Analysis with Missing Data

2023-03-29

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To do:

* logistic regression
  + marginal means
  + simple effects analyses
  + descriptive statistics
* apa style output (tables)
* post-hoc power analyses
  + modelPower
* add effect sizes to simple effects analyses

# Data Import & Cleaning

## Import data

raw\_psych\_hum\_subj <- import("data/raw/raw\_psych\_hum\_subj.csv")  
raw\_mktg\_hum\_subj <- import("data/raw/raw\_mktg\_hum\_subj.csv")  
raw\_gen\_uo\_pop <- import("data/raw/raw\_gen\_uo\_pop.csv")  
pre\_fall22 <- import("data/prescreen/dittersdorf\_matches\_f22.csv")  
pre\_winter23 <- import("data/prescreen/dittersdorf\_matches\_w23.csv")  
pre\_spring23 <- import("data/prescreen/dittersdorf\_matches\_s23.csv")  
participant\_list <- import("data/prescreen/dittersdorf\_participants.csv")

## Fix age before converting variable types

table(raw\_psych\_hum\_subj$Age) # 18 years old = 18

##   
## 18 18 years old 19 20 21   
## 117 220 1 297 120 76   
## 22 23 24 25 27 28   
## 41 4 3 2 1 1   
## 29 30 31 32 33 50   
## 1 1 1 1 1 1

table(raw\_mktg\_hum\_subj$Age) # 1999 = 24

##   
## 18 19 1999 20 21 22 23 24 25 28 test   
## 11 4 13 1 50 119 66 7 9 3 1 3

table(raw\_gen\_uo\_pop$Age)

##   
## 18 20 21 22 28   
## 2 1 2 1 1

raw\_psych\_hum\_subj$Age[raw\_psych\_hum\_subj$Age == "18 years old"] <- 18  
raw\_mktg\_hum\_subj$Age[raw\_mktg\_hum\_subj$Age == 1999] <- 24  
  
table(raw\_psych\_hum\_subj$Age) # 18 years old = 18

##   
## 18 19 20 21 22 23 24 25 27 28 29 30 31 32 33 50   
## 117 221 297 120 76 41 4 3 2 1 1 1 1 1 1 1 1

table(raw\_mktg\_hum\_subj$Age) # 1999 = 24

##   
## 18 19 20 21 22 23 24 25 28 test   
## 11 4 13 50 119 66 7 10 3 1 3

## Change variables types

raw\_psych\_hum\_subj <- raw\_psych\_hum\_subj %>%  
 mutate(Age = as.integer(Age),  
 Gender = as.factor(Gender),  
 framing\_condition\_DO = as.factor(framing\_condition\_DO),  
 norm\_condition\_DO = as.factor(norm\_condition\_DO),  
 consumer\_behaviors = as.factor(consumer\_behaviors),  
 skepticism = as.factor(skepticism),  
 id = as.factor(id),  
 source = strrep("psych\_hsp", times = 1))  
  
raw\_mktg\_hum\_subj <- raw\_mktg\_hum\_subj %>%  
 mutate(Age = as.integer(Age),  
 Gender = as.factor(Gender),  
 Gender\_5\_TEXT = as.character(Gender\_5\_TEXT),  
 Class\_Lvl\_7\_TEXT = as.character(Class\_Lvl\_7\_TEXT),  
 Pol\_Ornt\_8\_TEXT = as.character(Pol\_Ornt\_8\_TEXT),  
 Ethnicity\_8\_TEXT = as.character(Ethnicity\_8\_TEXT),  
 skept\_open = as.character(skept\_open),  
 skepticism = as.factor(skepticism),  
 id = as.factor(id),  
 framing\_condition\_DO = as.factor(framing\_condition\_DO),  
 norm\_condition\_DO = as.factor(norm\_condition\_DO),  
 consumer\_behaviors = as.factor(consumer\_behaviors),  
 source = strrep("mktg\_hsp", times = 1))  
  
raw\_gen\_uo\_pop <- raw\_gen\_uo\_pop %>%  
 mutate(Gender = as.factor(Gender),  
 Gender\_5\_TEXT = as.character(Gender\_5\_TEXT),  
 Class\_Lvl\_7\_TEXT = as.character(Class\_Lvl\_7\_TEXT),  
 Pol\_Ornt\_8\_TEXT = as.character(Pol\_Ornt\_8\_TEXT),  
 skept\_open = as.character(skept\_open),  
 skepticism = as.factor(skepticism),  
 id = as.factor(id),  
 framing\_condition\_DO = as.factor(framing\_condition\_DO),  
 norm\_condition\_DO = as.factor(norm\_condition\_DO),  
 consumer\_behaviors = as.factor(consumer\_behaviors),  
 source = strrep("gen\_UO", times = 1))

Variables from prescreen:

* Values:
  + respecting, unity, protecting, preventing, equality, peace, justice, helpful, power, wealth, authority, influential, ambition, pleasures, enjoying, gratification
* Socially Desirable Responding:
  + honest, like, disturbing, regret, lose-out, rational, confident, lover, lies, cover-up, advantage, get-even, behind-back, private-talk, take-things, gossip

## Combine prescreen data

Specify unique variables to combine prescreen data sets

# Create unique full\_name variable  
pre\_fall22$full\_name <- paste(pre\_fall22$first\_name, pre\_fall22$last\_name, sep="\_")  
  
pre\_winter23$full\_name <- paste(pre\_winter23$first\_name, pre\_winter23$last\_name, sep="\_")  
  
pre\_spring23$full\_name <- paste(pre\_spring23$first\_name, pre\_spring23$last\_name, sep="\_")  
  
participant\_list$full\_name <- paste(participant\_list$first\_name, participant\_list$last\_name, sep="\_")  
  
# Create column indicating which data set rows came from  
  
pre\_fall22 <- pre\_fall22 %>%  
 mutate(term = "fall22")  
  
pre\_winter23 <- pre\_winter23 %>%  
 mutate(term = "winter23")  
  
pre\_spring23 <- pre\_spring23 %>%  
 mutate(term = "spring23")

Combine prescreen data

combine1 <- smartbind(pre\_fall22, pre\_winter23)  
combined\_prescreen <- smartbind(combine1, pre\_spring23)  
  
# nrow(pre\_fall22) + nrow(pre\_winter23) + nrow(pre\_spring23) # n = 1167  
  
combined\_prescreen\_unique <- combined\_prescreen[!duplicated(combined\_prescreen$full\_name), ] # keeps first row (fall22)

Subset key variables

combined\_prescreen\_key <- combined\_prescreen\_unique %>%  
 dplyr::select(full\_name, term, respecting:gratification, honest:gossip)  
  
participant\_list\_key <- participant\_list %>%  
 dplyr::select(full\_name, survey\_id)

Merge with participant list

merged\_prescreen <- merge(combined\_prescreen\_key, participant\_list\_key, by = "full\_name")

Convert variable types in prescreen data

Rename SDR items to match

Convert variable types

merged\_prescreen <- merged\_prescreen %>%  
 mutate(respecting = as.integer(respecting),  
 unity = as.integer(unity),  
 protecting = as.integer(protecting),  
 preventing = as.integer(preventing),  
 equality = as.integer(equality),  
 peace = as.integer(peace),  
 justice = as.integer(justice),  
 helpful = as.integer(helpful),  
 power = as.integer(power),  
 wealth = as.integer(wealth),  
 authority = as.integer(authority),  
 influential = as.integer(influential),  
 ambition = as.integer(ambition),  
 pleasures = as.integer(pleasures),  
 enjoying = as.integer(enjoying),  
 gratification = as.integer(gratification),  
 honest = as.integer(honest),  
 like = as.integer(like),  
 disturbing = as.integer(disturbing),  
 regret = as.integer(regret),  
 lose\_out = as.integer(lose\_out),  
 rational = as.integer(rational),  
 confident = as.integer(confident),  
 lover = as.integer(lover),  
 lies = as.integer(lies),  
 cover\_up = as.integer(cover\_up),  
 advantage = as.integer(advantage),  
 get\_even = as.integer(get\_even),  
 behind\_back = as.integer(behind\_back),  
 private\_talk = as.integer(private\_talk),  
 take\_things = as.integer(take\_things),  
 gossip = as.integer(gossip),  
 id = as.factor(id))

Rename values & socially desirable items in prescreen data to match names in main data:

## Combine all data

* First, combine Psych Hum Subj data with Prescreen data based on id
* Second, add Mktg Hum Subj data
* Third, add gen UO Pop data

combine1 <- merge(raw\_psych\_hum\_subj, merged\_prescreen, by = "id")  
combine2 <- smartbind(combine1, raw\_mktg\_hum\_subj)  
combine3 <- smartbind(combine2, raw\_gen\_uo\_pop)

## Remove duplicate cases

Identify duplicate cases

# first, add unique row #s  
combine3 <- combine3 %>%  
 mutate(row = 1:nrow(combine3))  
  
combine3[duplicated(combine3$id),] # Only rows 1 through 858 have unique id #s  
  
# write.csv(combine3, "combined\_data.csv")

Row IDs to remove:

* 13 (participant’s second time completing study)
* 134 (participant didn’t complete study first time)
* 145 (participant didn’t complete study first time)
* 308 (participant’s second time completing study)
* 672 (participant’s second time completing study)
* 743 (participant didn’t complete study first time)
* 790 (participant didn’t complete study first time)
* 800 (participant didn’t complete study first time)

Remove duplicate rows after resolving:

combine3 <- combine3 %>%  
 filter(!row %in% c(13, 134, 145, 308, 672, 743, 790, 800))

## Remove rows of all NAs

Identify completely missing rows:

key\_vars <- combine3 %>%  
 dplyr::select(row, big\_2\_1:big\_2\_65, consumer\_intentions\_1:consumer\_intentions\_9, consumer\_behaviors, clothing\_interest\_1:clothing\_interest\_20, ingroup\_ident\_1:ingroup\_ident\_14, values\_1:values\_16, socially\_desirable\_1:socially\_desirable\_16, source)  
  
ncol(key\_vars) # number of columns - the row # & source column = 141  
  
all\_NA\_rows <- key\_vars[rowSums(is.na(key\_vars)) == 141,] # identify rows with 141 NAs (all missing values), row numbers are preserved  
  
all\_NA\_rows

Removing rows of fully missing data

data <- combine3 %>%  
 dplyr::filter(!row %in% c(859, 860, 900, 926, 927, 941, 1139, 1141, 1142, 1143, 1144, 1146, 1149, 1150, 1152)) %>% # remove rows containing all NAs  
 dplyr::select(-StartDate, -EndDate, -Status, -Progress, -"Duration (in seconds)", -Finished, -RecordedDate, -ResponseId, -DistributionChannel, -UserLanguage, -big\_2\_DO, -consumer\_intentions\_DO, -consumer\_behaviors\_DO, -clothing\_interest\_DO, -ingroup\_ident\_DO, -full\_name, -code, -socially\_desirable\_DO, -values\_DO, -email\_giftcard, -term) # removing variables not in analysis

Number per source

table(data$source)

##   
## gen\_UO mktg\_hsp psych\_hsp   
## 7 276 850

* 850 = psych human subjects pool
* 276 = mktg human subjects pool
* 7 = general UO pop

Rename variables

data <- data %>%  
 rename("framing\_condition" = "framing\_condition\_DO",   
 "norm\_condition" = "norm\_condition\_DO")  
  
levels(data$framing\_condition)

## [1] "" "control\_framing" "pro\_env\_framing" "self\_enh\_framing"

levels(data$norm\_condition)

## [1] "" "control\_norm" "convention\_norm" "descriptive\_norm"  
## [5] "moral\_norm" "social\_norm"

data$framing\_condition <- droplevels(data$framing\_condition)  
data$norm\_condition <- droplevels(data$norm\_condition)  
  
levels(data$framing\_condition)

## [1] "control\_framing" "pro\_env\_framing" "self\_enh\_framing"

levels(data$norm\_condition)

## [1] "control\_norm" "convention\_norm" "descriptive\_norm" "moral\_norm"   
## [5] "social\_norm"

levels(data$skepticism)

## [1] "1" "2"

## Inspect final data

str(data, list.len = ncol(data))  
  
# write.csv(data, "final\_data.csv")

# Outliers & Missingness

## Univariate Outliers

Detecting potential data entry outliers:

