745053 0.064361 89.26 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.023161 0.026286 0.88 0.38   
## conditioncontrast2 -0.000465 0.101890 0.00 1.00   
## condition 0.078469 0.143691 0.55 0.59   
## condition -0.002725 0.143898 -0.02 0.98   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 2.04 on 995 degrees of freedom  
## Multiple R-squared: 0.00108, Adjusted R-squared: -0.00294   
## F-statistic: 0.268 on 4 and 995 DF, p-value: 0.898

ANOVA\_exp3\_BIDR2 <- lm(BIDR\_impre\_manage ~ condition, data = cleaned\_df)  
summary.lm(ANOVA\_exp3\_BIDR2)

##   
## Call:  
## lm(formula = BIDR\_impre\_manage ~ condition, data = cleaned\_df)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -4.734 -1.685 0.266 1.308 7.266   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 5.69704 0.06333 89.96 <0.0000000000000002 \*\*\*  
## conditioncontrast1 0.00993 0.02586 0.38 0.70   
## conditioncontrast2 0.00683 0.10026 0.07 0.95   
## condition 0.02248 0.14139 0.16 0.87   
## condition 0.01594 0.14159 0.11 0.91   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 2 on 995 degrees of freedom  
## Multiple R-squared: 0.000191, Adjusted R-squared: -0.00383   
## F-statistic: 0.0474 on 4 and 995 DF, p-value: 0.996

## Study 2 - planned contrast for repeated ANOVA

# Repeated-measures ANOVA with the afex package  
library("afex")

## Loading required package: lme4

## Loading required package: Matrix

##   
## Attaching package: 'Matrix'

## The following objects are masked from 'package:tidyr':  
##   
## expand, pack, unpack

## \*\*\*\*\*\*\*\*\*\*\*\*  
## Welcome to afex. For support visit: http://afex.singmann.science/

## - Functions for ANOVAs: aov\_car(), aov\_ez(), and aov\_4()  
## - Methods for calculating p-values with mixed(): 'S', 'KR', 'LRT', and 'PB'  
## - 'afex\_aov' and 'mixed' objects can be passed to emmeans() for follow-up tests  
## - NEWS: emmeans() for ANOVA models now uses model = 'multivariate' as default.  
## - Get and set global package options with: afex\_options()  
## - Set orthogonal sum-to-zero contrasts globally: set\_sum\_contrasts()  
## - For example analyses see: browseVignettes("afex")  
## \*\*\*\*\*\*\*\*\*\*\*\*

##   
## Attaching package: 'afex'

## The following object is masked from 'package:lme4':  
##   
## lmer

# using the long format "df\_s2long" created in main analysis:  
  
# planned contrast notation  
contrast1 = c(3, 3,-2,-2,-2)  
contrast2 = c(1,-1, 0, 0, 0)  
df\_s2long$condition <- as.factor(df\_s2long$condition)  
contrasts(df\_s2long$condition) = cbind(contrast1, contrast2)  
  
#Check  
contrasts(df\_s2long$condition)

## contrast1 contrast2   
## Dissonance\_no\_write 3 1 -0.000000000000000041633  
## Dissonance\_write 3 -1 -0.000000000000000026743  
## Negative -2 0 -0.577350269189625731059  
## Neutral -2 0 0.788675134594812865529  
## Worthy -2 0 -0.211324865405187106715  
##   
## Dissonance\_no\_write -0.000000000000000055511  
## Dissonance\_write -0.000000000000000017154  
## Negative -0.577350269189625731059  
## Neutral -0.211324865405187134471  
## Worthy 0.788675134594812865529

# ANOVA command  
ANOVA\_Exp2\_DV1 <- afex::aov\_car(Exp2\_seen\_wrong ~ condition\*scenario + Error(ID/scenario), data=df\_s2DV1)

## Converting to factor: condition

ANOVA\_Exp2\_DV2 <- afex::aov\_car(Exp2\_self\_action ~ condition\*scenario + Error(ID/scenario), data=df\_s2DV2)

## Converting to factor: condition

ANOVA\_Exp2\_DV3 <- afex::aov\_car(Exp2\_guide\_other ~ condition\*scenario + Error(ID/scenario), data=df\_s2DV3)