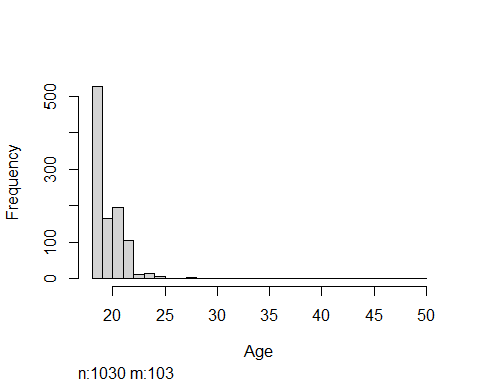
## vars n mean sd median trimmed mad min max  
## big\_2\_1 1 1130 3.55 1.13 4 3.63 1.48 1 5  
## big\_2\_2 2 1127 4.24 0.82 4 4.36 1.48 1 5  
## big\_2\_3 3 1129 2.61 1.21 2 2.56 1.48 1 5  
## big\_2\_4 4 1130 2.98 1.18 3 2.99 1.48 1 5  
## big\_2\_5 5 1128 2.52 1.22 2 2.46 1.48 1 5  
## big\_2\_6 6 1125 3.08 1.15 3 3.09 1.48 1 5  
## big\_2\_7 7 1126 4.56 0.64 5 4.65 0.00 1 5  
## big\_2\_8 8 1128 2.99 1.10 3 3.04 1.48 1 5  
## big\_2\_9 9 1129 3.43 1.06 4 3.45 1.48 1 5  
## big\_2\_10 10 1123 4.24 0.80 4 4.35 1.48 1 5  
## big\_2\_11 11 1125 2.10 1.00 2 1.97 1.48 1 5  
## big\_2\_12 12 1123 2.85 1.04 3 2.88 1.48 1 5  
## big\_2\_13 13 1129 4.03 0.84 4 4.12 0.00 1 5  
## big\_2\_14 14 1128 3.10 1.21 3 3.13 1.48 1 5  
## big\_2\_15 15 1125 3.66 0.92 4 3.71 1.48 1 5  
## big\_2\_16 16 1128 3.21 1.20 3 3.24 1.48 1 5  
## big\_2\_17 17 1128 2.20 1.34 2 2.00 1.48 1 5  
## big\_2\_18 18 1129 3.80 0.99 4 3.90 1.48 1 5  
## big\_2\_19 19 1126 3.51 1.03 4 3.56 1.48 1 5  
## big\_2\_20 20 1125 3.92 1.12 4 4.07 1.48 1 5  
## big\_2\_21 21 1130 3.20 1.12 3 3.22 1.48 1 5  
## big\_2\_22 22 1125 2.23 1.07 2 2.14 1.48 1 5  
## big\_2\_23 23 1122 3.53 1.14 4 3.59 1.48 1 5  
## big\_2\_24 24 1130 3.39 1.19 4 3.46 1.48 1 5  
## big\_2\_25 25 1128 2.12 1.10 2 1.98 1.48 1 5  
## big\_2\_26 26 1129 2.49 1.19 2 2.42 1.48 1 5  
## big\_2\_27 27 1127 3.90 1.04 4 4.02 1.48 1 5  
## big\_2\_28 28 1128 2.95 1.11 3 3.01 1.48 1 5  
## big\_2\_29 29 1126 3.19 1.18 3 3.21 1.48 1 5  
## big\_2\_30 30 1128 2.28 1.11 2 2.19 1.48 1 5  
## big\_2\_31 31 1130 3.67 1.12 4 3.76 1.48 1 5  
## big\_2\_32 32 1127 4.01 0.91 4 4.12 1.48 1 5  
## big\_2\_33 33 1129 3.54 1.16 4 3.60 1.48 1 5  
## big\_2\_34 34 1129 3.79 1.16 4 3.92 1.48 1 5  
## big\_2\_35 35 1128 4.06 0.95 4 4.19 1.48 1 5  
## big\_2\_36 36 1127 2.65 1.02 3 2.64 1.48 1 5  
## big\_2\_37 37 1126 2.61 1.13 2 2.60 1.48 1 5  
## big\_2\_38 38 1127 3.88 0.95 4 4.00 1.48 1 5  
## big\_2\_39 39 1128 3.01 1.18 3 3.01 1.48 1 5  
## big\_2\_40 40 1129 4.01 0.96 4 4.13 1.48 1 5  
## big\_2\_41 41 1127 3.38 1.02 3 3.38 1.48 1 5  
## big\_2\_42 42 1125 3.39 1.09 4 3.43 1.48 1 5  
## big\_2\_43 43 1126 4.14 0.83 4 4.24 1.48 1 5  
## big\_2\_44 44 1126 3.52 1.06 4 3.56 1.48 1 5  
## big\_2\_45 45 1127 2.11 1.06 2 1.98 1.48 1 5  
## big\_2\_46 46 1127 3.54 1.11 4 3.60 1.48 1 5  
## big\_2\_47 47 1127 2.33 1.15 2 2.25 1.48 1 5  
## big\_2\_48 48 1130 1.97 1.03 2 1.82 1.48 1 5  
## big\_2\_49 49 1127 2.16 1.15 2 2.03 1.48 1 5  
## big\_2\_50 50 1129 2.71 1.30 2 2.64 1.48 1 5  
## big\_2\_51 51 1126 3.00 1.12 3 2.99 1.48 1 5  
## big\_2\_52 52 1127 4.45 0.65 5 4.52 0.00 1 5  
## big\_2\_53 53 1128 3.75 1.02 4 3.84 1.48 1 5  
## big\_2\_54 54 1128 2.94 1.24 3 2.92 1.48 1 5  
## big\_2\_55 55 1127 2.27 1.03 2 2.17 1.48 1 5  
## big\_2\_56 56 1129 3.64 1.01 4 3.70 1.48 1 5  
## big\_2\_57 57 1129 3.51 1.11 4 3.56 1.48 1 5  
## big\_2\_58 58 1131 3.23 1.10 4 3.31 1.48 1 5  
## big\_2\_59 59 1131 2.95 1.22 3 2.93 1.48 1 5  
## big\_2\_60 60 1128 3.58 0.91 4 3.62 1.48 1 5  
## big\_2\_61 61 1124 3.70 1.21 4 3.80 1.48 1 5  
## big\_2\_62 62 1125 3.23 1.26 3 3.26 1.48 1 5  
## big\_2\_63 63 1128 1.67 1.00 1 1.46 0.00 1 5  
## big\_2\_64 64 1127 2.99 1.12 3 2.98 1.48 1 5  
## big\_2\_65 65 1128 3.45 1.01 4 3.47 1.48 1 5  
## consumer\_intentions\_1 66 1131 4.15 1.78 4 4.13 1.48 1 7  
## consumer\_intentions\_2 67 1125 3.80 1.82 4 3.79 2.97 1 7  
## consumer\_intentions\_3 68 1130 4.53 1.79 5 4.61 1.48 1 7  
## consumer\_intentions\_4 69 1131 4.09 1.72 4 4.11 1.48 1 7  
## consumer\_intentions\_5 70 1129 4.44 1.66 5 4.48 1.48 1 7  
## consumer\_intentions\_6 71 1128 4.84 1.72 5 4.99 1.48 1 7  
## consumer\_intentions\_7 72 1132 2.53 1.72 2 2.26 1.48 1 7  
## consumer\_intentions\_8 73 1130 4.05 1.92 4 4.05 2.97 1 7  
## consumer\_intentions\_9 74 1127 3.88 1.91 4 3.87 2.97 1 7  
## clothing\_interest\_1 75 1121 3.12 1.30 3 3.15 1.48 1 5  
## clothing\_interest\_2 76 1127 3.03 1.40 3 3.03 1.48 1 5  
## clothing\_interest\_3 77 1126 3.17 1.26 3 3.20 1.48 1 5  
## clothing\_interest\_4 78 1124 2.28 1.29 2 2.14 1.48 1 5  
## clothing\_interest\_5 79 1130 2.82 1.26 3 2.78 1.48 1 5  
## clothing\_interest\_6 80 1121 2.41 1.25 2 2.32 1.48 1 5  
## clothing\_interest\_7 81 1128 3.03 1.23 3 3.03 1.48 1 5  
## clothing\_interest\_8 82 1127 2.59 1.34 2 2.50 1.48 1 5  
## clothing\_interest\_9 83 1126 2.60 1.47 2 2.51 1.48 1 5  
## clothing\_interest\_10 84 1128 2.96 1.36 3 2.95 1.48 1 5  
## clothing\_interest\_11 85 1124 3.42 1.27 4 3.52 1.48 1 5  
## clothing\_interest\_12 86 1126 2.20 1.19 2 2.07 1.48 1 5  
## clothing\_interest\_13 87 1128 3.03 1.27 3 3.04 1.48 1 5  
## clothing\_interest\_14 88 1126 2.27 1.18 2 2.16 1.48 1 5  
## clothing\_interest\_15 89 1127 3.34 1.22 4 3.42 1.48 1 5  
## clothing\_interest\_16 90 1127 2.26 1.32 2 2.09 1.48 1 5  
## clothing\_interest\_17 91 1129 4.08 0.94 4 4.22 1.48 1 5  
## clothing\_interest\_18 92 1124 2.72 1.25 2 2.67 1.48 1 5  
## clothing\_interest\_19 93 1127 2.70 1.20 3 2.67 1.48 1 5  
## clothing\_interest\_20 94 1130 2.53 1.30 2 2.42 1.48 1 5  
## ingroup\_ident\_1 95 1130 4.62 1.58 5 4.72 1.48 1 7  
## ingroup\_ident\_2 96 1132 4.54 1.45 5 4.66 1.48 1 7  
## ingroup\_ident\_3 97 1128 4.33 1.53 4 4.41 1.48 1 7  
## ingroup\_ident\_4 98 1130 5.63 1.23 6 5.77 1.48 1 7  
## ingroup\_ident\_5 99 1131 5.26 1.29 5 5.37 1.48 1 7  
## ingroup\_ident\_6 100 1131 5.41 1.30 6 5.57 1.48 1 7  
## ingroup\_ident\_7 101 1128 5.18 1.33 5 5.31 1.48 1 7  
## ingroup\_ident\_8 102 1131 4.62 1.63 5 4.70 1.48 1 7  
## ingroup\_ident\_9 103 1129 4.27 1.71 5 4.32 1.48 1 7  
## ingroup\_ident\_10 104 1126 4.29 1.73 5 4.33 1.48 1 7  
## ingroup\_ident\_11 105 1132 4.20 1.58 4 4.28 1.48 1 7  
## ingroup\_ident\_12 106 1122 4.17 1.60 4 4.24 1.48 1 7  
## ingroup\_ident\_13 107 1130 4.37 1.44 5 4.46 1.48 1 7  
## ingroup\_ident\_14 108 1129 3.99 1.59 4 4.02 1.48 1 7  
## Age 109 1030 19.87 1.95 19 19.67 1.48 18 50  
## Class\_Lvl 110 1133 2.13 1.20 2 2.00 1.48 1 7  
## Income 111 1133 1.63 1.78 1 1.16 0.00 1 11  
## Employment 112 1133 2.62 1.34 3 2.59 1.48 1 6  
## Parents\_Education 113 1131 4.11 1.21 4 4.17 1.48 1 6  
## Pol\_Ornt 114 1133 2.89 1.74 2 2.65 1.48 1 8  
## Ethnicity 115 1133 5.41 1.50 6 5.63 0.00 1 8  
## Birth\_US 116 1133 1.07 0.26 1 1.00 0.00 1 2  
## Raised\_US 117 1131 1.04 0.20 1 1.00 0.00 1 2  
## values\_1 118 1118 2.12 1.06 2 2.29 1.48 -3 3  
## values\_2 119 1117 1.52 1.28 2 1.64 1.48 -3 3  
## values\_3 120 1117 2.01 1.10 2 2.17 1.48 -3 3  
## values\_4 121 1117 1.76 1.20 2 1.91 1.48 -3 3  
## values\_5 122 1118 2.45 0.92 3 2.64 0.00 -3 3  
## values\_6 123 1118 2.14 1.09 2 2.33 1.48 -3 3  
## values\_7 124 1116 1.97 1.20 2 2.17 1.48 -3 3  
## values\_8 125 1117 2.29 0.90 2 2.43 1.48 -3 3  
## values\_9 126 1110 0.58 1.43 1 0.65 1.48 -3 3  
## values\_10 127 1116 1.30 1.31 1 1.43 1.48 -3 3  
## values\_11 128 1115 0.40 1.40 1 0.47 1.48 -3 3  
## values\_12 129 1118 0.75 1.45 1 0.81 1.48 -3 3  
## values\_13 130 1117 1.95 1.05 2 2.09 1.48 -3 3  
## values\_14 131 1118 1.82 1.07 2 1.97 1.48 -3 3  
## values\_15 132 1118 2.63 0.77 3 2.81 0.00 -3 3  
## values\_16 133 1116 1.71 1.15 2 1.84 1.48 -3 3  
## socially\_desirable\_1 134 1116 4.82 1.52 5 4.94 1.48 1 7  
## socially\_desirable\_2 135 1116 4.11 1.47 4 4.11 1.48 1 7  
## socially\_desirable\_3 136 1114 4.61 1.66 5 4.69 1.48 1 7  
## socially\_desirable\_4 137 1116 2.96 1.53 3 2.83 1.48 1 7  
## socially\_desirable\_5 138 1113 4.36 1.68 5 4.41 1.48 1 7  
## socially\_desirable\_6 139 1113 4.38 1.41 4 4.45 1.48 1 7  
## socially\_desirable\_7 140 1116 4.67 1.44 5 4.74 1.48 1 7  
## socially\_desirable\_8 141 1108 4.59 1.71 5 4.69 1.48 1 7  
## socially\_desirable\_9 142 1113 4.67 1.45 5 4.80 1.48 1 7  
## socially\_desirable\_10 143 1111 3.42 1.30 3 3.36 1.48 1 7  
## socially\_desirable\_11 144 1113 3.11 1.67 3 3.01 1.48 1 7  
## socially\_desirable\_12 145 1116 3.42 1.61 3 3.36 1.48 1 7  
## socially\_desirable\_13 146 1115 4.32 1.67 5 4.41 1.48 1 7  
## socially\_desirable\_14 147 1117 3.43 1.59 3 3.37 1.48 1 7  
## socially\_desirable\_15 148 1115 5.03 1.70 6 5.20 1.48 1 7  
## socially\_desirable\_16 149 1115 3.68 1.61 3 3.61 1.48 1 7  
## row 150 1133 573.19 331.33 571 572.81 424.02 1 1156  
## range skew kurtosis se  
## big\_2\_1 4 -0.56 -0.54 0.03  
## big\_2\_2 4 -1.06 1.09 0.02  
## big\_2\_3 4 0.30 -1.00 0.04  
## big\_2\_4 4 -0.03 -0.99 0.04  
## big\_2\_5 4 0.35 -1.03 0.04  
## big\_2\_6 4 -0.11 -0.94 0.03  
## big\_2\_7 4 -1.59 3.40 0.02  
## big\_2\_8 4 -0.16 -0.93 0.03  
## big\_2\_9 4 -0.37 -0.67 0.03  
## big\_2\_10 4 -1.02 1.07 0.02  
## big\_2\_11 4 0.82 0.07 0.03  
## big\_2\_12 4 0.00 -0.90 0.03  
## big\_2\_13 4 -0.88 0.85 0.03  
## big\_2\_14 4 -0.17 -1.06 0.04  
## big\_2\_15 4 -0.62 0.04 0.03  
## big\_2\_16 4 -0.18 -1.04 0.04  
## big\_2\_17 4 0.89 -0.49 0.04  
## big\_2\_18 4 -0.69 -0.05 0.03  
## big\_2\_19 4 -0.63 -0.33 0.03  
## big\_2\_20 4 -0.88 -0.06 0.03  
## big\_2\_21 4 -0.27 -0.74 0.03  
## big\_2\_22 4 0.59 -0.56 0.03  
## big\_2\_23 4 -0.51 -0.74 0.03  
## big\_2\_24 4 -0.45 -0.78 0.04  
## big\_2\_25 4 0.84 -0.09 0.03  
## big\_2\_26 4 0.39 -0.93 0.04  
## big\_2\_27 4 -0.85 0.01 0.03  
## big\_2\_28 4 -0.17 -1.10 0.03  
## big\_2\_29 4 -0.13 -1.02 0.04  
## big\_2\_30 4 0.60 -0.57 0.03  
## big\_2\_31 4 -0.70 -0.36 0.03  
## big\_2\_32 4 -1.13 1.55 0.03  
## big\_2\_33 4 -0.44 -0.83 0.03  
## big\_2\_34 4 -0.81 -0.28 0.03  
## big\_2\_35 4 -1.00 0.64 0.03  
## big\_2\_36 4 0.33 -0.56 0.03  
## big\_2\_37 4 0.18 -1.04 0.03  
## big\_2\_38 4 -0.82 0.32 0.03  
## big\_2\_39 4 -0.03 -1.03 0.04  
## big\_2\_40 4 -0.84 0.22 0.03  
## big\_2\_41 4 -0.24 -0.70 0.03  
## big\_2\_42 4 -0.45 -0.64 0.03  
## big\_2\_43 4 -1.00 1.22 0.02  
## big\_2\_44 4 -0.47 -0.52 0.03  
## big\_2\_45 4 0.82 -0.06 0.03  
## big\_2\_46 4 -0.46 -0.64 0.03  
## big\_2\_47 4 0.46 -0.92 0.03  
## big\_2\_48 4 0.95 0.16 0.03  
## big\_2\_49 4 0.83 -0.24 0.03  
## big\_2\_50 4 0.25 -1.14 0.04  
## big\_2\_51 4 0.01 -0.91 0.03  
## big\_2\_52 4 -1.11 1.75 0.02  
## big\_2\_53 4 -0.63 -0.37 0.03  
## big\_2\_54 4 -0.02 -1.09 0.04  
## big\_2\_55 4 0.65 -0.15 0.03  
## big\_2\_56 4 -0.53 -0.36 0.03  
## big\_2\_57 4 -0.41 -0.78 0.03  
## big\_2\_58 4 -0.53 -0.73 0.03  
## big\_2\_59 4 0.00 -1.08 0.04  
## big\_2\_60 4 -0.48 -0.24 0.03  
## big\_2\_61 4 -0.56 -0.87 0.04  
## big\_2\_62 4 -0.04 -1.17 0.04  
## big\_2\_63 4 1.46 1.19 0.03  
## big\_2\_64 4 0.04 -0.79 0.03  
## big\_2\_65 4 -0.41 -0.59 0.03  
## consumer\_intentions\_1 6 -0.03 -1.13 0.05  
## consumer\_intentions\_2 6 0.10 -1.16 0.05  
## consumer\_intentions\_3 6 -0.36 -1.02 0.05  
## consumer\_intentions\_4 6 -0.08 -1.02 0.05  
## consumer\_intentions\_5 6 -0.29 -0.82 0.05  
## consumer\_intentions\_6 6 -0.67 -0.43 0.05  
## consumer\_intentions\_7 6 0.99 -0.10 0.05  
## consumer\_intentions\_8 6 0.04 -1.26 0.06  
## consumer\_intentions\_9 6 0.00 -1.23 0.06  
## clothing\_interest\_1 4 -0.17 -1.18 0.04  
## clothing\_interest\_2 4 -0.11 -1.35 0.04  
## clothing\_interest\_3 4 -0.06 -1.19 0.04  
## clothing\_interest\_4 4 0.66 -0.79 0.04  
## clothing\_interest\_5 4 0.30 -1.04 0.04  
## clothing\_interest\_6 4 0.45 -0.97 0.04  
## clothing\_interest\_7 4 0.08 -0.99 0.04  
## clothing\_interest\_8 4 0.30 -1.24 0.04  
## clothing\_interest\_9 4 0.39 -1.29 0.04  
## clothing\_interest\_10 4 -0.05 -1.29 0.04  
## clothing\_interest\_11 4 -0.53 -0.87 0.04  
## clothing\_interest\_12 4 0.80 -0.39 0.04  
## clothing\_interest\_13 4 -0.12 -1.08 0.04  
## clothing\_interest\_14 4 0.64 -0.64 0.04  
## clothing\_interest\_15 4 -0.41 -0.83 0.04  
## clothing\_interest\_16 4 0.78 -0.65 0.04  
## clothing\_interest\_17 4 -1.17 1.34 0.03  
## clothing\_interest\_18 4 0.24 -1.11 0.04  
## clothing\_interest\_19 4 0.22 -1.01 0.04  
## clothing\_interest\_20 4 0.53 -0.95 0.04  
## ingroup\_ident\_1 6 -0.60 -0.36 0.05  
## ingroup\_ident\_2 6 -0.57 -0.17 0.04  
## ingroup\_ident\_3 6 -0.37 -0.42 0.05  
## ingroup\_ident\_4 6 -1.15 1.62 0.04  
## ingroup\_ident\_5 6 -0.80 0.59 0.04  
## ingroup\_ident\_6 6 -1.22 1.68 0.04  
## ingroup\_ident\_7 6 -0.85 0.71 0.04  
## ingroup\_ident\_8 6 -0.46 -0.65 0.05  
## ingroup\_ident\_9 6 -0.28 -0.86 0.05  
## ingroup\_ident\_10 6 -0.28 -0.89 0.05  
## ingroup\_ident\_11 6 -0.39 -0.67 0.05  
## ingroup\_ident\_12 6 -0.32 -0.77 0.05  
## ingroup\_ident\_13 6 -0.43 -0.36 0.04  
## ingroup\_ident\_14 6 -0.14 -0.88 0.05  
## Age 32 4.91 59.29 0.06  
## Class\_Lvl 6 0.89 0.63 0.04  
## Income 10 3.90 15.67 0.05  
## Employment 5 0.09 -0.89 0.04  
## Parents\_Education 5 -0.59 -0.07 0.04  
## Pol\_Ornt 7 1.06 0.67 0.05  
## Ethnicity 7 -1.30 0.65 0.04  
## Birth\_US 1 3.27 8.71 0.01  
## Raised\_US 1 4.59 19.07 0.01  
## values\_1 6 -1.61 3.50 0.03  
## values\_2 6 -0.78 0.32 0.04  
## values\_3 6 -1.27 2.00 0.03  
## values\_4 6 -1.09 1.32 0.04  
## values\_5 6 -2.37 7.84 0.03  
## values\_6 6 -1.54 2.85 0.03  
## values\_7 6 -1.46 2.42 0.04  
## values\_8 6 -1.70 4.48 0.03  
## values\_9 6 -0.38 -0.23 0.04  
## values\_10 6 -0.88 0.83 0.04  
## values\_11 6 -0.38 -0.16 0.04  
## values\_12 6 -0.42 -0.28 0.04  
## values\_13 6 -1.19 1.82 0.03  
## values\_14 6 -1.17 2.04 0.03  
## values\_15 6 -3.02 12.40 0.02  
## values\_16 6 -0.92 0.89 0.03  
## socially\_desirable\_1 6 -0.72 -0.10 0.05  
## socially\_desirable\_2 6 0.00 -0.77 0.04  
## socially\_desirable\_3 6 -0.43 -0.74 0.05  
## socially\_desirable\_4 6 0.68 -0.19 0.05  
## socially\_desirable\_5 6 -0.34 -0.83 0.05  
## socially\_desirable\_6 6 -0.27 -0.46 0.04  
## socially\_desirable\_7 6 -0.40 -0.46 0.04  
## socially\_desirable\_8 6 -0.49 -0.66 0.05  
## socially\_desirable\_9 6 -0.71 0.06 0.04  
## socially\_desirable\_10 6 0.40 -0.19 0.04  
## socially\_desirable\_11 6 0.33 -1.05 0.05  
## socially\_desirable\_12 6 0.24 -0.88 0.05  
## socially\_desirable\_13 6 -0.47 -0.77 0.05  
## socially\_desirable\_14 6 0.34 -0.69 0.05  
## socially\_desirable\_15 6 -0.65 -0.63 0.05  
## socially\_desirable\_16 6 0.35 -0.74 0.05  
## row 1155 0.01 -1.20 9.84

Check if any values fall outside of possible scale options.

Boxplots

Histograms

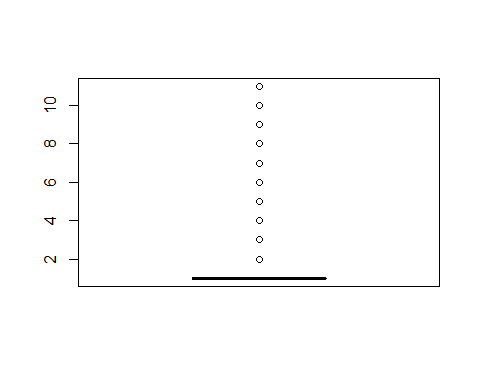
Demographics

Age 

Income

* 1 = $0-9,999
* 2 = $10,000 - 19,999
* 3 = $20,000 - 29,999
* 4 = $30,000 - 39,999
* 5 = $40,000 - 49.999
* 6 = $50,000 - 59,999
* 7 = $60,000 - 69,999
* 8 = $70,000 - 79,999
* 9 = $80,000 - 89,999
* 10 = $90,000 - 99,999
* 11 = $100,000 or more

data %>%  
 dplyr::select(Income) %>%  
 boxplot()



describe(data$Income)

## vars n mean sd median trimmed mad min max range skew kurtosis se  
## X1 1 1133 1.63 1.78 1 1.16 0 1 11 10 3.9 15.67 0.05

table(data$Income)

##   
## 1 2 3 4 5 6 7 8 9 10 11   
## 876 143 36 18 10 5 10 6 6 1 22

data %>%  
 filter(Income == 11 | Income == 10 | Income == 9 | Income == 8 | Income == 7) %>%  
 dplyr::select(Income, Age, Employment, Class\_Lvl)

## Income Age Employment Class\_Lvl  
## 1:28 11 21 3 4  
## 1:41 7 20 2 3  
## 1:60 11 21 3 3  
## 1:146 11 20 4 2  
## 1:149 10 20 4 2  
## 1:164 11 20 4 2  
## 1:184 11 20 4 1  
## 1:195 7 19 1 2  
## 1:211 11 18 3 1  
## 1:226 8 19 3 1  
## 1:241 7 18 3 1  
## 1:261 11 18 4 1  
## 1:282 11 21 1 2  
## 1:284 9 NA 4 1  
## 1:295 11 20 3 3  
## 1:299 9 18 4 1  
## 1:350 7 NA 3 1  
## 1:352 9 50 2 6  
## 1:423 11 18 4 1  
## 1:429 8 NA 4 1  
## 1:443 8 19 3 1  
## 1:526 11 19 1 1  
## 1:588 11 18 3 1  
## 1:605 11 19 3 1  
## 1:639 11 19 3 1  
## 1:641 9 NA 3 1  
## 1:651 7 22 1 4  
## 1:661 11 19 3 1  
## 1:689 11 19 4 1  
## 1:704 11 18 4 1  
## 1:723 7 18 4 1  
## 1:759 11 19 4 1  
## 1:782 11 18 3 1  
## 1:797 11 18 4 1  
## 1:802 7 18 3 1  
## 1:932 9 22 1 4  
## 1:948 8 22 1 4  
## 1:950 7 22 1 4  
## 1:951 7 22 2 4  
## 1:1013 11 25 4 5  
## 1:1074 7 21 1 4  
## 1:1130 11 22 4 3  
## 1:1134 9 22 2 4  
## 2:2 8 28 2 2  
## 2:6 8 20 1 3

Employment

* 1 = Employed, working 1-39 hrs/wk
* 2 = Employed, working 40+ hrs/wk
* 3 = Not employed, looking for work
* 4 = Not employed, NOT looking for work
* 5 = Retired
* 6 = Not able to work

Class Level

* 1 = Freshman
* 2 = Sophomore
* 3 = Junior
* 4 = Senior
* 5 = Graduate student
* 6 = Not applicable
* 7 = Other

Gender

* 1 = woman
* 2 = man
* 3 = non-binary
* 4 = I prefer not to identify
* 5 = other (please specify)

levels(data$Gender) <- c("Woman", "Man", "Non-binary", "I prefer not to identify", "Other")  
  
table(data$Gender)

##   
## Woman Man Non-binary   
## 674 418 24   
## I prefer not to identify Other   
## 11 6

data %>%  
 filter(Gender == 5) %>%  
 dplyr::select(Gender\_5\_TEXT)

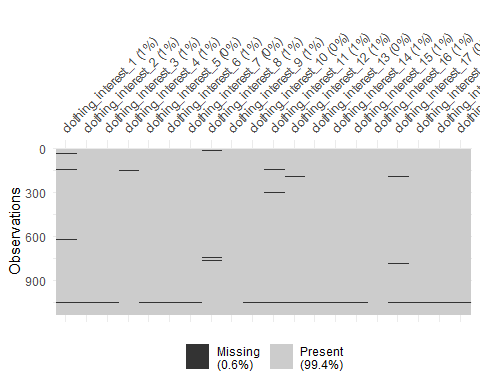
## [1] Gender\_5\_TEXT  
## <0 rows> (or 0-length row.names)

## Missing Values

### Consumer Intentions & Behaviors

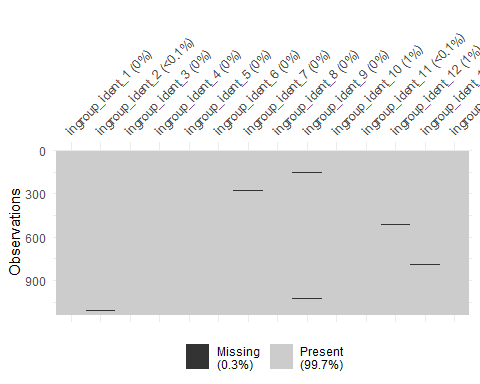
### Clothing Interest

data %>%  
 dplyr::select(clothing\_interest\_1:clothing\_interest\_20) %>%  
 vis\_miss()



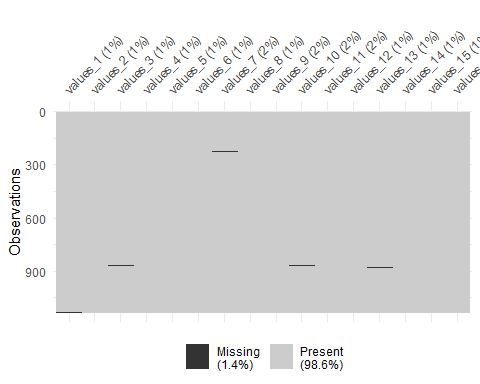
### Ingroup Identification

data %>%  
 dplyr::select(ingroup\_ident\_1:ingroup\_ident\_14) %>%  
 vis\_miss()



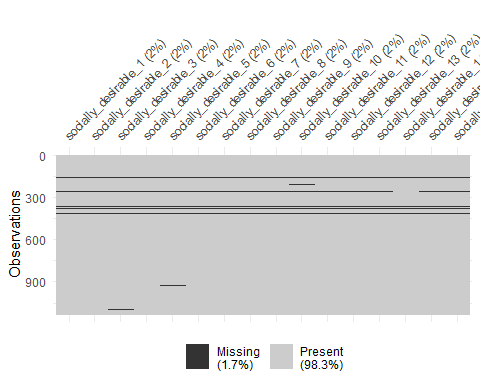
### Values

data %>%  
 dplyr::select(values\_1:values\_16) %>%  
 vis\_miss()



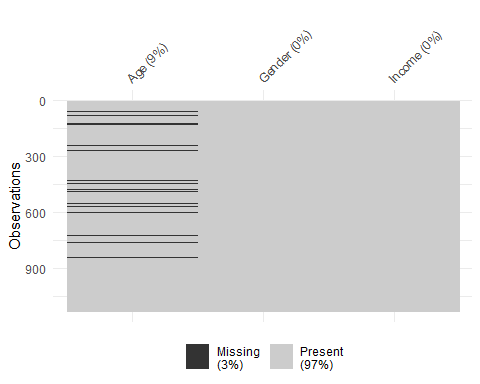
### Socially Desirable Responding

data %>%  
 dplyr::select(socially\_desirable\_1:socially\_desirable\_16) %>%  
 vis\_miss()



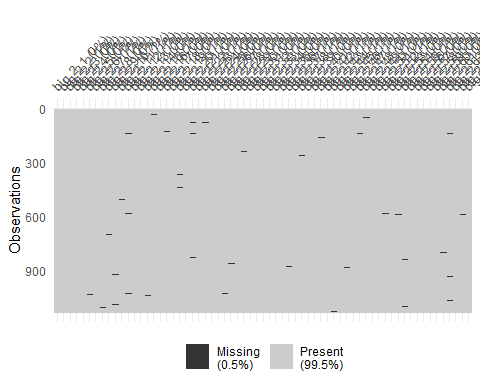
### Demographics

data %>%  
 dplyr::select(Age, Gender, Income) %>%  
 vis\_miss()



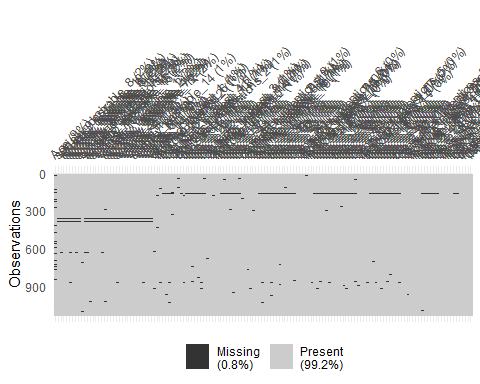
### Personality

data %>%  
 dplyr::select(big\_2\_1:big\_2\_65) %>%  
 vis\_miss()



### All variables

data %>%  
 dplyr::select(consumer\_intentions\_1:consumer\_behaviors, clothing\_interest\_1:clothing\_interest\_20, ingroup\_ident\_1:ingroup\_ident\_14, values\_1:values\_16, socially\_desirable\_1:socially\_desirable\_16, Age, Gender, Income, big\_2\_1:big\_2\_65) %>%  
 vis\_miss(sort\_miss = TRUE)



Less than 1% of total data is missing (0.8% missing).

### MCAR Test

A non-significant test suggests the data *is* missing completely at random.

test\_of\_mcar <- data %>%  
 dplyr::select(consumer\_intentions\_1:consumer\_behaviors, clothing\_interest\_1:clothing\_interest\_20, ingroup\_ident\_1:ingroup\_ident\_14, values\_1:values\_16, socially\_desirable\_1:socially\_desirable\_16, Age, Gender, Income, big\_2\_1:big\_2\_65) %>%  
 mcar\_test()  
  
test\_of\_mcar$statistic  
test\_of\_mcar$df # Critical values are 8565.53 and 9086.26  
test\_of\_mcar$p.value

The test is non-significant, so we can assume the missingness is MCAR. Could also follow this up by seeing whether missingness can be predicted by any of the other variables in the model.

# Aggregate Variables

## Personality

### Reverse-code

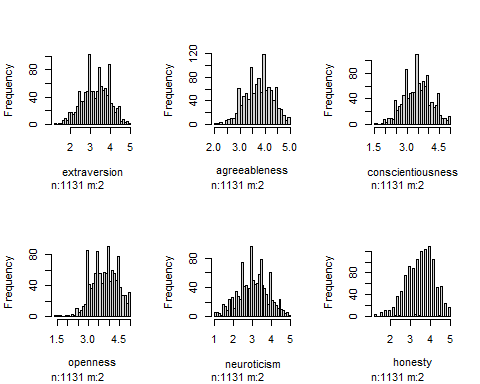
data\_R <- data %>%  
 mutate(across(c(big\_2\_11,  
 big\_2\_16,  
 big\_2\_26,  
 big\_2\_31,  
 big\_2\_36,  
 big\_2\_51,  
 big\_2\_12,  
 big\_2\_17,  
 big\_2\_22,  
 big\_2\_37,  
 big\_2\_42,  
 big\_2\_47,  
 big\_2\_3,  
 big\_2\_8,  
 big\_2\_23,  
 big\_2\_28,  
 big\_2\_48,  
 big\_2\_58,  
 big\_2\_4,  
 big\_2\_9,  
 big\_2\_24,  
 big\_2\_29,  
 big\_2\_44,  
 big\_2\_49,  
 big\_2\_5,  
 big\_2\_25,  
 big\_2\_30,  
 big\_2\_45,  
 big\_2\_50,  
 big\_2\_55,  
 big\_2\_63), ~6 - .)) # replace '6' with the max possible value plus 1 for any particular scale

### Average items

data\_R$extraversion <- data\_R %>%  
 dplyr::select(big\_2\_1, big\_2\_6, big\_2\_11, big\_2\_16, big\_2\_21, big\_2\_26, big\_2\_31, big\_2\_36, big\_2\_41, big\_2\_46, big\_2\_51, big\_2\_56) %>%  
 rowMeans(na.rm = TRUE)   
  
  
data\_R$conscientiousness <- data\_R %>%  
 dplyr::select(big\_2\_3, big\_2\_8, big\_2\_13, big\_2\_18, big\_2\_23, big\_2\_28, big\_2\_33, big\_2\_38, big\_2\_43, big\_2\_48, big\_2\_53, big\_2\_58) %>%  
 rowMeans(na.rm = TRUE)  
  
  
data\_R$agreeableness <- data\_R %>%  
 dplyr::select(big\_2\_2, big\_2\_7, big\_2\_12, big\_2\_17, big\_2\_22, big\_2\_27, big\_2\_32, big\_2\_37, big\_2\_42, big\_2\_47, big\_2\_52, big\_2\_57) %>%  
 rowMeans(na.rm = TRUE)  
  
  
data\_R$neuroticism <- data\_R %>%  
 dplyr::select(big\_2\_4, big\_2\_9, big\_2\_14, big\_2\_19, big\_2\_24, big\_2\_29, big\_2\_34, big\_2\_39, big\_2\_44, big\_2\_49, big\_2\_54, big\_2\_59) %>%  
 rowMeans(na.rm = TRUE)  
  
  
data\_R$openness <- data\_R %>%  
 dplyr::select(big\_2\_5, big\_2\_10, big\_2\_15, big\_2\_20, big\_2\_25, big\_2\_30, big\_2\_35, big\_2\_40, big\_2\_45, big\_2\_50, big\_2\_55, big\_2\_60) %>%  
 rowMeans(na.rm = TRUE)  
  
  
data\_R$honesty <- data\_R %>%  
 dplyr::select(big\_2\_61, big\_2\_62, big\_2\_63, big\_2\_64, big\_2\_65) %>%  
 rowMeans(na.rm = TRUE)

### Visually inspect

data\_R %>%  
 dplyr::select(extraversion, agreeableness, conscientiousness, openness, neuroticism, honesty) %>%  
 hist()



### Scale reliability

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.85 0.85 0.87 0.32 5.6 0.0065 3.3 0.68 0.29  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.84 0.85 0.86  
## Duhachek 0.84 0.85 0.86  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## big\_2\_1 0.82 0.82 0.84 0.30 4.7 0.0077 0.017 0.27  
## big\_2\_6 0.84 0.84 0.86 0.32 5.2 0.0070 0.021 0.29  
## big\_2\_11 0.85 0.85 0.87 0.34 5.7 0.0065 0.020 0.31  
## big\_2\_16 0.83 0.83 0.84 0.30 4.8 0.0076 0.018 0.27  
## big\_2\_21 0.83 0.83 0.85 0.31 5.0 0.0072 0.021 0.27  
## big\_2\_26 0.85 0.85 0.87 0.34 5.8 0.0063 0.021 0.32  
## big\_2\_31 0.84 0.84 0.85 0.32 5.1 0.0072 0.020 0.28  
## big\_2\_36 0.85 0.85 0.87 0.33 5.5 0.0067 0.023 0.31  
## big\_2\_41 0.84 0.83 0.85 0.31 5.0 0.0072 0.021 0.27  
## big\_2\_46 0.83 0.83 0.85 0.31 4.9 0.0074 0.018 0.28  
## big\_2\_51 0.84 0.84 0.86 0.33 5.4 0.0068 0.021 0.31  
## big\_2\_56 0.84 0.84 0.86 0.32 5.2 0.0070 0.021 0.29  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## big\_2\_1 1130 0.78 0.78 0.78 0.72 3.6 1.1  
## big\_2\_6 1125 0.61 0.60 0.55 0.51 3.1 1.2  
## big\_2\_11 1125 0.44 0.46 0.38 0.33 3.9 1.0  
## big\_2\_16 1128 0.75 0.74 0.74 0.67 2.8 1.2  
## big\_2\_21 1130 0.66 0.66 0.63 0.58 3.2 1.1  
## big\_2\_26 1129 0.44 0.44 0.35 0.32 3.5 1.2  
## big\_2\_31 1130 0.65 0.64 0.61 0.56 2.3 1.1  
## big\_2\_36 1127 0.50 0.51 0.43 0.40 3.4 1.0  
## big\_2\_41 1127 0.66 0.66 0.63 0.57 3.4 1.0  
## big\_2\_46 1127 0.71 0.71 0.69 0.63 3.5 1.1  
## big\_2\_51 1126 0.56 0.55 0.50 0.45 3.0 1.1  
## big\_2\_56 1129 0.60 0.61 0.57 0.51 3.6 1.0  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## big\_2\_1 0.05 0.15 0.19 0.40 0.21 0.00  
## big\_2\_6 0.09 0.26 0.24 0.31 0.10 0.01  
## big\_2\_11 0.02 0.10 0.14 0.43 0.30 0.01  
## big\_2\_16 0.15 0.33 0.20 0.25 0.08 0.00  
## big\_2\_21 0.08 0.20 0.27 0.34 0.11 0.00  
## big\_2\_26 0.05 0.20 0.19 0.33 0.24 0.00  
## big\_2\_31 0.24 0.43 0.14 0.15 0.04 0.00  
## big\_2\_36 0.04 0.18 0.28 0.39 0.11 0.01  
## big\_2\_41 0.03 0.20 0.28 0.37 0.13 0.01  
## big\_2\_46 0.04 0.17 0.21 0.38 0.21 0.01  
## big\_2\_51 0.09 0.28 0.26 0.29 0.09 0.01  
## big\_2\_56 0.02 0.13 0.22 0.43 0.19 0.00

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.84 0.84 0.86 0.31 5.4 0.0069 3.5 0.63 0.28  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.83 0.84 0.86  
## Duhachek 0.83 0.84 0.86  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## big\_2\_3 0.82 0.82 0.83 0.29 4.6 0.0080 0.0103 0.27  
## big\_2\_8 0.83 0.83 0.85 0.31 5.0 0.0073 0.0139 0.28  
## big\_2\_13 0.83 0.83 0.84 0.31 5.0 0.0072 0.0120 0.29  
## big\_2\_18 0.83 0.83 0.85 0.31 4.8 0.0075 0.0120 0.28  
## big\_2\_23 0.83 0.84 0.85 0.32 5.1 0.0072 0.0129 0.29  
## big\_2\_28 0.83 0.83 0.85 0.31 5.1 0.0072 0.0136 0.29  
## big\_2\_33 0.82 0.82 0.83 0.29 4.6 0.0079 0.0096 0.27  
## big\_2\_38 0.83 0.83 0.84 0.30 4.7 0.0076 0.0133 0.27  
## big\_2\_43 0.84 0.84 0.84 0.32 5.1 0.0072 0.0116 0.29  
## big\_2\_48 0.83 0.83 0.85 0.31 5.0 0.0074 0.0124 0.29  
## big\_2\_53 0.83 0.83 0.85 0.31 4.9 0.0074 0.0138 0.27  
## big\_2\_58 0.84 0.84 0.85 0.32 5.2 0.0070 0.0127 0.29  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## big\_2\_3 1129 0.73 0.71 0.70 0.65 3.4 1.21  
## big\_2\_8 1128 0.60 0.58 0.53 0.49 3.0 1.10  
## big\_2\_13 1129 0.54 0.58 0.54 0.46 4.0 0.84  
## big\_2\_18 1129 0.62 0.63 0.59 0.54 3.8 0.99  
## big\_2\_23 1122 0.57 0.55 0.49 0.45 2.5 1.14  
## big\_2\_28 1128 0.57 0.56 0.50 0.46 3.0 1.11  
## big\_2\_33 1129 0.73 0.71 0.71 0.64 3.5 1.16  
## big\_2\_38 1127 0.65 0.66 0.62 0.56 3.9 0.95  
## big\_2\_43 1126 0.52 0.56 0.51 0.43 4.1 0.83  
## big\_2\_48 1130 0.60 0.59 0.54 0.50 4.0 1.03  
## big\_2\_53 1128 0.61 0.62 0.57 0.52 3.8 1.02  
## big\_2\_58 1131 0.52 0.51 0.44 0.40 2.8 1.10  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## big\_2\_3 0.06 0.22 0.19 0.32 0.21 0.00  
## big\_2\_8 0.06 0.33 0.25 0.26 0.10 0.00  
## big\_2\_13 0.01 0.05 0.14 0.50 0.30 0.00  
## big\_2\_18 0.02 0.10 0.20 0.43 0.25 0.00  
## big\_2\_23 0.20 0.42 0.15 0.19 0.04 0.01  
## big\_2\_28 0.04 0.37 0.20 0.29 0.10 0.00  
## big\_2\_33 0.04 0.19 0.18 0.36 0.23 0.00  
## big\_2\_38 0.02 0.09 0.16 0.48 0.26 0.01  
## big\_2\_43 0.01 0.04 0.12 0.48 0.36 0.01  
## big\_2\_48 0.02 0.09 0.13 0.36 0.40 0.00  
## big\_2\_53 0.02 0.14 0.17 0.44 0.24 0.00  
## big\_2\_58 0.07 0.46 0.19 0.20 0.08 0.00

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.78 0.79 0.81 0.24 3.9 0.0097 3.8 0.55 0.24  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.76 0.78 0.8  
## Duhachek 0.76 0.78 0.8  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## big\_2\_2 0.76 0.77 0.78 0.24 3.4 0.0106 0.013 0.24  
## big\_2\_7 0.76 0.78 0.79 0.24 3.5 0.0103 0.013 0.24  
## big\_2\_12 0.76 0.78 0.79 0.25 3.6 0.0105 0.015 0.24  
## big\_2\_17 0.80 0.80 0.81 0.27 4.1 0.0089 0.012 0.27  
## big\_2\_22 0.76 0.78 0.79 0.24 3.6 0.0105 0.015 0.24  
## big\_2\_27 0.75 0.77 0.78 0.24 3.4 0.0108 0.014 0.24  
## big\_2\_32 0.77 0.78 0.80 0.25 3.6 0.0102 0.014 0.24  
## big\_2\_37 0.75 0.77 0.78 0.24 3.4 0.0109 0.014 0.24  
## big\_2\_42 0.78 0.79 0.80 0.26 3.9 0.0098 0.012 0.24  
## big\_2\_47 0.75 0.77 0.78 0.24 3.4 0.0110 0.015 0.24  
## big\_2\_52 0.76 0.77 0.78 0.24 3.4 0.0104 0.012 0.24  
## big\_2\_57 0.75 0.77 0.78 0.23 3.3 0.0110 0.014 0.23  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## big\_2\_2 1127 0.58 0.62 0.59 0.49 4.2 0.82  
## big\_2\_7 1126 0.51 0.58 0.54 0.44 4.6 0.64  
## big\_2\_12 1123 0.56 0.54 0.47 0.44 3.2 1.04  
## big\_2\_17 1128 0.38 0.33 0.22 0.19 3.8 1.34  
## big\_2\_22 1125 0.56 0.54 0.48 0.43 3.8 1.07  
## big\_2\_27 1127 0.62 0.62 0.58 0.50 3.9 1.04  
## big\_2\_32 1127 0.48 0.52 0.44 0.37 4.0 0.91  
## big\_2\_37 1126 0.63 0.61 0.57 0.50 3.4 1.13  
## big\_2\_42 1125 0.45 0.41 0.33 0.30 2.6 1.09  
## big\_2\_47 1127 0.65 0.62 0.58 0.53 3.7 1.15  
## big\_2\_52 1127 0.54 0.60 0.58 0.46 4.4 0.65  
## big\_2\_57 1129 0.65 0.64 0.60 0.53 3.5 1.11  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## big\_2\_2 0.01 0.03 0.11 0.42 0.43 0.01  
## big\_2\_7 0.00 0.01 0.03 0.33 0.62 0.01  
## big\_2\_12 0.03 0.28 0.27 0.32 0.09 0.01  
## big\_2\_17 0.10 0.11 0.10 0.28 0.41 0.00  
## big\_2\_22 0.02 0.14 0.18 0.38 0.29 0.01  
## big\_2\_27 0.02 0.11 0.14 0.41 0.32 0.01  
## big\_2\_32 0.02 0.04 0.14 0.50 0.30 0.01  
## big\_2\_37 0.03 0.25 0.21 0.34 0.18 0.01  
## big\_2\_42 0.13 0.42 0.21 0.19 0.05 0.01  
## big\_2\_47 0.02 0.19 0.16 0.34 0.29 0.01  
## big\_2\_52 0.00 0.01 0.05 0.42 0.52 0.01  
## big\_2\_57 0.04 0.19 0.19 0.38 0.20 0.00