## Converting to factor: condition

summary(ANOVA\_Exp2\_DV1)  
## Univariate Type III Repeated-Measures ANOVA Assuming Sphericity  
##   
## Sum Sq num Df Error SS den Df F value Pr(>F)  
## (Intercept) 52062 1 6524 995 7940.25 <0.0000000000000002  
## condition 6 4 6524 995 0.24 0.9158  
## scenario 3 1 6297 995 0.50 0.4790  
## condition:scenario 92 4 6297 995 3.65 0.0058  
##   
## (Intercept) \*\*\*  
## condition   
## scenario   
## condition:scenario \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

summary(ANOVA\_Exp2\_DV2)  
## Univariate Type III Repeated-Measures ANOVA Assuming Sphericity  
##   
## Sum Sq num Df Error SS den Df F value Pr(>F)  
## (Intercept) 51729 1 6487 995 7934.75 <0.0000000000000002  
## condition 20 4 6487 995 0.75 0.56  
## scenario 0 1 7078 995 0.02 0.89  
## condition:scenario 23 4 7078 995 0.80 0.52  
##   
## (Intercept) \*\*\*  
## condition   
## scenario   
## condition:scenario   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

summary(ANOVA\_Exp2\_DV3)

##   
## Univariate Type III Repeated-Measures ANOVA Assuming Sphericity  
##   
## Sum Sq num Df Error SS den Df F value Pr(>F)  
## (Intercept) 51133 1 6634 995 7669.31 <0.0000000000000002  
## condition 65 4 6634 995 2.43 0.046  
## scenario 15 1 6767 995 2.16 0.142  
## condition:scenario 41 4 6767 995 1.50 0.200  
##   
## (Intercept) \*\*\*  
## condition \*   
## scenario   
## condition:scenario   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

# Planned Additional Analysis

Investigate the order effect if we fail to find support for the original’s analyses.

## Study 1 - ANOVA

Only include participants that saw study 1 before study 2.

df\_s1 <- cleaned\_df %>% filter(study\_order == "Exp1First")  
#write.csv(df\_s1, "stimulated\_cleaned\_study1.csv",fileEncoding = "UTF-8")  
  
# DV1 Probability of hiring the candicate  
jmv::ANOVA(  
 formula = Exp1\_prob\_hiring ~ condition,  
 data = df\_s1,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition, # using ggstatsplot instead  
 emmTables = TRUE)

## ANOVA - Exp1\_prob\_hiring   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 4.9239 4 1.2310 0.18405 0.94668   
## condition 4.9239 4 1.2310 0.18405 0.94668 0.00141   
## Residuals 3498.0288 523 6.6884   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
## ASSUMPTION CHECKS  
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 1.1999 4 523 0.30986   
## ────────────────────────────────────────

ANOVA\_exp1\_DV1 <- lm(Exp1\_prob\_hiring ~ condition, data = df\_s1)  
#apa.aov.table(ANOVA\_exp1\_DV1, filename = "Exp1 DV1 ANOVA.doc",table.number = 10)  
# DV2 Perceived loyalty of the candidate  
jmv::ANOVA(  
 formula = Exp1\_loyalty ~ condition,  
 data = df\_s1,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - Exp1\_loyalty   
## ─────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ─────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 34.495 4 8.6237 1.2792 0.27703   
## condition 34.495 4 8.6237 1.2792 0.27703 0.00969   
## Residuals 3525.839 523 6.7416   
## ─────────────────────────────────────────────────────────────────────────────────────────   
##   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.32806 4 523 0.85915   
## ────────────────────────────────────────

ANOVA\_exp1\_DV2 <- lm(Exp1\_loyalty ~ condition, data = df\_s1)  
#apa.aov.table(ANOVA\_exp1\_DV2, filename = "Exp1 DV2 ANOVA.doc",table.number = 11)

# DV3 Perceived honesty of the candidate  
jmv::ANOVA(  
 formula = Exp1\_honesty ~ condition,  
 data = df\_s1,  
 effectSize = "eta",  
 modelTest = TRUE,  
 homo = TRUE,  
 postHocES = "d",  
 postHocEsCi = TRUE,  
 #emMeans = ~ condition,  
 emmTables = TRUE)