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.89 0.89 0.9 0.4 8.1 0.0048 3.1 0.78 0.39  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.88 0.89 0.9  
## Duhachek 0.88 0.89 0.9  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## big\_2\_4 0.88 0.88 0.89 0.40 7.2 0.0053 0.0103 0.38  
## big\_2\_9 0.89 0.89 0.90 0.42 7.9 0.0049 0.0093 0.41  
## big\_2\_14 0.88 0.88 0.89 0.40 7.3 0.0053 0.0101 0.39  
## big\_2\_19 0.89 0.89 0.90 0.42 7.9 0.0049 0.0087 0.41  
## big\_2\_24 0.88 0.88 0.89 0.41 7.6 0.0051 0.0103 0.39  
## big\_2\_29 0.88 0.88 0.88 0.39 7.0 0.0054 0.0090 0.37  
## big\_2\_34 0.88 0.88 0.89 0.40 7.2 0.0053 0.0098 0.38  
## big\_2\_39 0.88 0.88 0.88 0.39 7.1 0.0053 0.0086 0.38  
## big\_2\_44 0.88 0.88 0.89 0.41 7.5 0.0051 0.0090 0.39  
## big\_2\_49 0.88 0.88 0.89 0.40 7.4 0.0051 0.0097 0.39  
## big\_2\_54 0.88 0.88 0.88 0.39 7.2 0.0053 0.0086 0.39  
## big\_2\_59 0.88 0.88 0.89 0.40 7.5 0.0051 0.0091 0.39  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## big\_2\_4 1130 0.71 0.71 0.68 0.64 3.0 1.2  
## big\_2\_9 1129 0.57 0.57 0.51 0.48 2.6 1.1  
## big\_2\_14 1128 0.71 0.70 0.67 0.63 3.1 1.2  
## big\_2\_19 1126 0.55 0.56 0.50 0.47 3.5 1.0  
## big\_2\_24 1130 0.64 0.63 0.58 0.55 2.6 1.2  
## big\_2\_29 1126 0.76 0.76 0.74 0.70 2.8 1.2  
## big\_2\_34 1129 0.71 0.71 0.68 0.64 3.8 1.2  
## big\_2\_39 1128 0.73 0.73 0.72 0.67 3.0 1.2  
## big\_2\_44 1126 0.64 0.64 0.61 0.57 2.5 1.1  
## big\_2\_49 1127 0.67 0.67 0.63 0.59 3.8 1.2  
## big\_2\_54 1128 0.73 0.72 0.71 0.66 2.9 1.2  
## big\_2\_59 1131 0.66 0.65 0.62 0.57 2.9 1.2  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## big\_2\_4 0.10 0.29 0.23 0.27 0.11 0.00  
## big\_2\_9 0.14 0.41 0.23 0.19 0.03 0.00  
## big\_2\_14 0.11 0.25 0.19 0.34 0.11 0.00  
## big\_2\_19 0.04 0.16 0.18 0.49 0.13 0.01  
## big\_2\_24 0.17 0.38 0.19 0.18 0.08 0.00  
## big\_2\_29 0.14 0.32 0.21 0.26 0.08 0.01  
## big\_2\_34 0.05 0.13 0.13 0.37 0.32 0.00  
## big\_2\_39 0.10 0.28 0.22 0.30 0.10 0.00  
## big\_2\_44 0.17 0.41 0.22 0.16 0.03 0.01  
## big\_2\_49 0.04 0.12 0.13 0.36 0.34 0.01  
## big\_2\_54 0.15 0.26 0.21 0.28 0.10 0.00  
## big\_2\_59 0.13 0.28 0.21 0.28 0.10 0.00

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.83 0.83 0.84 0.29 4.9 0.0075 3.8 0.62 0.28  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.81 0.83 0.84  
## Duhachek 0.81 0.83 0.84  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## big\_2\_5 0.81 0.82 0.82 0.29 4.5 0.0082 0.0086 0.28  
## big\_2\_10 0.81 0.82 0.82 0.29 4.4 0.0082 0.0097 0.28  
## big\_2\_15 0.82 0.83 0.83 0.30 4.8 0.0077 0.0076 0.28  
## big\_2\_20 0.81 0.81 0.82 0.28 4.3 0.0085 0.0072 0.28  
## big\_2\_25 0.82 0.82 0.83 0.29 4.6 0.0080 0.0094 0.28  
## big\_2\_30 0.81 0.81 0.82 0.28 4.3 0.0084 0.0087 0.28  
## big\_2\_35 0.81 0.81 0.82 0.28 4.3 0.0084 0.0079 0.27  
## big\_2\_40 0.82 0.82 0.83 0.29 4.6 0.0079 0.0093 0.28  
## big\_2\_45 0.82 0.82 0.83 0.30 4.7 0.0079 0.0096 0.29  
## big\_2\_50 0.82 0.82 0.83 0.30 4.7 0.0079 0.0079 0.28  
## big\_2\_55 0.81 0.82 0.83 0.29 4.5 0.0081 0.0098 0.28  
## big\_2\_60 0.82 0.82 0.83 0.29 4.5 0.0081 0.0092 0.28  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## big\_2\_5 1128 0.63 0.61 0.56 0.51 3.5 1.22  
## big\_2\_10 1123 0.60 0.63 0.58 0.52 4.2 0.80  
## big\_2\_15 1125 0.47 0.50 0.43 0.36 3.7 0.92  
## big\_2\_20 1125 0.68 0.66 0.64 0.58 3.9 1.12  
## big\_2\_25 1128 0.57 0.56 0.50 0.45 3.9 1.10  
## big\_2\_30 1128 0.67 0.66 0.63 0.57 3.7 1.11  
## big\_2\_35 1128 0.66 0.67 0.64 0.58 4.1 0.95  
## big\_2\_40 1129 0.54 0.56 0.50 0.44 4.0 0.96  
## big\_2\_45 1127 0.53 0.53 0.46 0.42 3.9 1.06  
## big\_2\_50 1129 0.58 0.54 0.48 0.44 3.3 1.30  
## big\_2\_55 1127 0.59 0.59 0.53 0.49 3.7 1.03  
## big\_2\_60 1128 0.57 0.59 0.54 0.48 3.6 0.91  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## big\_2\_5 0.05 0.22 0.17 0.32 0.24 0.00  
## big\_2\_10 0.00 0.03 0.11 0.43 0.42 0.01  
## big\_2\_15 0.02 0.11 0.22 0.50 0.15 0.01  
## big\_2\_20 0.04 0.10 0.16 0.33 0.38 0.01  
## big\_2\_25 0.03 0.10 0.16 0.36 0.35 0.00  
## big\_2\_30 0.03 0.15 0.16 0.38 0.28 0.00  
## big\_2\_35 0.02 0.06 0.14 0.40 0.38 0.00  
## big\_2\_40 0.01 0.07 0.17 0.39 0.35 0.00  
## big\_2\_45 0.02 0.11 0.15 0.39 0.33 0.01  
## big\_2\_50 0.10 0.22 0.17 0.30 0.21 0.00  
## big\_2\_55 0.03 0.10 0.22 0.41 0.24 0.01  
## big\_2\_60 0.01 0.13 0.26 0.47 0.13 0.00

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.62 0.63 0.59 0.25 1.7 0.018 3.5 0.71 0.24  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.59 0.62 0.66  
## Duhachek 0.59 0.62 0.66  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## big\_2\_61 0.52 0.53 0.46 0.22 1.1 0.023 0.0025 0.22  
## big\_2\_62 0.59 0.60 0.55 0.27 1.5 0.020 0.0161 0.25  
## big\_2\_63 0.53 0.53 0.46 0.22 1.1 0.023 0.0026 0.22  
## big\_2\_64 0.63 0.64 0.58 0.31 1.8 0.018 0.0098 0.27  
## big\_2\_65 0.56 0.57 0.53 0.25 1.3 0.021 0.0168 0.21  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## big\_2\_61 1124 0.71 0.70 0.61 0.46 3.7 1.2  
## big\_2\_62 1125 0.63 0.60 0.42 0.34 3.2 1.3  
## big\_2\_63 1128 0.68 0.70 0.62 0.47 4.3 1.0  
## big\_2\_64 1127 0.54 0.54 0.32 0.25 3.0 1.1  
## big\_2\_65 1128 0.62 0.64 0.49 0.39 3.5 1.0  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## big\_2\_61 0.04 0.19 0.14 0.31 0.32 0.01  
## big\_2\_62 0.08 0.27 0.21 0.24 0.21 0.01  
## big\_2\_63 0.01 0.08 0.09 0.22 0.61 0.00  
## big\_2\_64 0.09 0.26 0.31 0.24 0.10 0.01  
## big\_2\_65 0.03 0.18 0.23 0.43 0.13 0.00

## Clothing Interest

### Reverse-code

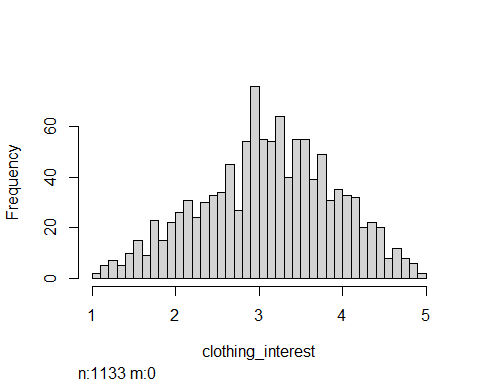
data\_R <- data\_R %>%  
 mutate(across(c(clothing\_interest\_3,  
 clothing\_interest\_5,  
 clothing\_interest\_7,  
 clothing\_interest\_9,  
 clothing\_interest\_12,  
 clothing\_interest\_14,  
 clothing\_interest\_15,  
 clothing\_interest\_16,  
 clothing\_interest\_18,  
 clothing\_interest\_20), ~6 - .)) # replace '#' with the max possible value plus 1 for any particular scale

### Average items

data\_R$clothing\_interest <- data\_R %>%  
 dplyr::select(clothing\_interest\_1:clothing\_interest\_20) %>%  
 rowMeans(na.rm = TRUE)

### Visually Inspect

data\_R %>%  
 dplyr::select(clothing\_interest) %>%  
 hist()



### Scale reliability

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.92 0.92 0.93 0.37 12 0.0034 3.1 0.8 0.35  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.91 0.92 0.93  
## Duhachek 0.91 0.92 0.93  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r  
## clothing\_interest\_1 0.91 0.91 0.92 0.36 11 0.0037 0.0086  
## clothing\_interest\_2 0.91 0.91 0.92 0.36 11 0.0036 0.0087  
## clothing\_interest\_3 0.92 0.92 0.93 0.37 11 0.0034 0.0095  
## clothing\_interest\_4 0.92 0.92 0.92 0.37 11 0.0035 0.0090  
## clothing\_interest\_5 0.92 0.92 0.92 0.36 11 0.0036 0.0097  
## clothing\_interest\_6 0.92 0.92 0.93 0.37 11 0.0035 0.0094  
## clothing\_interest\_7 0.92 0.92 0.93 0.38 11 0.0034 0.0092  
## clothing\_interest\_8 0.92 0.92 0.92 0.36 11 0.0036 0.0089  
## clothing\_interest\_9 0.92 0.92 0.93 0.37 11 0.0035 0.0095  
## clothing\_interest\_10 0.91 0.91 0.92 0.36 11 0.0036 0.0088  
## clothing\_interest\_11 0.92 0.92 0.92 0.37 11 0.0035 0.0096  
## clothing\_interest\_12 0.92 0.92 0.92 0.37 11 0.0035 0.0092  
## clothing\_interest\_13 0.92 0.92 0.93 0.37 11 0.0035 0.0094  
## clothing\_interest\_14 0.91 0.91 0.92 0.36 11 0.0036 0.0087  
## clothing\_interest\_15 0.92 0.92 0.93 0.38 12 0.0034 0.0086  
## clothing\_interest\_16 0.92 0.92 0.92 0.36 11 0.0036 0.0094  
## clothing\_interest\_17 0.92 0.92 0.93 0.37 11 0.0035 0.0091  
## clothing\_interest\_18 0.92 0.92 0.92 0.36 11 0.0036 0.0090  
## clothing\_interest\_19 0.92 0.92 0.93 0.38 11 0.0034 0.0090  
## clothing\_interest\_20 0.92 0.92 0.93 0.37 11 0.0035 0.0093  
## med.r  
## clothing\_interest\_1 0.35  
## clothing\_interest\_2 0.35  
## clothing\_interest\_3 0.36  
## clothing\_interest\_4 0.35  
## clothing\_interest\_5 0.35  
## clothing\_interest\_6 0.36  
## clothing\_interest\_7 0.36  
## clothing\_interest\_8 0.35  
## clothing\_interest\_9 0.36  
## clothing\_interest\_10 0.35  
## clothing\_interest\_11 0.36  
## clothing\_interest\_12 0.35  
## clothing\_interest\_13 0.36  
## clothing\_interest\_14 0.35  
## clothing\_interest\_15 0.37  
## clothing\_interest\_16 0.35  
## clothing\_interest\_17 0.36  
## clothing\_interest\_18 0.35  
## clothing\_interest\_19 0.36  
## clothing\_interest\_20 0.36  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## clothing\_interest\_1 1121 0.75 0.75 0.75 0.72 3.1 1.30  
## clothing\_interest\_2 1127 0.74 0.74 0.73 0.70 3.0 1.40  
## clothing\_interest\_3 1126 0.55 0.55 0.51 0.49 2.8 1.26  
## clothing\_interest\_4 1124 0.66 0.66 0.65 0.61 2.3 1.29  
## clothing\_interest\_5 1130 0.68 0.68 0.66 0.63 3.2 1.26  
## clothing\_interest\_6 1121 0.59 0.58 0.55 0.53 2.4 1.25  
## clothing\_interest\_7 1128 0.54 0.54 0.50 0.48 3.0 1.23  
## clothing\_interest\_8 1127 0.69 0.68 0.68 0.64 2.6 1.34  
## clothing\_interest\_9 1126 0.60 0.59 0.56 0.54 3.4 1.47  
## clothing\_interest\_10 1128 0.74 0.74 0.73 0.70 3.0 1.36  
## clothing\_interest\_11 1124 0.61 0.60 0.58 0.55 3.4 1.27  
## clothing\_interest\_12 1126 0.64 0.64 0.62 0.59 3.8 1.19  
## clothing\_interest\_13 1128 0.59 0.60 0.57 0.54 3.0 1.27  
## clothing\_interest\_14 1126 0.75 0.75 0.75 0.72 3.7 1.18  
## clothing\_interest\_15 1127 0.48 0.48 0.43 0.42 2.7 1.22  
## clothing\_interest\_16 1127 0.67 0.67 0.66 0.63 3.7 1.32  
## clothing\_interest\_17 1129 0.53 0.55 0.51 0.49 4.1 0.94  
## clothing\_interest\_18 1124 0.70 0.71 0.69 0.66 3.3 1.25  
## clothing\_interest\_19 1127 0.54 0.54 0.50 0.48 2.7 1.20  
## clothing\_interest\_20 1130 0.58 0.58 0.55 0.53 3.5 1.30  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 miss  
## clothing\_interest\_1 0.14 0.23 0.16 0.32 0.15 0.01  
## clothing\_interest\_2 0.20 0.21 0.13 0.29 0.17 0.01  
## clothing\_interest\_3 0.18 0.28 0.17 0.28 0.09 0.01  
## clothing\_interest\_4 0.37 0.27 0.14 0.16 0.07 0.01  
## clothing\_interest\_5 0.12 0.20 0.18 0.36 0.14 0.00  
## clothing\_interest\_6 0.30 0.28 0.17 0.19 0.06 0.01  
## clothing\_interest\_7 0.15 0.21 0.27 0.26 0.11 0.00  
## clothing\_interest\_8 0.28 0.26 0.14 0.23 0.09 0.01  
## clothing\_interest\_9 0.16 0.16 0.14 0.22 0.33 0.01  
## clothing\_interest\_10 0.19 0.23 0.15 0.29 0.14 0.00  
## clothing\_interest\_11 0.10 0.17 0.13 0.39 0.21 0.01  
## clothing\_interest\_12 0.05 0.14 0.12 0.35 0.34 0.01  
## clothing\_interest\_13 0.15 0.21 0.23 0.28 0.13 0.00  
## clothing\_interest\_14 0.04 0.15 0.15 0.33 0.32 0.01  
## clothing\_interest\_15 0.17 0.35 0.21 0.17 0.10 0.01  
## clothing\_interest\_16 0.09 0.14 0.10 0.30 0.38 0.01  
## clothing\_interest\_17 0.02 0.05 0.13 0.43 0.37 0.00  
## clothing\_interest\_18 0.08 0.25 0.15 0.34 0.18 0.01  
## clothing\_interest\_19 0.17 0.32 0.20 0.23 0.07 0.01  
## clothing\_interest\_20 0.10 0.18 0.10 0.37 0.24 0.00

## In-group Identification

### Reverse-code

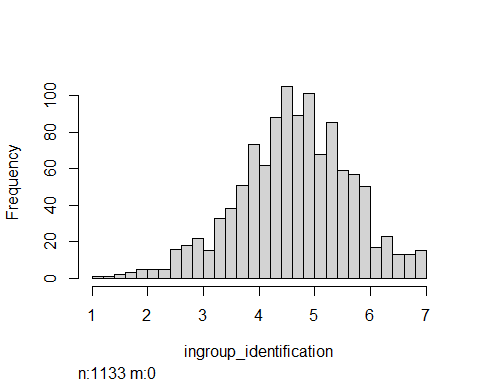
No items need to be reverse-coded.