## ANOVA - Exp1\_honesty   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────────   
## Overall model 9.6951 4 2.4238 0.34810 0.84537   
## condition 9.6951 4 2.4238 0.34810 0.84537 0.00266   
## Residuals 3641.5700 523 6.9628   
## ──────────────────────────────────────────────────────────────────────────────────────────   
##   
##   
## ASSUMPTION CHECKS  
##   
## Homogeneity of Variances Test (Levene's)   
## ────────────────────────────────────────   
## F df1 df2 p   
## ────────────────────────────────────────   
## 0.083724 4 523 0.98741   
## ────────────────────────────────────────

ANOVA\_exp1\_DV3 <- lm(Exp1\_honesty ~ condition, data = df\_s1)  
#apa.aov.table(ANOVA\_exp1\_DV3, filename = "Exp1 DV3 ANOVA.doc",table.number = 12)

## Study 2 - Repeated ANOVA

Only include participants that saw study 2 before study 1.

df\_s2 <- cleaned\_df %>% filter(study\_order == "Exp2First")  
#write.csv(df\_s2, "stimulated\_cleaned\_study2.csv",fileEncoding = "UTF-8")  
  
jmv::anovaRM(  
 data = df\_s2,  
 rm = list(  
 list(  
 label="scenario",  
 levels=c("S1", "S2"))),  
 rmCells = list(  
 list(  
 measure="Exp2\_S1\_seen\_wrong",  
 cell="S1"),  
 list(  
 measure="Exp2\_S2\_seen\_wrong\_T2",  
 cell="S2")),  
 bs = condition,  
 effectSize = "eta",  
 rmTerms = ~ scenario,  
 bsTerms = ~ condition,  
 leveneTest = TRUE,  
 #emMeans = ~ scenario:condition,  
 emmTables = TRUE,  
 groupSumm = TRUE)

##   
## REPEATED MEASURES ANOVA  
##   
## Within Subjects Effects   
## ────────────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ────────────────────────────────────────────────────────────────────────────────────────────────   
## scenario 0.30127 1 0.30127 0.048624 0.82557 0.00005   
## scenario:condition 60.67590 4 15.16897 2.448200 0.04556 0.01002   
## Residual 2893.51796 467 6.19597   
## ────────────────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## Between Subjects Effects   
## ──────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ──────────────────────────────────────────────────────────────────────────────────────   
## condition 15.040 4 3.7600 0.56914 0.68516 0.00248   
## Residual 3085.205 467 6.6064   
## ──────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## ASSUMPTIONS  
##   
## Homogeneity of Variances Test (Levene's)   
## ─────────────────────────────────────────────────────────────   
## F df1 df2 p   
## ─────────────────────────────────────────────────────────────   
## Exp2\_S1\_seen\_wrong 0.11592 4 467 0.97687   
## Exp2\_S2\_seen\_wrong\_T2 1.47146 4 467 0.20973   
## ─────────────────────────────────────────────────────────────   
##   
##   
## Group Summary   
## ─────────────────────────────────────────   
## condition N Excluded   
## ─────────────────────────────────────────   
## Dissonance\_no\_write 97 0   
## Dissonance\_write 94 0   
## Negative 87 0   
## Neutral 95 0   
## Worthy 99 0   
## ─────────────────────────────────────────

Study 2 DV2

jmv::anovaRM(  
 data = df\_s2,  
 rm = list(  
 list(  
 label="scenario",  
 levels=c("S1", "S2"))),  
 rmCells = list(  
 list(  
 measure="Exp2\_S1\_self\_action",  
 cell="S1"),  
 list(  
 measure="Exp2\_S2\_self\_action\_T2",  
 cell="S2")),  
 bs = condition,  
 effectSize = "eta",  
 rmTerms = ~ scenario,  
 bsTerms = ~ condition,  
 leveneTest = TRUE,  
 #emMeans = ~ scenario:condition,  
 emmTables = TRUE,  
 groupSumm = TRUE)

##   
## REPEATED MEASURES ANOVA  
##   
## Within Subjects Effects   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## scenario 0.79792 1 0.79792 0.11871 0.73059 0.00013   
## scenario:condition 24.80868 4 6.20217 0.92274 0.45041 0.00400   
## Residual 3138.91908 467 6.72145   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##

## Between Subjects Effects   
## ─────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ─────────────────────────────────────────────────────────────────────────────────────   
## condition 30.109 4 7.5273 1.1667 0.32472 0.00485   
## Residual 3012.941 467 6.4517   
## ─────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## ASSUMPTIONS  
##   
## Homogeneity of Variances Test (Levene's)   
## ──────────────────────────────────────────────────────────────   
## F df1 df2 p   
## ──────────────────────────────────────────────────────────────   
## Exp2\_S1\_self\_action 0.35370 4 467 0.84146   
## Exp2\_S2\_self\_action\_T2 0.65821 4 467 0.62133   
## ──────────────────────────────────────────────────────────────   
##   
##   
## Group Summary   
## ─────────────────────────────────────────   
## condition N Excluded   
## ─────────────────────────────────────────   
## Dissonance\_no\_write 97 0   
## Dissonance\_write 94 0   
## Negative 87 0   
## Neutral 95 0   
## Worthy 99 0   
## ─────────────────────────────────────────

Study 2 DV3

jmv::anovaRM(  
 data = df\_s2,  
 rm = list(  
 list(  
 label="scenario",  
 levels=c("S1", "S2"))),  
 rmCells = list(  
 list(  
 measure="Exp2\_S1\_guide\_other",  
 cell="S1"),  
 list(  
 measure="Exp2\_S2\_guide\_other\_T2",  
 cell="S2")),  
 bs = condition,  
 effectSize = "eta",  
 rmTerms = ~ scenario,  
 bsTerms = ~ condition,  
 leveneTest = TRUE,  
 #emMeans = ~ scenario:condition,  
 emmTables = TRUE,  
 groupSumm = TRUE)

##   
## REPEATED MEASURES ANOVA  
##   
## Within Subjects Effects   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## scenario 1.4952 1 1.4952 0.21350 0.64425 0.00024   
## scenario:condition 20.1721 4 5.0430 0.72011 0.57849 0.00318   
## Residual 3270.4550 467 7.0031   
## ───────────────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##

##   
## Between Subjects Effects   
## ─────────────────────────────────────────────────────────────────────────────────────   
## Sum of Squares df Mean Square F p η²   
## ─────────────────────────────────────────────────────────────────────────────────────   
## condition 37.779 4 9.4448 1.4629 0.21241 0.00595   
## Residual 3015.136 467 6.4564   
## ─────────────────────────────────────────────────────────────────────────────────────   
## Note. Type 3 Sums of Squares  
##   
##   
## ASSUMPTIONS  
##   
## Homogeneity of Variances Test (Levene's)   
## ──────────────────────────────────────────────────────────────   
## F df1 df2 p   
## ──────────────────────────────────────────────────────────────   
## Exp2\_S1\_guide\_other 0.58391 4 467 0.67444   
## Exp2\_S2\_guide\_other\_T2 0.90514 4 467 0.46071   
## ──────────────────────────────────────────────────────────────   
##   
##   
## Group Summary   
## ─────────────────────────────────────────   
## condition N Excluded   
## ─────────────────────────────────────────   
## Dissonance\_no\_write 97 0   
## Dissonance\_write 94 0   
## Negative 87 0   
## Neutral 95 0   
## Worthy 99 0   
## ─────────────────────────────────────────

## Testing order effect as a moderator

note: the moderator pacakge is not yet available for the current version of R, hence we pasted all code on running moderation analysis from JAMOVI, but will provide the analysis and result in a separate .omv file.

study 1

install.packages("medmod")  
library(medmod)  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp1\_prob\_hiring,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp1\_honesty,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp1\_loyalty,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)

study 2

medmod::mod(  
 data = cleaned\_df,  
 dep = Exp2\_S1\_seen\_wrong,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp2\_S1\_self\_action,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp2\_S1\_guide\_other,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp2\_S2\_seen\_wrong\_T2,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp2\_S2\_self\_action\_T2,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)  
  
medmod::mod(  
 data = cleaned\_df,  
 dep = Exp2\_S2\_guide\_other\_T2,  
 mod = study\_order\_n,  
 pred = Condition\_n,  
 ci = TRUE,  
 simpleSlopeEst = TRUE,  
 simpleSlopePlot = TRUE,  
 duplicate = 2)