### Average items

data\_R$ingroup\_identification <- data\_R %>%  
 dplyr::select(ingroup\_ident\_1:ingroup\_ident\_14) %>%  
 rowMeans(na.rm = TRUE)

### Visually Inspect

data\_R %>%  
 dplyr::select(ingroup\_identification) %>%  
 hist()



### Scale reliability

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.91 0.91 0.93 0.42 10 0.0041 4.6 1 0.45  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.9 0.91 0.91  
## Duhachek 0.9 0.91 0.91  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r  
## ingroup\_ident\_1 0.90 0.90 0.92 0.41 8.9 0.0046 0.025  
## ingroup\_ident\_2 0.90 0.90 0.92 0.41 8.9 0.0046 0.026  
## ingroup\_ident\_3 0.90 0.90 0.92 0.41 9.0 0.0045 0.026  
## ingroup\_ident\_4 0.90 0.90 0.92 0.41 9.1 0.0044 0.022  
## ingroup\_ident\_5 0.90 0.90 0.93 0.41 9.2 0.0044 0.025  
## ingroup\_ident\_6 0.90 0.90 0.92 0.41 9.0 0.0045 0.023  
## ingroup\_ident\_7 0.90 0.90 0.92 0.40 8.8 0.0046 0.021  
## ingroup\_ident\_8 0.91 0.91 0.93 0.43 9.9 0.0042 0.025  
## ingroup\_ident\_9 0.90 0.90 0.92 0.41 9.1 0.0045 0.024  
## ingroup\_ident\_10 0.90 0.90 0.92 0.41 9.1 0.0045 0.025  
## ingroup\_ident\_11 0.90 0.90 0.92 0.41 9.1 0.0045 0.026  
## ingroup\_ident\_12 0.90 0.90 0.92 0.42 9.4 0.0043 0.026  
## ingroup\_ident\_13 0.90 0.91 0.92 0.43 9.9 0.0042 0.024  
## ingroup\_ident\_14 0.91 0.91 0.93 0.45 10.6 0.0039 0.017  
## med.r  
## ingroup\_ident\_1 0.42  
## ingroup\_ident\_2 0.42  
## ingroup\_ident\_3 0.42  
## ingroup\_ident\_4 0.44  
## ingroup\_ident\_5 0.44  
## ingroup\_ident\_6 0.43  
## ingroup\_ident\_7 0.44  
## ingroup\_ident\_8 0.46  
## ingroup\_ident\_9 0.43  
## ingroup\_ident\_10 0.43  
## ingroup\_ident\_11 0.46  
## ingroup\_ident\_12 0.46  
## ingroup\_ident\_13 0.47  
## ingroup\_ident\_14 0.47  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## ingroup\_ident\_1 1130 0.75 0.75 0.73 0.70 4.6 1.6  
## ingroup\_ident\_2 1132 0.75 0.75 0.73 0.70 4.5 1.5  
## ingroup\_ident\_3 1128 0.73 0.73 0.70 0.68 4.3 1.5  
## ingroup\_ident\_4 1130 0.70 0.72 0.71 0.66 5.6 1.2  
## ingroup\_ident\_5 1131 0.69 0.70 0.67 0.63 5.3 1.3  
## ingroup\_ident\_6 1131 0.72 0.74 0.73 0.67 5.4 1.3  
## ingroup\_ident\_7 1128 0.77 0.78 0.78 0.72 5.2 1.3  
## ingroup\_ident\_8 1131 0.56 0.55 0.50 0.48 4.6 1.6  
## ingroup\_ident\_9 1129 0.73 0.72 0.70 0.66 4.3 1.7  
## ingroup\_ident\_10 1126 0.73 0.72 0.71 0.67 4.3 1.7  
## ingroup\_ident\_11 1132 0.72 0.72 0.70 0.66 4.2 1.6  
## ingroup\_ident\_12 1122 0.65 0.64 0.61 0.57 4.2 1.6  
## ingroup\_ident\_13 1130 0.55 0.55 0.52 0.48 4.4 1.4  
## ingroup\_ident\_14 1129 0.41 0.40 0.36 0.31 4.0 1.6  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## ingroup\_ident\_1 0.05 0.08 0.10 0.15 0.30 0.22 0.09 0.00  
## ingroup\_ident\_2 0.04 0.07 0.10 0.23 0.28 0.23 0.05 0.00  
## ingroup\_ident\_3 0.05 0.08 0.12 0.24 0.27 0.17 0.06 0.00  
## ingroup\_ident\_4 0.01 0.02 0.03 0.11 0.21 0.38 0.25 0.00  
## ingroup\_ident\_5 0.01 0.02 0.05 0.17 0.26 0.33 0.16 0.00  
## ingroup\_ident\_6 0.02 0.02 0.05 0.10 0.25 0.40 0.17 0.00  
## ingroup\_ident\_7 0.02 0.03 0.05 0.15 0.29 0.31 0.14 0.00  
## ingroup\_ident\_8 0.04 0.09 0.12 0.15 0.26 0.22 0.11 0.00  
## ingroup\_ident\_9 0.08 0.11 0.14 0.16 0.25 0.17 0.09 0.00  
## ingroup\_ident\_10 0.07 0.13 0.13 0.17 0.24 0.17 0.10 0.01  
## ingroup\_ident\_11 0.07 0.11 0.12 0.21 0.27 0.18 0.04 0.00  
## ingroup\_ident\_12 0.07 0.12 0.13 0.20 0.25 0.18 0.05 0.01  
## ingroup\_ident\_13 0.04 0.08 0.14 0.22 0.30 0.18 0.04 0.00  
## ingroup\_ident\_14 0.07 0.15 0.17 0.19 0.24 0.15 0.04 0.00

## Values

### Reverse-code

No items need to be reverse-coded.

### Recoding scale options

Recoding values:

* -3 = 1
* -2 = 2
* -1 = 3
* 0 = 4
* +1 = 5
* +2 = 6
* +3 = 7

table(data\_R$values\_1)

##   
## -3 -2 -1 0 1 2 3   
## 5 10 17 40 176 362 508

data\_R$values\_1\_rec <- dplyr::recode(data\_R$values\_1, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
  
table(data\_R$values\_1\_rec)

##   
## 1 2 3 4 5 6 7   
## 5 10 17 40 176 362 508

data\_R$values\_2\_rec <- dplyr::recode(data\_R$values\_2, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_3\_rec <- dplyr::recode(data\_R$values\_3, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_4\_rec <- dplyr::recode(data\_R$values\_4, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_5\_rec <- dplyr::recode(data\_R$values\_5, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_6\_rec <- dplyr::recode(data\_R$values\_6, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_7\_rec <- dplyr::recode(data\_R$values\_7, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_8\_rec <- dplyr::recode(data\_R$values\_8, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_9\_rec <- dplyr::recode(data\_R$values\_9, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_10\_rec <- dplyr::recode(data\_R$values\_10, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_11\_rec <- dplyr::recode(data\_R$values\_11, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_12\_rec <- dplyr::recode(data\_R$values\_12, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_13\_rec <- dplyr::recode(data\_R$values\_13, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_14\_rec <- dplyr::recode(data\_R$values\_14, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_15\_rec <- dplyr::recode(data\_R$values\_15, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
data\_R$values\_16\_rec <- dplyr::recode(data\_R$values\_16, `-3` = 1, `-2` = 2, `-1` = 3, `0` = 4, `1` = 5, `2` = 6, `3` = 7)  
  
table(data\_R$values\_16)

##   
## -3 -2 -1 0 1 2 3   
## 4 11 29 116 250 394 312

table(data\_R$values\_16\_rec)

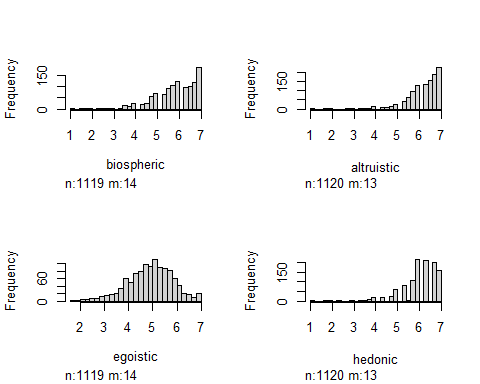
##   
## 1 2 3 4 5 6 7   
## 4 11 29 116 250 394 312

### Average items

data\_R$biospheric <- data\_R %>%  
 dplyr::select(values\_1\_rec:values\_4\_rec) %>%  
 rowMeans(na.rm = TRUE)  
  
data\_R$altruistic <- data\_R %>%  
 dplyr::select(values\_5\_rec:values\_8\_rec) %>%  
 rowMeans(na.rm = TRUE)  
  
data\_R$egoistic <- data\_R %>%  
 dplyr::select(values\_9\_rec:values\_13\_rec) %>%  
 rowMeans(na.rm = TRUE)  
  
data\_R$hedonic <- data\_R %>%  
 dplyr::select(values\_14\_rec:values\_16\_rec) %>%  
 rowMeans(na.rm = TRUE)

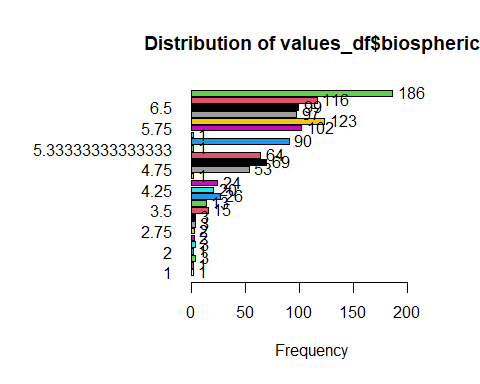
### Visually inspect

values\_df <- data\_R %>%  
 dplyr::select(biospheric, altruistic, egoistic, hedonic)  
  
values\_df %>%  
 hist()



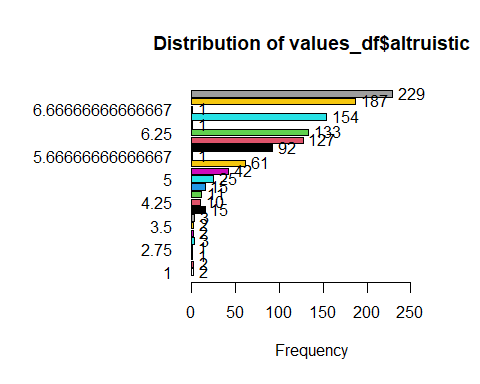
### Frequency tables

# Biospheric values  
tab1(values\_df$biospheric, sort.group = "descending", cum.percent = TRUE, missing = FALSE, horiz = TRUE)



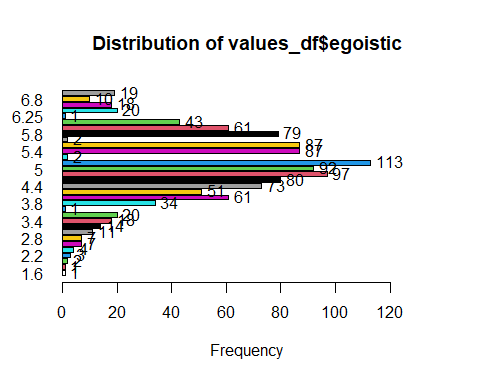
## values\_df$biospheric :   
## Frequency %(NA+) cum.%(NA+) %(NA-) cum.%(NA-)  
## 1 1 0.1 0.1 0.1 0.1  
## 1.5 1 0.1 0.2 0.1 0.2  
## 1.75 3 0.3 0.4 0.3 0.4  
## 2 1 0.1 0.5 0.1 0.5  
## 2.25 3 0.3 0.8 0.3 0.8  
## 2.5 2 0.2 1.0 0.2 1.0  
## 2.75 2 0.2 1.1 0.2 1.2  
## 3 3 0.3 1.4 0.3 1.4  
## 3.25 3 0.3 1.7 0.3 1.7  
## 3.5 15 1.3 3.0 1.3 3.0  
## 3.75 13 1.1 4.1 1.2 4.2  
## 4 26 2.3 6.4 2.3 6.5  
## 4.25 20 1.8 8.2 1.8 8.3  
## 4.5 24 2.1 10.3 2.1 10.5  
## 4.66666666666667 1 0.1 10.4 0.1 10.5  
## 4.75 53 4.7 15.1 4.7 15.3  
## 5 69 6.1 21.2 6.2 21.4  
## 5.25 64 5.6 26.8 5.7 27.2  
## 5.33333333333333 1 0.1 26.9 0.1 27.3  
## 5.5 90 7.9 34.9 8.0 35.3  
## 5.66666666666667 1 0.1 35.0 0.1 35.4  
## 5.75 102 9.0 44.0 9.1 44.5  
## 6 123 10.9 54.8 11.0 55.5  
## 6.25 97 8.6 63.4 8.7 64.2  
## 6.5 99 8.7 72.1 8.8 73.0  
## 6.75 116 10.2 82.3 10.4 83.4  
## 7 186 16.4 98.8 16.6 100.0  
## NaN 14 1.2 100.0 0.0 100.0  
## Total 1133 100.0 100.0 100.0 100.0

# Altruistic values  
tab1(values\_df$altruistic, sort.group = "descending", cum.percent = TRUE, missing = FALSE, horiz = TRUE)



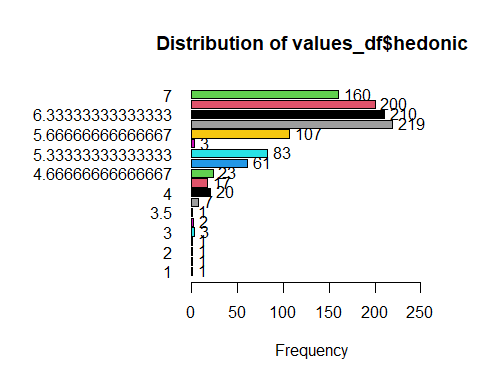
## values\_df$altruistic :   
## Frequency %(NA+) cum.%(NA+) %(NA-) cum.%(NA-)  
## 1 2 0.2 0.2 0.2 0.2  
## 1.75 2 0.2 0.4 0.2 0.4  
## 2 1 0.1 0.4 0.1 0.4  
## 2.75 1 0.1 0.5 0.1 0.5  
## 3 3 0.3 0.8 0.3 0.8  
## 3.25 2 0.2 1.0 0.2 1.0  
## 3.5 2 0.2 1.1 0.2 1.2  
## 3.75 3 0.3 1.4 0.3 1.4  
## 4 15 1.3 2.7 1.3 2.8  
## 4.25 10 0.9 3.6 0.9 3.7  
## 4.5 11 1.0 4.6 1.0 4.6  
## 4.75 15 1.3 5.9 1.3 6.0  
## 5 25 2.2 8.1 2.2 8.2  
## 5.25 42 3.7 11.8 3.8 12.0  
## 5.5 61 5.4 17.2 5.4 17.4  
## 5.66666666666667 1 0.1 17.3 0.1 17.5  
## 5.75 92 8.1 25.4 8.2 25.7  
## 6 127 11.2 36.6 11.3 37.1  
## 6.25 133 11.7 48.4 11.9 48.9  
## 6.33333333333333 1 0.1 48.5 0.1 49.0  
## 6.5 154 13.6 62.0 13.8 62.8  
## 6.66666666666667 1 0.1 62.1 0.1 62.9  
## 6.75 187 16.5 78.6 16.7 79.6  
## 7 229 20.2 98.9 20.4 100.0  
## NaN 13 1.1 100.0 0.0 100.0  
## Total 1133 100.0 100.0 100.0 100.0

# Egoistic values  
tab1(values\_df$egoistic, sort.group = "descending", cum.percent = TRUE, missing = FALSE, horiz = TRUE)



## values\_df$egoistic :   
## Frequency %(NA+) cum.%(NA+) %(NA-) cum.%(NA-)  
## 1.6 1 0.1 0.1 0.1 0.1  
## 1.8 1 0.1 0.2 0.1 0.2  
## 2 2 0.2 0.4 0.2 0.4  
## 2.2 3 0.3 0.6 0.3 0.6  
## 2.4 4 0.4 1.0 0.4 1.0  
## 2.6 7 0.6 1.6 0.6 1.6  
## 2.8 7 0.6 2.2 0.6 2.2  
## 3 11 1.0 3.2 1.0 3.2  
## 3.2 14 1.2 4.4 1.3 4.5  
## 3.4 18 1.6 6.0 1.6 6.1  
## 3.6 20 1.8 7.8 1.8 7.9  
## 3.75 1 0.1 7.9 0.1 8.0  
## 3.8 34 3.0 10.9 3.0 11.0  
## 4 61 5.4 16.2 5.5 16.4  
## 4.2 51 4.5 20.7 4.6 21.0  
## 4.4 73 6.4 27.2 6.5 27.5  
## 4.6 80 7.1 34.2 7.1 34.7  
## 4.8 97 8.6 42.8 8.7 43.3  
## 5 92 8.1 50.9 8.2 51.6  
## 5.2 113 10.0 60.9 10.1 61.7  
## 5.25 2 0.2 61.1 0.2 61.8  
## 5.4 87 7.7 68.8 7.8 69.6  
## 5.6 87 7.7 76.4 7.8 77.4  
## 5.75 2 0.2 76.6 0.2 77.6  
## 5.8 79 7.0 83.6 7.1 84.6  
## 6 61 5.4 89.0 5.5 90.1  
## 6.2 43 3.8 92.8 3.8 93.9  
## 6.25 1 0.1 92.9 0.1 94.0  
## 6.4 20 1.8 94.6 1.8 95.8  
## 6.6 18 1.6 96.2 1.6 97.4  
## 6.8 10 0.9 97.1 0.9 98.3  
## 7 19 1.7 98.8 1.7 100.0  
## NaN 14 1.2 100.0 0.0 100.0  
## Total 1133 100.0 100.0 100.0 100.0

# Hedonic values  
tab1(values\_df$hedonic, sort.group = "descending", cum.percent = TRUE, missing = FALSE, horiz = TRUE)



## values\_df$hedonic :   
## Frequency %(NA+) cum.%(NA+) %(NA-) cum.%(NA-)  
## 1 1 0.1 0.1 0.1 0.1  
## 1.66666666666667 1 0.1 0.2 0.1 0.2  
## 2 1 0.1 0.3 0.1 0.3  
## 2.33333333333333 1 0.1 0.4 0.1 0.4  
## 3 3 0.3 0.6 0.3 0.6  
## 3.33333333333333 2 0.2 0.8 0.2 0.8  
## 3.5 1 0.1 0.9 0.1 0.9  
## 3.66666666666667 7 0.6 1.5 0.6 1.5  
## 4 20 1.8 3.3 1.8 3.3  
## 4.33333333333333 17 1.5 4.8 1.5 4.8  
## 4.66666666666667 23 2.0 6.8 2.1 6.9  
## 5 61 5.4 12.2 5.4 12.3  
## 5.33333333333333 83 7.3 19.5 7.4 19.7  
## 5.5 3 0.3 19.8 0.3 20.0  
## 5.66666666666667 107 9.4 29.2 9.6 29.6  
## 6 219 19.3 48.5 19.6 49.1  
## 6.33333333333333 210 18.5 67.1 18.8 67.9  
## 6.66666666666667 200 17.7 84.7 17.9 85.7  
## 7 160 14.1 98.9 14.3 100.0  
## NaN 13 1.1 100.0 0.0 100.0  
## Total 1133 100.0 100.0 100.0 100.0

### Scale reliability

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.88 0.88 0.87 0.66 7.6 0.0061 5.9 1 0.66  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.87 0.88 0.89  
## Duhachek 0.87 0.88 0.89  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## values\_1\_rec 0.82 0.83 0.79 0.61 4.8 0.0096 0.0232 0.54  
## values\_2\_rec 0.90 0.91 0.87 0.76 9.6 0.0049 0.0015 0.78  
## values\_3\_rec 0.82 0.82 0.77 0.61 4.7 0.0097 0.0109 0.60  
## values\_4\_rec 0.83 0.84 0.80 0.64 5.4 0.0088 0.0149 0.60  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## values\_1\_rec 1118 0.89 0.90 0.86 0.81 6.1 1.1  
## values\_2\_rec 1117 0.79 0.77 0.63 0.60 5.5 1.3  
## values\_3\_rec 1117 0.90 0.90 0.88 0.81 6.0 1.1  
## values\_4\_rec 1117 0.87 0.88 0.83 0.76 5.8 1.2  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## values\_1\_rec 0.00 0.01 0.02 0.04 0.16 0.32 0.45 0.01  
## values\_2\_rec 0.01 0.02 0.04 0.14 0.24 0.29 0.26 0.01  
## values\_3\_rec 0.00 0.00 0.02 0.06 0.19 0.31 0.41 0.01  
## values\_4\_rec 0.01 0.01 0.03 0.09 0.21 0.34 0.31 0.01

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.78 0.79 0.75 0.48 3.7 0.01 6.2 0.8 0.46  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.76 0.78 0.8  
## Duhachek 0.76 0.78 0.8  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## values\_5\_rec 0.68 0.68 0.60 0.42 2.2 0.016 0.0050 0.42  
## values\_6\_rec 0.72 0.73 0.67 0.47 2.7 0.014 0.0223 0.43  
## values\_7\_rec 0.72 0.72 0.64 0.46 2.6 0.014 0.0047 0.43  
## values\_8\_rec 0.78 0.79 0.72 0.56 3.8 0.011 0.0057 0.54  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## values\_5\_rec 1118 0.83 0.84 0.78 0.70 6.4 0.92  
## values\_6\_rec 1118 0.79 0.78 0.67 0.60 6.1 1.09  
## values\_7\_rec 1116 0.82 0.79 0.71 0.61 6.0 1.20  
## values\_8\_rec 1117 0.68 0.70 0.53 0.47 6.3 0.90  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## values\_5\_rec 0.01 0.00 0.01 0.03 0.08 0.25 0.63 0.01  
## values\_6\_rec 0.01 0.00 0.02 0.06 0.13 0.30 0.48 0.01  
## values\_7\_rec 0.01 0.02 0.02 0.06 0.17 0.31 0.42 0.02  
## values\_8\_rec 0.00 0.00 0.01 0.03 0.11 0.36 0.50 0.01

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.72 0.72 0.68 0.34 2.5 0.013 5 0.92 0.35  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.69 0.72 0.74  
## Duhachek 0.69 0.72 0.74  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## values\_9\_rec 0.66 0.67 0.61 0.33 2.0 0.016 0.0021 0.33  
## values\_10\_rec 0.68 0.68 0.63 0.35 2.1 0.015 0.0070 0.37  
## values\_11\_rec 0.64 0.65 0.59 0.31 1.8 0.017 0.0042 0.32  
## values\_12\_rec 0.66 0.66 0.60 0.32 1.9 0.016 0.0057 0.32  
## values\_13\_rec 0.70 0.70 0.64 0.37 2.3 0.014 0.0029 0.37  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## values\_9\_rec 1110 0.71 0.69 0.58 0.49 4.6 1.4  
## values\_10\_rec 1116 0.66 0.67 0.53 0.45 5.3 1.3  
## values\_11\_rec 1115 0.74 0.73 0.64 0.54 4.4 1.4  
## values\_12\_rec 1118 0.72 0.71 0.60 0.51 4.7 1.4  
## values\_13\_rec 1117 0.59 0.63 0.48 0.40 5.9 1.1  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## values\_9\_rec 0.02 0.07 0.09 0.26 0.28 0.19 0.08 0.02  
## values\_10\_rec 0.01 0.03 0.05 0.13 0.30 0.30 0.18 0.02  
## values\_11\_rec 0.03 0.08 0.11 0.27 0.30 0.15 0.06 0.02  
## values\_12\_rec 0.02 0.06 0.10 0.21 0.29 0.20 0.12 0.01  
## values\_13\_rec 0.00 0.01 0.02 0.06 0.19 0.38 0.35 0.01

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.67 0.68 0.59 0.42 2.2 0.016 6.1 0.79 0.4  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.64 0.67 0.71  
## Duhachek 0.64 0.67 0.71  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## values\_14\_rec 0.54 0.57 0.40 0.40 1.3 0.025 NA 0.40  
## values\_15\_rec 0.63 0.63 0.46 0.46 1.7 0.022 NA 0.46  
## values\_16\_rec 0.54 0.57 0.39 0.39 1.3 0.025 NA 0.39  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## values\_14\_rec 1118 0.81 0.79 0.62 0.52 5.8 1.07  
## values\_15\_rec 1118 0.70 0.76 0.56 0.46 6.6 0.77  
## values\_16\_rec 1116 0.83 0.79 0.63 0.52 5.7 1.15  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## values\_14\_rec 0 0.01 0.02 0.07 0.21 0.41 0.28 0.01  
## values\_15\_rec 0 0.00 0.01 0.02 0.04 0.19 0.75 0.01  
## values\_16\_rec 0 0.01 0.03 0.10 0.22 0.35 0.28 0.02

## Socially Desirable Responding

### Reverse-code

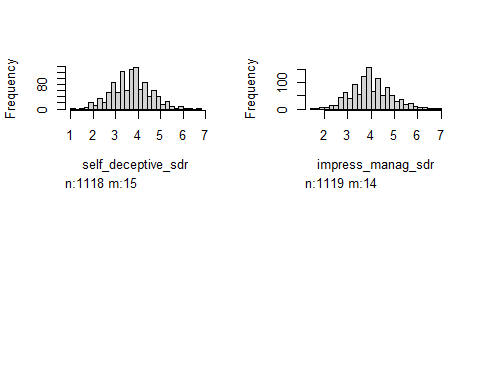
data\_R <- data\_R %>%  
 mutate(across(c(socially\_desirable\_1,  
 socially\_desirable\_3,  
 socially\_desirable\_5,  
 socially\_desirable\_8,  
 socially\_desirable\_9,  
 socially\_desirable\_11,  
 socially\_desirable\_12,  
 socially\_desirable\_13), ~8 - .)) # replace '#' with the max possible value plus 1 for any particular scale

### Average items

data\_R$self\_deceptive\_sdr <- data\_R %>%  
 dplyr::select(socially\_desirable\_1:socially\_desirable\_8) %>%  
 rowMeans(na.rm = TRUE)  
   
data\_R$impress\_manag\_sdr <- data\_R %>%  
 dplyr::select(socially\_desirable\_9:socially\_desirable\_16) %>%  
 rowMeans(na.rm = TRUE)

### Visually inspect

data\_R %>%  
 dplyr::select(self\_deceptive\_sdr, impress\_manag\_sdr) %>%  
 hist()



### Scale reliability

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.67 0.67 0.66 0.2 2 0.015 3.7 0.85 0.21  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.64 0.67 0.7  
## Duhachek 0.64 0.67 0.7  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r  
## socially\_desirable\_1 0.63 0.64 0.62 0.20 1.8 0.017 0.0066  
## socially\_desirable\_2 0.65 0.65 0.63 0.21 1.9 0.016 0.0055  
## socially\_desirable\_3 0.65 0.65 0.64 0.21 1.9 0.016 0.0064  
## socially\_desirable\_4 0.62 0.63 0.61 0.19 1.7 0.017 0.0076  
## socially\_desirable\_5 0.65 0.65 0.64 0.21 1.9 0.016 0.0066  
## socially\_desirable\_6 0.64 0.64 0.61 0.20 1.8 0.016 0.0051  
## socially\_desirable\_7 0.63 0.63 0.61 0.20 1.7 0.017 0.0049  
## socially\_desirable\_8 0.62 0.63 0.61 0.19 1.7 0.017 0.0069  
## med.r  
## socially\_desirable\_1 0.22  
## socially\_desirable\_2 0.22  
## socially\_desirable\_3 0.22  
## socially\_desirable\_4 0.18  
## socially\_desirable\_5 0.22  
## socially\_desirable\_6 0.22  
## socially\_desirable\_7 0.22  
## socially\_desirable\_8 0.21  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## socially\_desirable\_1 1116 0.56 0.56 0.45 0.38 3.2 1.5  
## socially\_desirable\_2 1116 0.50 0.52 0.40 0.31 4.1 1.5  
## socially\_desirable\_3 1114 0.52 0.50 0.37 0.31 3.4 1.7  
## socially\_desirable\_4 1116 0.59 0.60 0.50 0.41 3.0 1.5  
## socially\_desirable\_5 1113 0.52 0.50 0.37 0.31 3.6 1.7  
## socially\_desirable\_6 1113 0.53 0.56 0.47 0.36 4.4 1.4  
## socially\_desirable\_7 1116 0.56 0.58 0.50 0.39 4.7 1.4  
## socially\_desirable\_8 1108 0.61 0.59 0.50 0.42 3.4 1.7  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## socially\_desirable\_1 0.10 0.27 0.29 0.15 0.08 0.07 0.03 0.02  
## socially\_desirable\_2 0.02 0.13 0.22 0.20 0.24 0.14 0.05 0.02  
## socially\_desirable\_3 0.12 0.22 0.25 0.14 0.12 0.11 0.04 0.02  
## socially\_desirable\_4 0.18 0.27 0.25 0.14 0.10 0.05 0.02 0.02  
## socially\_desirable\_5 0.09 0.18 0.29 0.13 0.14 0.12 0.06 0.02  
## socially\_desirable\_6 0.03 0.07 0.17 0.24 0.26 0.19 0.05 0.02  
## socially\_desirable\_7 0.02 0.07 0.13 0.19 0.29 0.22 0.09 0.02  
## socially\_desirable\_8 0.13 0.20 0.26 0.16 0.08 0.11 0.06 0.02

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.65 0.65 0.63 0.19 1.8 0.016 4 0.85 0.19  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.61 0.65 0.68  
## Duhachek 0.61 0.65 0.68  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r  
## socially\_desirable\_9 0.60 0.60 0.58 0.17 1.5 0.018 0.0056  
## socially\_desirable\_10 0.63 0.64 0.62 0.20 1.7 0.017 0.0058  
## socially\_desirable\_11 0.63 0.63 0.60 0.19 1.7 0.017 0.0051  
## socially\_desirable\_12 0.62 0.62 0.60 0.19 1.7 0.017 0.0059  
## socially\_desirable\_13 0.60 0.60 0.58 0.18 1.5 0.018 0.0050  
## socially\_desirable\_14 0.60 0.61 0.58 0.18 1.5 0.018 0.0042  
## socially\_desirable\_15 0.63 0.63 0.61 0.20 1.7 0.017 0.0059  
## socially\_desirable\_16 0.60 0.60 0.57 0.18 1.5 0.018 0.0038  
## med.r  
## socially\_desirable\_9 0.17  
## socially\_desirable\_10 0.20  
## socially\_desirable\_11 0.19  
## socially\_desirable\_12 0.19  
## socially\_desirable\_13 0.17  
## socially\_desirable\_14 0.17  
## socially\_desirable\_15 0.19  
## socially\_desirable\_16 0.18  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## socially\_desirable\_9 1113 0.58 0.59 0.51 0.41 3.3 1.5  
## socially\_desirable\_10 1111 0.43 0.47 0.32 0.26 3.4 1.3  
## socially\_desirable\_11 1113 0.52 0.50 0.38 0.30 4.9 1.7  
## socially\_desirable\_12 1116 0.51 0.51 0.38 0.31 4.6 1.6  
## socially\_desirable\_13 1115 0.60 0.59 0.50 0.40 3.7 1.7  
## socially\_desirable\_14 1117 0.57 0.57 0.48 0.37 3.4 1.6  
## socially\_desirable\_15 1115 0.50 0.48 0.34 0.28 5.0 1.7  
## socially\_desirable\_16 1115 0.58 0.58 0.50 0.39 3.7 1.6  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## socially\_desirable\_9 0.07 0.23 0.35 0.17 0.09 0.07 0.04 0.02  
## socially\_desirable\_10 0.05 0.20 0.32 0.24 0.12 0.06 0.01 0.02  
## socially\_desirable\_11 0.02 0.07 0.18 0.15 0.14 0.23 0.21 0.02  
## socially\_desirable\_12 0.03 0.08 0.18 0.17 0.19 0.23 0.12 0.02  
## socially\_desirable\_13 0.06 0.19 0.32 0.12 0.11 0.12 0.07 0.02  
## socially\_desirable\_14 0.11 0.20 0.23 0.20 0.12 0.10 0.03 0.01  
## socially\_desirable\_15 0.03 0.07 0.13 0.11 0.15 0.29 0.22 0.02  
## socially\_desirable\_16 0.06 0.20 0.26 0.18 0.13 0.12 0.05 0.02

## Consumer Intentions

### Reverse-code

Higher scores mean better consumer intentions (intentions to *reduce* future consumption):

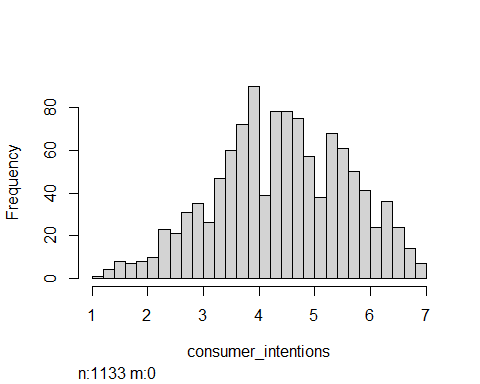
data\_R <- data\_R %>%  
 mutate(across(c(consumer\_intentions\_2,  
 consumer\_intentions\_4,  
 consumer\_intentions\_7,  
 consumer\_intentions\_9), ~8 - .)) # replace '#' with the max possible value plus 1 for any particular scale

### Average items

data\_R$consumer\_intentions <- data\_R %>%  
 dplyr::select(consumer\_intentions\_1:consumer\_intentions\_9) %>%  
 rowMeans(na.rm = TRUE)

### Visually inspect

data\_R %>%  
 dplyr::select(consumer\_intentions) %>%  
 hist()



### Scale reliability

##   
## Reliability analysis   
## Call: psych::alpha(x = .)  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.84 0.84 0.86 0.37 5.3 0.0069 4.4 1.2 0.37  
##   
## 95% confidence boundaries   
## lower alpha upper  
## Feldt 0.83 0.84 0.86  
## Duhachek 0.83 0.84 0.86  
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r  
## consumer\_intentions\_1 0.83 0.83 0.85 0.38 4.9 0.0074 0.027  
## consumer\_intentions\_2 0.82 0.82 0.84 0.36 4.6 0.0079 0.028  
## consumer\_intentions\_3 0.85 0.84 0.86 0.40 5.4 0.0068 0.025  
## consumer\_intentions\_4 0.85 0.85 0.87 0.42 5.8 0.0066 0.020  
## consumer\_intentions\_5 0.82 0.82 0.84 0.36 4.5 0.0079 0.032  
## consumer\_intentions\_6 0.82 0.82 0.84 0.36 4.5 0.0079 0.028  
## consumer\_intentions\_7 0.83 0.83 0.84 0.37 4.7 0.0077 0.026  
## consumer\_intentions\_8 0.81 0.81 0.82 0.34 4.1 0.0087 0.022  
## consumer\_intentions\_9 0.81 0.81 0.82 0.35 4.3 0.0084 0.023  
## med.r  
## consumer\_intentions\_1 0.37  
## consumer\_intentions\_2 0.37  
## consumer\_intentions\_3 0.41  
## consumer\_intentions\_4 0.41  
## consumer\_intentions\_5 0.36  
## consumer\_intentions\_6 0.37  
## consumer\_intentions\_7 0.37  
## consumer\_intentions\_8 0.36  
## consumer\_intentions\_9 0.36  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## consumer\_intentions\_1 1131 0.63 0.62 0.57 0.51 4.1 1.8  
## consumer\_intentions\_2 1125 0.71 0.71 0.67 0.61 4.2 1.8  
## consumer\_intentions\_3 1130 0.52 0.51 0.41 0.38 4.5 1.8  
## consumer\_intentions\_4 1131 0.44 0.45 0.34 0.30 3.9 1.7  
## consumer\_intentions\_5 1129 0.71 0.72 0.67 0.62 4.4 1.7  
## consumer\_intentions\_6 1128 0.71 0.71 0.68 0.61 4.8 1.7  
## consumer\_intentions\_7 1132 0.67 0.67 0.62 0.56 5.5 1.7  
## consumer\_intentions\_8 1130 0.82 0.81 0.81 0.74 4.0 1.9  
## consumer\_intentions\_9 1127 0.79 0.78 0.78 0.70 4.1 1.9  
##   
## Non missing response frequency for each item  
## 1 2 3 4 5 6 7 miss  
## consumer\_intentions\_1 0.06 0.16 0.19 0.13 0.18 0.17 0.10 0.00  
## consumer\_intentions\_2 0.07 0.14 0.19 0.11 0.18 0.19 0.11 0.01  
## consumer\_intentions\_3 0.05 0.13 0.14 0.10 0.22 0.23 0.14 0.00  
## consumer\_intentions\_4 0.07 0.19 0.15 0.20 0.17 0.14 0.07 0.00  
## consumer\_intentions\_5 0.04 0.11 0.13 0.18 0.23 0.20 0.10 0.00  
## consumer\_intentions\_6 0.06 0.07 0.08 0.15 0.22 0.25 0.17 0.00  
## consumer\_intentions\_7 0.03 0.06 0.07 0.10 0.12 0.23 0.39 0.00  
## consumer\_intentions\_8 0.09 0.19 0.16 0.12 0.15 0.15 0.13 0.00  
## consumer\_intentions\_9 0.09 0.16 0.18 0.12 0.15 0.16 0.14 0.01

### Reorder levels

Reorder the levels of norm condition:

data\_R %>%  
 group\_by(norm\_condition) %>%  
 summarize(M = mean(consumer\_intentions, na.rm = TRUE))

## # A tibble: 5 × 2  
## norm\_condition M  
## <fct> <dbl>  
## 1 control\_norm 4.46  
## 2 convention\_norm 4.55  
## 3 descriptive\_norm 4.42  
## 4 moral\_norm 4.34  
## 5 social\_norm 4.30

data\_R$norm\_condition <- ordered(data\_R$norm\_condition, levels = c("control\_norm", "descriptive\_norm", "convention\_norm", "social\_norm", "moral\_norm"))

# Descriptive Statistics

describe(data\_R)

## vars n mean sd median trimmed mad min  
## id\* 1 1041 535.72 306.67 539.00 536.32 392.89 1.00  
## big\_2\_1 2 1130 3.55 1.13 4.00 3.63 1.48 1.00  
## big\_2\_2 3 1127 4.24 0.82 4.00 4.36 1.48 1.00  
## big\_2\_3 4 1129 3.39 1.21 4.00 3.44 1.48 1.00  
## big\_2\_4 5 1130 3.02 1.18 3.00 3.01 1.48 1.00  
## big\_2\_5 6 1128 3.48 1.22 4.00 3.54 1.48 1.00  
## big\_2\_6 7 1125 3.08 1.15 3.00 3.09 1.48 1.00  
## big\_2\_7 8 1126 4.56 0.64 5.00 4.65 0.00 1.00  
## big\_2\_8 9 1128 3.01 1.10 3.00 2.96 1.48 1.00  
## big\_2\_9 10 1129 2.57 1.06 2.00 2.55 1.48 1.00  
## big\_2\_10 11 1123 4.24 0.80 4.00 4.35 1.48 1.00  
## big\_2\_11 12 1125 3.90 1.00 4.00 4.03 1.48 1.00  
## big\_2\_12 13 1123 3.15 1.04 3.00 3.12 1.48 1.00  
## big\_2\_13 14 1129 4.03 0.84 4.00 4.12 0.00 1.00  
## big\_2\_14 15 1128 3.10 1.21 3.00 3.13 1.48 1.00  
## big\_2\_15 16 1125 3.66 0.92 4.00 3.71 1.48 1.00  
## big\_2\_16 17 1128 2.79 1.20 3.00 2.76 1.48 1.00  
## big\_2\_17 18 1128 3.80 1.34 4.00 4.00 1.48 1.00  
## big\_2\_18 19 1129 3.80 0.99 4.00 3.90 1.48 1.00  
## big\_2\_19 20 1126 3.51 1.03 4.00 3.56 1.48 1.00  
## big\_2\_20 21 1125 3.92 1.12 4.00 4.07 1.48 1.00  
## big\_2\_21 22 1130 3.20 1.12 3.00 3.22 1.48 1.00  
## big\_2\_22 23 1125 3.77 1.07 4.00 3.86 1.48 1.00  
## big\_2\_23 24 1122 2.47 1.14 2.00 2.41 1.48 1.00  
## big\_2\_24 25 1130 2.61 1.19 2.00 2.54 1.48 1.00  
## big\_2\_25 26 1128 3.88 1.10 4.00 4.02 1.48 1.00  
## big\_2\_26 27 1129 3.51 1.19 4.00 3.58 1.48 1.00  
## big\_2\_27 28 1127 3.90 1.04 4.00 4.02 1.48 1.00  
## big\_2\_28 29 1128 3.05 1.11 3.00 2.99 1.48 1.00  
## big\_2\_29 30 1126 2.81 1.18 3.00 2.79 1.48 1.00  
## big\_2\_30 31 1128 3.72 1.11 4.00 3.81 1.48 1.00  
## big\_2\_31 32 1130 2.33 1.12 2.00 2.24 1.48 1.00  
## big\_2\_32 33 1127 4.01 0.91 4.00 4.12 1.48 1.00  
## big\_2\_33 34 1129 3.54 1.16 4.00 3.60 1.48 1.00  
## big\_2\_34 35 1129 3.79 1.16 4.00 3.92 1.48 1.00  
## big\_2\_35 36 1128 4.06 0.95 4.00 4.19 1.48 1.00  
## big\_2\_36 37 1127 3.35 1.02 3.00 3.36 1.48 1.00  
## big\_2\_37 38 1126 3.39 1.13 4.00 3.40 1.48 1.00  
## big\_2\_38 39 1127 3.88 0.95 4.00 4.00 1.48 1.00  
## big\_2\_39 40 1128 3.01 1.18 3.00 3.01 1.48 1.00  
## big\_2\_40 41 1129 4.01 0.96 4.00 4.13 1.48 1.00  
## big\_2\_41 42 1127 3.38 1.02 3.00 3.38 1.48 1.00  
## big\_2\_42 43 1125 2.61 1.09 2.00 2.57 1.48 1.00  
## big\_2\_43 44 1126 4.14 0.83 4.00 4.24 1.48 1.00  
## big\_2\_44 45 1126 2.48 1.06 2.00 2.44 1.48 1.00  
## big\_2\_45 46 1127 3.89 1.06 4.00 4.02 1.48 1.00  
## big\_2\_46 47 1127 3.54 1.11 4.00 3.60 1.48 1.00  
## big\_2\_47 48 1127 3.67 1.15 4.00 3.75 1.48 1.00  
## big\_2\_48 49 1130 4.03 1.03 4.00 4.18 1.48 1.00  
## big\_2\_49 50 1127 3.84 1.15 4.00 3.97 1.48 1.00  
## big\_2\_50 51 1129 3.29 1.30 4.00 3.36 1.48 1.00  
## big\_2\_51 52 1126 3.00 1.12 3.00 3.01 1.48 1.00  
## big\_2\_52 53 1127 4.45 0.65 5.00 4.52 0.00 1.00  
## big\_2\_53 54 1128 3.75 1.02 4.00 3.84 1.48 1.00  
## big\_2\_54 55 1128 2.94 1.24 3.00 2.92 1.48 1.00  
## big\_2\_55 56 1127 3.73 1.03 4.00 3.83 1.48 1.00  
## big\_2\_56 57 1129 3.64 1.01 4.00 3.70 1.48 1.00  
## big\_2\_57 58 1129 3.51 1.11 4.00 3.56 1.48 1.00  
## big\_2\_58 59 1131 2.77 1.10 2.00 2.69 1.48 1.00  
## big\_2\_59 60 1131 2.95 1.22 3.00 2.93 1.48 1.00  
## big\_2\_60 61 1128 3.58 0.91 4.00 3.62 1.48 1.00  
## big\_2\_61 62 1124 3.70 1.21 4.00 3.80 1.48 1.00  
## big\_2\_62 63 1125 3.23 1.26 3.00 3.26 1.48 1.00  
## big\_2\_63 64 1128 4.33 1.00 5.00 4.54 0.00 1.00  
## big\_2\_64 65 1127 2.99 1.12 3.00 2.98 1.48 1.00  
## big\_2\_65 66 1128 3.45 1.01 4.00 3.47 1.48 1.00  
## consumer\_intentions\_1 67 1131 4.15 1.78 4.00 4.13 1.48 1.00  
## consumer\_intentions\_2 68 1125 4.20 1.82 4.00 4.21 2.97 1.00  
## consumer\_intentions\_3 69 1130 4.53 1.79 5.00 4.61 1.48 1.00  
## consumer\_intentions\_4 70 1131 3.91 1.72 4.00 3.89 1.48 1.00  
## consumer\_intentions\_5 71 1129 4.44 1.66 5.00 4.48 1.48 1.00  
## consumer\_intentions\_6 72 1128 4.84 1.72 5.00 4.99 1.48 1.00  
## consumer\_intentions\_7 73 1132 5.47 1.72 6.00 5.74 1.48 1.00  
## consumer\_intentions\_8 74 1130 4.05 1.92 4.00 4.05 2.97 1.00  
## consumer\_intentions\_9 75 1127 4.12 1.91 4.00 4.13 2.97 1.00  
## consumer\_behaviors\* 76 1115 1.47 0.50 1.00 1.46 0.00 1.00  
## clothing\_interest\_1 77 1121 3.12 1.30 3.00 3.15 1.48 1.00  
## clothing\_interest\_2 78 1127 3.03 1.40 3.00 3.03 1.48 1.00  
## clothing\_interest\_3 79 1126 2.83 1.26 3.00 2.80 1.48 1.00  
## clothing\_interest\_4 80 1124 2.28 1.29 2.00 2.14 1.48 1.00  
## clothing\_interest\_5 81 1130 3.18 1.26 3.00 3.22 1.48 1.00  
## clothing\_interest\_6 82 1121 2.41 1.25 2.00 2.32 1.48 1.00  
## clothing\_interest\_7 83 1128 2.97 1.23 3.00 2.97 1.48 1.00  
## clothing\_interest\_8 84 1127 2.59 1.34 2.00 2.50 1.48 1.00  
## clothing\_interest\_9 85 1126 3.40 1.47 4.00 3.49 1.48 1.00  
## clothing\_interest\_10 86 1128 2.96 1.36 3.00 2.95 1.48 1.00  
## clothing\_interest\_11 87 1124 3.42 1.27 4.00 3.52 1.48 1.00  
## clothing\_interest\_12 88 1126 3.80 1.19 4.00 3.93 1.48 1.00  
## clothing\_interest\_13 89 1128 3.03 1.27 3.00 3.04 1.48 1.00  
## clothing\_interest\_14 90 1126 3.73 1.18 4.00 3.84 1.48 1.00  
## clothing\_interest\_15 91 1127 2.66 1.22 2.00 2.58 1.48 1.00  
## clothing\_interest\_16 92 1127 3.74 1.32 4.00 3.91 1.48 1.00  
## clothing\_interest\_17 93 1129 4.08 0.94 4.00 4.22 1.48 1.00  
## clothing\_interest\_18 94 1124 3.28 1.25 4.00 3.33 1.48 1.00  
## clothing\_interest\_19 95 1127 2.70 1.20 3.00 2.67 1.48 1.00  
## clothing\_interest\_20 96 1130 3.47 1.30 4.00 3.58 1.48 1.00  
## ingroup\_ident\_1 97 1130 4.62 1.58 5.00 4.72 1.48 1.00  
## ingroup\_ident\_2 98 1132 4.54 1.45 5.00 4.66 1.48 1.00  
## ingroup\_ident\_3 99 1128 4.33 1.53 4.00 4.41 1.48 1.00  
## ingroup\_ident\_4 100 1130 5.63 1.23 6.00 5.77 1.48 1.00  
## ingroup\_ident\_5 101 1131 5.26 1.29 5.00 5.37 1.48 1.00  
## ingroup\_ident\_6 102 1131 5.41 1.30 6.00 5.57 1.48 1.00  
## ingroup\_ident\_7 103 1128 5.18 1.33 5.00 5.31 1.48 1.00  
## ingroup\_ident\_8 104 1131 4.62 1.63 5.00 4.70 1.48 1.00  
## ingroup\_ident\_9 105 1129 4.27 1.71 5.00 4.32 1.48 1.00  
## ingroup\_ident\_10 106 1126 4.29 1.73 5.00 4.33 1.48 1.00  
## ingroup\_ident\_11 107 1132 4.20 1.58 4.00 4.28 1.48 1.00  
## ingroup\_ident\_12 108 1122 4.17 1.60 4.00 4.24 1.48 1.00  
## ingroup\_ident\_13 109 1130 4.37 1.44 5.00 4.46 1.48 1.00  
## ingroup\_ident\_14 110 1129 3.99 1.59 4.00 4.02 1.48 1.00  
## Age 111 1030 19.87 1.95 19.00 19.67 1.48 18.00  
## Gender\* 112 1133 1.46 0.64 1.00 1.38 0.00 1.00  
## Gender\_5\_TEXT\* 113 1126 1.02 0.28 1.00 1.00 0.00 1.00  
## Class\_Lvl 114 1133 2.13 1.20 2.00 2.00 1.48 1.00  
## Class\_Lvl\_7\_TEXT\* 115 1126 1.03 0.36 1.00 1.00 0.00 1.00  
## Income 116 1133 1.63 1.78 1.00 1.16 0.00 1.00  
## Employment 117 1133 2.62 1.34 3.00 2.59 1.48 1.00  
## Parents\_Education 118 1131 4.11 1.21 4.00 4.17 1.48 1.00  
## Pol\_Ornt 119 1133 2.89 1.74 2.00 2.65 1.48 1.00  
## Pol\_Ornt\_8\_TEXT\* 120 1126 1.41 2.69 1.00 1.00 0.00 1.00  
## Ethnicity 121 1133 5.41 1.50 6.00 5.63 0.00 1.00  
## Ethnicity\_8\_TEXT\* 122 1133 1.10 0.96 1.00 1.00 0.00 1.00  
## Birth\_US 123 1133 1.07 0.26 1.00 1.00 0.00 1.00  
## Birth\_Open\* 124 1132 2.18 5.03 1.00 1.00 0.00 1.00  
## Raised\_US 125 1131 1.04 0.20 1.00 1.00 0.00 1.00  
## Raised\_Open\* 126 1132 1.53 2.89 1.00 1.00 0.00 1.00  
## skepticism\* 127 1130 1.96 0.19 2.00 2.00 0.00 1.00  
## skept\_open\* 128 1126 1.81 4.64 1.00 1.00 0.00 1.00  
## framing\_condition\* 129 1133 2.00 0.82 2.00 2.00 1.48 1.00  
## norm\_condition\* 130 1133 2.98 1.42 3.00 2.98 1.48 1.00  
## source\* 131 1133 2.74 0.45 3.00 2.81 0.00 1.00  
## values\_1 132 1118 2.12 1.06 2.00 2.29 1.48 -3.00  
## values\_2 133 1117 1.52 1.28 2.00 1.64 1.48 -3.00  
## values\_3 134 1117 2.01 1.10 2.00 2.17 1.48 -3.00  
## values\_4 135 1117 1.76 1.20 2.00 1.91 1.48 -3.00  
## values\_5 136 1118 2.45 0.92 3.00 2.64 0.00 -3.00  
## values\_6 137 1118 2.14 1.09 2.00 2.33 1.48 -3.00  
## values\_7 138 1116 1.97 1.20 2.00 2.17 1.48 -3.00  
## values\_8 139 1117 2.29 0.90 2.00 2.43 1.48 -3.00  
## values\_9 140 1110 0.58 1.43 1.00 0.65 1.48 -3.00  
## values\_10 141 1116 1.30 1.31 1.00 1.43 1.48 -3.00  
## values\_11 142 1115 0.40 1.40 1.00 0.47 1.48 -3.00  
## values\_12 143 1118 0.75 1.45 1.00 0.81 1.48 -3.00  
## values\_13 144 1117 1.95 1.05 2.00 2.09 1.48 -3.00  
## values\_14 145 1118 1.82 1.07 2.00 1.97 1.48 -3.00  
## values\_15 146 1118 2.63 0.77 3.00 2.81 0.00 -3.00  
## values\_16 147 1116 1.71 1.15 2.00 1.84 1.48 -3.00  
## socially\_desirable\_1 148 1116 3.18 1.52 3.00 3.06 1.48 1.00  
## socially\_desirable\_2 149 1116 4.11 1.47 4.00 4.11 1.48 1.00  
## socially\_desirable\_3 150 1114 3.39 1.66 3.00 3.31 1.48 1.00  
## socially\_desirable\_4 151 1116 2.96 1.53 3.00 2.83 1.48 1.00  
## socially\_desirable\_5 152 1113 3.64 1.68 3.00 3.59 1.48 1.00  
## socially\_desirable\_6 153 1113 4.38 1.41 4.00 4.45 1.48 1.00  
## socially\_desirable\_7 154 1116 4.67 1.44 5.00 4.74 1.48 1.00  
## socially\_desirable\_8 155 1108 3.41 1.71 3.00 3.31 1.48 1.00  
## socially\_desirable\_9 156 1113 3.33 1.45 3.00 3.20 1.48 1.00  
## socially\_desirable\_10 157 1111 3.42 1.30 3.00 3.36 1.48 1.00  
## socially\_desirable\_11 158 1113 4.89 1.67 5.00 4.99 1.48 1.00  
## socially\_desirable\_12 159 1116 4.58 1.61 5.00 4.64 1.48 1.00  
## socially\_desirable\_13 160 1115 3.68 1.67 3.00 3.59 1.48 1.00  
## socially\_desirable\_14 161 1117 3.43 1.59 3.00 3.37 1.48 1.00  
## socially\_desirable\_15 162 1115 5.03 1.70 6.00 5.20 1.48 1.00  
## socially\_desirable\_16 163 1115 3.68 1.61 3.00 3.61 1.48 1.00  
## row 164 1133 573.19 331.33 571.00 572.81 424.02 1.00  
## extraversion 165 1131 3.27 0.68 3.33 3.29 0.74 1.25  
## conscientiousness 166 1131 3.49 0.63 3.50 3.49 0.62 1.58  
## agreeableness 167 1131 3.76 0.55 3.75 3.76 0.62 2.00  
## neuroticism 168 1131 3.05 0.78 3.08 3.06 0.74 1.00  
## openness 169 1131 3.79 0.62 3.83 3.79 0.74 1.42  
## honesty 170 1131 3.54 0.71 3.60 3.57 0.59 1.20  
## clothing\_interest 171 1133 3.13 0.80 3.15 3.15 0.82 1.00  
## ingroup\_identification 172 1133 4.64 1.01 4.64 4.66 0.95 1.00  
## values\_1\_rec 173 1118 6.12 1.06 6.00 6.29 1.48 1.00  
## values\_2\_rec 174 1117 5.52 1.28 6.00 5.64 1.48 1.00  
## values\_3\_rec 175 1117 6.01 1.10 6.00 6.17 1.48 1.00  
## values\_4\_rec 176 1117 5.76 1.20 6.00 5.91 1.48 1.00  
## values\_5\_rec 177 1118 6.45 0.92 7.00 6.64 0.00 1.00  
## values\_6\_rec 178 1118 6.14 1.09 6.00 6.33 1.48 1.00  
## values\_7\_rec 179 1116 5.97 1.20 6.00 6.17 1.48 1.00  
## values\_8\_rec 180 1117 6.29 0.90 6.00 6.43 1.48 1.00  
## values\_9\_rec 181 1110 4.58 1.43 5.00 4.65 1.48 1.00  
## values\_10\_rec 182 1116 5.30 1.31 5.00 5.43 1.48 1.00  
## values\_11\_rec 183 1115 4.40 1.40 5.00 4.47 1.48 1.00  
## values\_12\_rec 184 1118 4.75 1.45 5.00 4.81 1.48 1.00  
## values\_13\_rec 185 1117 5.95 1.05 6.00 6.09 1.48 1.00  
## values\_14\_rec 186 1118 5.82 1.07 6.00 5.97 1.48 1.00  
## values\_15\_rec 187 1118 6.63 0.77 7.00 6.81 0.00 1.00  
## values\_16\_rec 188 1116 5.71 1.15 6.00 5.84 1.48 1.00  
## biospheric 189 1119 5.85 1.00 6.00 5.97 1.11 1.00  
## altruistic 190 1120 6.21 0.80 6.50 6.33 0.74 1.00  
## egoistic 191 1119 5.00 0.92 5.00 5.03 0.89 1.60  
## hedonic 192 1120 6.05 0.79 6.33 6.15 0.49 1.00  
## self\_deceptive\_sdr 193 1118 3.72 0.85 3.75 3.71 0.74 1.00  
## impress\_manag\_sdr 194 1119 4.00 0.85 4.00 3.98 0.74 1.50  
## consumer\_intentions 195 1133 4.41 1.19 4.44 4.44 1.32 1.11  
## max range skew kurtosis se  
## id\* 1063.00 1062.00 -0.01 -1.20 9.50  
## big\_2\_1 5.00 4.00 -0.56 -0.54 0.03  
## big\_2\_2 5.00 4.00 -1.06 1.09 0.02  
## big\_2\_3 5.00 4.00 -0.30 -1.00 0.04  
## big\_2\_4 5.00 4.00 0.03 -0.99 0.04  
## big\_2\_5 5.00 4.00 -0.35 -1.03 0.04  
## big\_2\_6 5.00 4.00 -0.11 -0.94 0.03  
## big\_2\_7 5.00 4.00 -1.59 3.40 0.02  
## big\_2\_8 5.00 4.00 0.16 -0.93 0.03  
## big\_2\_9 5.00 4.00 0.37 -0.67 0.03  
## big\_2\_10 5.00 4.00 -1.02 1.07 0.02  
## big\_2\_11 5.00 4.00 -0.82 0.07 0.03  
## big\_2\_12 5.00 4.00 0.00 -0.90 0.03  
## big\_2\_13 5.00 4.00 -0.88 0.85 0.03  
## big\_2\_14 5.00 4.00 -0.17 -1.06 0.04  
## big\_2\_15 5.00 4.00 -0.62 0.04 0.03  
## big\_2\_16 5.00 4.00 0.18 -1.04 0.04  
## big\_2\_17 5.00 4.00 -0.89 -0.49 0.04  
## big\_2\_18 5.00 4.00 -0.69 -0.05 0.03  
## big\_2\_19 5.00 4.00 -0.63 -0.33 0.03  
## big\_2\_20 5.00 4.00 -0.88 -0.06 0.03  
## big\_2\_21 5.00 4.00 -0.27 -0.74 0.03  
## big\_2\_22 5.00 4.00 -0.59 -0.56 0.03  
## big\_2\_23 5.00 4.00 0.51 -0.74 0.03  
## big\_2\_24 5.00 4.00 0.45 -0.78 0.04  
## big\_2\_25 5.00 4.00 -0.84 -0.09 0.03  
## big\_2\_26 5.00 4.00 -0.39 -0.93 0.04  
## big\_2\_27 5.00 4.00 -0.85 0.01 0.03  
## big\_2\_28 5.00 4.00 0.17 -1.10 0.03  
## big\_2\_29 5.00 4.00 0.13 -1.02 0.04  
## big\_2\_30 5.00 4.00 -0.60 -0.57 0.03  
## big\_2\_31 5.00 4.00 0.70 -0.36 0.03  
## big\_2\_32 5.00 4.00 -1.13 1.55 0.03  
## big\_2\_33 5.00 4.00 -0.44 -0.83 0.03  
## big\_2\_34 5.00 4.00 -0.81 -0.28 0.03  
## big\_2\_35 5.00 4.00 -1.00 0.64 0.03  
## big\_2\_36 5.00 4.00 -0.33 -0.56 0.03  
## big\_2\_37 5.00 4.00 -0.18 -1.04 0.03  
## big\_2\_38 5.00 4.00 -0.82 0.32 0.03  
## big\_2\_39 5.00 4.00 -0.03 -1.03 0.04  
## big\_2\_40 5.00 4.00 -0.84 0.22 0.03  
## big\_2\_41 5.00 4.00 -0.24 -0.70 0.03  
## big\_2\_42 5.00 4.00 0.45 -0.64 0.03  
## big\_2\_43 5.00 4.00 -1.00 1.22 0.02  
## big\_2\_44 5.00 4.00 0.47 -0.52 0.03  
## big\_2\_45 5.00 4.00 -0.82 -0.06 0.03  
## big\_2\_46 5.00 4.00 -0.46 -0.64 0.03  
## big\_2\_47 5.00 4.00 -0.46 -0.92 0.03  
## big\_2\_48 5.00 4.00 -0.95 0.16 0.03  
## big\_2\_49 5.00 4.00 -0.83 -0.24 0.03  
## big\_2\_50 5.00 4.00 -0.25 -1.14 0.04  
## big\_2\_51 5.00 4.00 -0.01 -0.91 0.03  
## big\_2\_52 5.00 4.00 -1.11 1.75 0.02  
## big\_2\_53 5.00 4.00 -0.63 -0.37 0.03  
## big\_2\_54 5.00 4.00 -0.02 -1.09 0.04  
## big\_2\_55 5.00 4.00 -0.65 -0.15 0.03  
## big\_2\_56 5.00 4.00 -0.53 -0.36 0.03  
## big\_2\_57 5.00 4.00 -0.41 -0.78 0.03  
## big\_2\_58 5.00 4.00 0.53 -0.73 0.03  
## big\_2\_59 5.00 4.00 0.00 -1.08 0.04  
## big\_2\_60 5.00 4.00 -0.48 -0.24 0.03  
## big\_2\_61 5.00 4.00 -0.56 -0.87 0.04  
## big\_2\_62 5.00 4.00 -0.04 -1.17 0.04  
## big\_2\_63 5.00 4.00 -1.46 1.19 0.03  
## big\_2\_64 5.00 4.00 0.04 -0.79 0.03  
## big\_2\_65 5.00 4.00 -0.41 -0.59 0.03  
## consumer\_intentions\_1 7.00 6.00 -0.03 -1.13 0.05  
## consumer\_intentions\_2 7.00 6.00 -0.10 -1.16 0.05  
## consumer\_intentions\_3 7.00 6.00 -0.36 -1.02 0.05  
## consumer\_intentions\_4 7.00 6.00 0.08 -1.02 0.05  
## consumer\_intentions\_5 7.00 6.00 -0.29 -0.82 0.05  
## consumer\_intentions\_6 7.00 6.00 -0.67 -0.43 0.05  
## consumer\_intentions\_7 7.00 6.00 -0.99 -0.10 0.05  
## consumer\_intentions\_8 7.00 6.00 0.04 -1.26 0.06  
## consumer\_intentions\_9 7.00 6.00 0.00 -1.23 0.06  
## consumer\_behaviors\* 2.00 1.00 0.13 -1.98 0.01  
## clothing\_interest\_1 5.00 4.00 -0.17 -1.18 0.04  
## clothing\_interest\_2 5.00 4.00 -0.11 -1.35 0.04  
## clothing\_interest\_3 5.00 4.00 0.06 -1.19 0.04  
## clothing\_interest\_4 5.00 4.00 0.66 -0.79 0.04  
## clothing\_interest\_5 5.00 4.00 -0.30 -1.04 0.04  
## clothing\_interest\_6 5.00 4.00 0.45 -0.97 0.04  
## clothing\_interest\_7 5.00 4.00 -0.08 -0.99 0.04  
## clothing\_interest\_8 5.00 4.00 0.30 -1.24 0.04  
## clothing\_interest\_9 5.00 4.00 -0.39 -1.29 0.04  
## clothing\_interest\_10 5.00 4.00 -0.05 -1.29 0.04  
## clothing\_interest\_11 5.00 4.00 -0.53 -0.87 0.04  
## clothing\_interest\_12 5.00 4.00 -0.80 -0.39 0.04  
## clothing\_interest\_13 5.00 4.00 -0.12 -1.08 0.04  
## clothing\_interest\_14 5.00 4.00 -0.64 -0.64 0.04  
## clothing\_interest\_15 5.00 4.00 0.41 -0.83 0.04  
## clothing\_interest\_16 5.00 4.00 -0.78 -0.65 0.04  
## clothing\_interest\_17 5.00 4.00 -1.17 1.34 0.03  
## clothing\_interest\_18 5.00 4.00 -0.24 -1.11 0.04  
## clothing\_interest\_19 5.00 4.00 0.22 -1.01 0.04  
## clothing\_interest\_20 5.00 4.00 -0.53 -0.95 0.04  
## ingroup\_ident\_1 7.00 6.00 -0.60 -0.36 0.05  
## ingroup\_ident\_2 7.00 6.00 -0.57 -0.17 0.04  
## ingroup\_ident\_3 7.00 6.00 -0.37 -0.42 0.05  
## ingroup\_ident\_4 7.00 6.00 -1.15 1.62 0.04  
## ingroup\_ident\_5 7.00 6.00 -0.80 0.59 0.04  
## ingroup\_ident\_6 7.00 6.00 -1.22 1.68 0.04  
## ingroup\_ident\_7 7.00 6.00 -0.85 0.71 0.04  
## ingroup\_ident\_8 7.00 6.00 -0.46 -0.65 0.05  
## ingroup\_ident\_9 7.00 6.00 -0.28 -0.86 0.05  
## ingroup\_ident\_10 7.00 6.00 -0.28 -0.89 0.05  
## ingroup\_ident\_11 7.00 6.00 -0.39 -0.67 0.05  
## ingroup\_ident\_12 7.00 6.00 -0.32 -0.77 0.05  
## ingroup\_ident\_13 7.00 6.00 -0.43 -0.36 0.04  
## ingroup\_ident\_14 7.00 6.00 -0.14 -0.88 0.05  
## Age 50.00 32.00 4.91 59.29 0.06  
## Gender\* 5.00 4.00 1.77 5.26 0.02  
## Gender\_5\_TEXT\* 7.00 6.00 16.94 303.99 0.01  
## Class\_Lvl 7.00 6.00 0.89 0.63 0.04  
## Class\_Lvl\_7\_TEXT\* 8.00 7.00 15.12 246.18 0.01  
## Income 11.00 10.00 3.90 15.67 0.05  
## Employment 6.00 5.00 0.09 -0.89 0.04  
## Parents\_Education 6.00 5.00 -0.59 -0.07 0.04  
## Pol\_Ornt 8.00 7.00 1.06 0.67 0.05  
## Pol\_Ornt\_8\_TEXT\* 28.00 27.00 7.15 53.03 0.08  
## Ethnicity 8.00 7.00 -1.30 0.65 0.04  
## Ethnicity\_8\_TEXT\* 15.00 14.00 10.88 125.19 0.03  
## Birth\_US 2.00 1.00 3.27 8.71 0.01  
## Birth\_Open\* 37.00 36.00 4.86 24.34 0.15  
## Raised\_US 2.00 1.00 4.59 19.07 0.01  
## Raised\_Open\* 27.00 26.00 6.24 40.97 0.09  
## skepticism\* 2.00 1.00 -4.82 21.28 0.01  
## skept\_open\* 42.00 41.00 6.30 40.78 0.14  
## framing\_condition\* 3.00 2.00 0.00 -1.50 0.02  
## norm\_condition\* 5.00 4.00 0.02 -1.30 0.04  
## source\* 3.00 2.00 -1.32 0.28 0.01  
## values\_1 3.00 6.00 -1.61 3.50 0.03  
## values\_2 3.00 6.00 -0.78 0.32 0.04  
## values\_3 3.00 6.00 -1.27 2.00 0.03  
## values\_4 3.00 6.00 -1.09 1.32 0.04  
## values\_5 3.00 6.00 -2.37 7.84 0.03  
## values\_6 3.00 6.00 -1.54 2.85 0.03  
## values\_7 3.00 6.00 -1.46 2.42 0.04  
## values\_8 3.00 6.00 -1.70 4.48 0.03  
## values\_9 3.00 6.00 -0.38 -0.23 0.04  
## values\_10 3.00 6.00 -0.88 0.83 0.04  
## values\_11 3.00 6.00 -0.38 -0.16 0.04  
## values\_12 3.00 6.00 -0.42 -0.28 0.04  
## values\_13 3.00 6.00 -1.19 1.82 0.03  
## values\_14 3.00 6.00 -1.17 2.04 0.03  
## values\_15 3.00 6.00 -3.02 12.40 0.02  
## values\_16 3.00 6.00 -0.92 0.89 0.03  
## socially\_desirable\_1 7.00 6.00 0.72 -0.10 0.05  
## socially\_desirable\_2 7.00 6.00 0.00 -0.77 0.04  
## socially\_desirable\_3 7.00 6.00 0.43 -0.74 0.05  
## socially\_desirable\_4 7.00 6.00 0.68 -0.19 0.05  
## socially\_desirable\_5 7.00 6.00 0.34 -0.83 0.05  
## socially\_desirable\_6 7.00 6.00 -0.27 -0.46 0.04  
## socially\_desirable\_7 7.00 6.00 -0.40 -0.46 0.04  
## socially\_desirable\_8 7.00 6.00 0.49 -0.66 0.05  
## socially\_desirable\_9 7.00 6.00 0.71 0.06 0.04  
## socially\_desirable\_10 7.00 6.00 0.40 -0.19 0.04  
## socially\_desirable\_11 7.00 6.00 -0.33 -1.05 0.05  
## socially\_desirable\_12 7.00 6.00 -0.24 -0.88 0.05  
## socially\_desirable\_13 7.00 6.00 0.47 -0.77 0.05  
## socially\_desirable\_14 7.00 6.00 0.34 -0.69 0.05  
## socially\_desirable\_15 7.00 6.00 -0.65 -0.63 0.05  
## socially\_desirable\_16 7.00 6.00 0.35 -0.74 0.05  
## row 1156.00 1155.00 0.01 -1.20 9.84  
## extraversion 5.00 3.75 -0.14 -0.47 0.02  
## conscientiousness 5.00 3.42 -0.04 -0.38 0.02  
## agreeableness 5.00 3.00 -0.16 -0.44 0.02  
## neuroticism 5.00 4.00 -0.12 -0.34 0.02  
## openness 5.00 3.58 -0.18 -0.43 0.02  
## honesty 5.00 3.80 -0.39 -0.10 0.02  
## clothing\_interest 5.00 4.00 -0.18 -0.46 0.02  
## ingroup\_identification 7.00 6.00 -0.27 0.17 0.03  
## values\_1\_rec 7.00 6.00 -1.61 3.50 0.03  
## values\_2\_rec 7.00 6.00 -0.78 0.32 0.04  
## values\_3\_rec 7.00 6.00 -1.27 2.00 0.03  
## values\_4\_rec 7.00 6.00 -1.09 1.32 0.04  
## values\_5\_rec 7.00 6.00 -2.37 7.84 0.03  
## values\_6\_rec 7.00 6.00 -1.54 2.85 0.03  
## values\_7\_rec 7.00 6.00 -1.46 2.42 0.04  
## values\_8\_rec 7.00 6.00 -1.70 4.48 0.03  
## values\_9\_rec 7.00 6.00 -0.38 -0.23 0.04  
## values\_10\_rec 7.00 6.00 -0.88 0.83 0.04  
## values\_11\_rec 7.00 6.00 -0.38 -0.16 0.04  
## values\_12\_rec 7.00 6.00 -0.42 -0.28 0.04  
## values\_13\_rec 7.00 6.00 -1.19 1.82 0.03  
## values\_14\_rec 7.00 6.00 -1.17 2.04 0.03  
## values\_15\_rec 7.00 6.00 -3.02 12.40 0.02  
## values\_16\_rec 7.00 6.00 -0.92 0.89 0.03  
## biospheric 7.00 6.00 -1.10 1.58 0.03  
## altruistic 7.00 6.00 -1.92 6.19 0.02  
## egoistic 7.00 5.40 -0.40 0.30 0.03  
## hedonic 7.00 6.00 -1.45 3.66 0.02  
## self\_deceptive\_sdr 6.62 5.62 0.14 0.14 0.03  
## impress\_manag\_sdr 7.00 5.50 0.25 0.16 0.03  
## consumer\_intentions 7.00 5.89 -0.16 -0.47 0.04

## Consumer Intentions

Descriptives for Consumer Intentions by Framing Condition

| framing\_condition | n | M\_ConsumerIntentions | SD\_ConsumerIntentions |
| --- | --- | --- | --- |
| control\_framing | 375 | 4.33 | 1.22 |
| pro\_env\_framing | 381 | 4.49 | 1.13 |
| self\_enh\_framing | 377 | 4.41 | 1.21 |

Descriptives for Consumer Intentions by Norm Condition

| norm\_condition | n | M\_ConsumerIntentions | SD\_ConsumerIntentions |
| --- | --- | --- | --- |
| control\_norm | 231 | 4.46 | 1.23 |
| descriptive\_norm | 227 | 4.42 | 1.13 |
| convention\_norm | 228 | 4.55 | 1.24 |
| social\_norm | 222 | 4.30 | 1.18 |
| moral\_norm | 225 | 4.34 | 1.16 |

Descriptives for Consumer Intentions by Framing X Norm Condition

| framing\_condition | norm\_condition | n | M\_ConsumerIntentions | SD\_ConsumerIntentions |
| --- | --- | --- | --- | --- |
| control\_framing | control\_norm | 79 | 4.52 | 1.31 |
| control\_framing | descriptive\_norm | 71 | 4.29 | 1.12 |
| control\_framing | convention\_norm | 66 | 4.42 | 1.31 |
| control\_framing | social\_norm | 91 | 4.27 | 1.26 |
| control\_framing | moral\_norm | 68 | 4.17 | 1.07 |
| pro\_env\_framing | control\_norm | 73 | 4.62 | 1.06 |
| pro\_env\_framing | descriptive\_norm | 76 | 4.40 | 1.14 |
| pro\_env\_framing | convention\_norm | 85 | 4.62 | 1.17 |
| pro\_env\_framing | social\_norm | 67 | 4.38 | 1.01 |
| pro\_env\_framing | moral\_norm | 80 | 4.41 | 1.23 |
| self\_enh\_framing | control\_norm | 79 | 4.26 | 1.28 |
| self\_enh\_framing | descriptive\_norm | 80 | 4.54 | 1.12 |
| self\_enh\_framing | convention\_norm | 77 | 4.58 | 1.25 |
| self\_enh\_framing | social\_norm | 64 | 4.24 | 1.23 |
| self\_enh\_framing | moral\_norm | 77 | 4.42 | 1.15 |

## Ingroup Identification

Descriptives for Ingroup Identification by Framing Condition

| framing\_condition | n | M\_IngroupIdentification | SD\_IngroupIdentification |
| --- | --- | --- | --- |
| control\_framing | 375 | 4.64 | 1.05 |
| pro\_env\_framing | 381 | 4.64 | 0.99 |
| self\_enh\_framing | 377 | 4.63 | 0.99 |

Descriptives for Ingroup Identification by Norm Condition

| norm\_condition | n | M\_IngroupIdentification | SD\_IngroupIdentification |
| --- | --- | --- | --- |
| control\_norm | 231 | 4.58 | 1.04 |
| descriptive\_norm | 227 | 4.74 | 0.98 |
| convention\_norm | 228 | 4.57 | 0.99 |
| social\_norm | 222 | 4.62 | 1.03 |
| moral\_norm | 225 | 4.67 | 1.02 |

Descriptives for Ingroup Identification by Framing X Norm Condition

| framing\_condition | norm\_condition | n | M\_IngroupIdentification | SD\_IngroupIdentification |
| --- | --- | --- | --- | --- |
| control\_framing | control\_norm | 79 | 4.57 | 1.10 |
| control\_framing | descriptive\_norm | 71 | 4.78 | 0.88 |
| control\_framing | convention\_norm | 66 | 4.62 | 1.08 |
| control\_framing | social\_norm | 91 | 4.51 | 1.05 |
| control\_framing | moral\_norm | 68 | 4.76 | 1.15 |
| pro\_env\_framing | control\_norm | 73 | 4.58 | 1.02 |
| pro\_env\_framing | descriptive\_norm | 76 | 4.71 | 1.00 |
| pro\_env\_framing | convention\_norm | 85 | 4.60 | 0.97 |
| pro\_env\_framing | social\_norm | 67 | 4.62 | 1.04 |
| pro\_env\_framing | moral\_norm | 80 | 4.67 | 0.96 |
| self\_enh\_framing | control\_norm | 79 | 4.60 | 1.02 |
| self\_enh\_framing | descriptive\_norm | 80 | 4.74 | 1.06 |
| self\_enh\_framing | convention\_norm | 77 | 4.50 | 0.93 |
| self\_enh\_framing | social\_norm | 64 | 4.78 | 0.98 |
| self\_enh\_framing | moral\_norm | 77 | 4.58 | 0.97 |

## Values

Descriptives for Values by Framing Condition

| framing\_condition | n | M\_Biospheric | SD\_Biospheric | M\_Altruistic | SD\_Altruistic | M\_Egoistic | SD\_Egoistic | M\_Hedonic | SD\_Hedonic |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| control\_framing | 375 | 5.83 | 1.02 | 6.18 | 0.87 | 4.97 | 0.91 | 6.07 | 0.79 |
| pro\_env\_framing | 381 | 5.83 | 1.02 | 6.23 | 0.76 | 5.02 | 0.93 | 6.07 | 0.75 |
| self\_enh\_framing | 377 | 5.89 | 0.94 | 6.22 | 0.78 | 5.00 | 0.92 | 6.02 | 0.85 |

Descriptives for Values by Norm Condition

| norm\_condition | n | M\_Biospheric | SD\_Biospheric | M\_Altruistic | SD\_Altruistic | M\_Egoistic | SD\_Egoistic | M\_Hedonic | SD\_Hedonic |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| control\_norm | 231 | 5.85 | 0.98 | 6.26 | 0.70 | 5.00 | 0.91 | 6.15 | 0.71 |
| descriptive\_norm | 227 | 5.85 | 0.99 | 6.20 | 0.82 | 5.02 | 0.82 | 6.03 | 0.75 |
| convention\_norm | 228 | 5.82 | 0.99 | 6.20 | 0.80 | 4.92 | 0.94 | 6.04 | 0.79 |
| social\_norm | 222 | 5.83 | 1.00 | 6.24 | 0.70 | 5.01 | 0.95 | 6.07 | 0.76 |
| moral\_norm | 225 | 5.91 | 1.01 | 6.14 | 0.98 | 5.03 | 0.97 | 5.97 | 0.94 |

Descriptives for Values by Framing X Norm Condition

| framing\_condition | norm\_condition | n | M\_Biospheric | SD\_Biospheric | M\_Altruistic | SD\_Altruistic | M\_Egoistic | SD\_Egoistic | M\_Hedonic | SD\_Hedonic |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| control\_framing | control\_norm | 79 | 5.87 | 0.96 | 6.27 | 0.78 | 4.86 | 0.93 | 6.07 | 0.84 |
| control\_framing | descriptive\_norm | 71 | 5.68 | 1.08 | 6.04 | 0.95 | 4.99 | 0.86 | 5.97 | 0.75 |
| control\_framing | convention\_norm | 66 | 5.64 | 1.18 | 6.10 | 0.96 | 4.94 | 0.97 | 6.17 | 0.68 |
| control\_framing | social\_norm | 91 | 5.95 | 0.91 | 6.31 | 0.65 | 4.95 | 0.94 | 6.10 | 0.75 |
| control\_framing | moral\_norm | 68 | 5.99 | 0.95 | 6.11 | 1.02 | 5.12 | 0.85 | 6.04 | 0.91 |
| pro\_env\_framing | control\_norm | 73 | 5.78 | 1.10 | 6.19 | 0.71 | 4.99 | 0.98 | 6.15 | 0.67 |
| pro\_env\_framing | descriptive\_norm | 76 | 5.92 | 0.98 | 6.34 | 0.74 | 5.11 | 0.87 | 6.05 | 0.75 |
| pro\_env\_framing | convention\_norm | 85 | 5.94 | 0.88 | 6.27 | 0.72 | 5.01 | 0.82 | 6.15 | 0.69 |
| pro\_env\_framing | social\_norm | 67 | 5.64 | 1.11 | 6.15 | 0.75 | 4.96 | 0.96 | 5.99 | 0.81 |
| pro\_env\_framing | moral\_norm | 80 | 5.85 | 1.04 | 6.19 | 0.87 | 5.01 | 1.03 | 6.01 | 0.81 |
| self\_enh\_framing | control\_norm | 79 | 5.91 | 0.89 | 6.33 | 0.59 | 5.14 | 0.82 | 6.25 | 0.60 |
| self\_enh\_framing | descriptive\_norm | 80 | 5.93 | 0.92 | 6.22 | 0.75 | 4.96 | 0.75 | 6.08 | 0.76 |
| self\_enh\_framing | convention\_norm | 77 | 5.84 | 0.93 | 6.21 | 0.71 | 4.81 | 1.04 | 5.81 | 0.92 |
| self\_enh\_framing | social\_norm | 64 | 5.85 | 0.96 | 6.25 | 0.70 | 5.13 | 0.95 | 6.11 | 0.72 |
| self\_enh\_framing | moral\_norm | 77 | 5.90 | 1.05 | 6.10 | 1.06 | 4.97 | 1.00 | 5.85 | 1.10 |

## Clothing Interest

Descriptives for Clothing Interest by Framing Condition

| framing\_condition | n | M\_ClothingInterest | SD\_ClothingInterest |
| --- | --- | --- | --- |
| control\_framing | 375 | 3.14 | 0.81 |
| pro\_env\_framing | 381 | 3.12 | 0.80 |
| self\_enh\_framing | 377 | 3.13 | 0.79 |

Descriptives for Clothing Interest by Norm Condition

| norm\_condition | n | M\_ClothingInterest | SD\_ClothingInterest |
| --- | --- | --- | --- |
| control\_norm | 231 | 3.15 | 0.83 |
| descriptive\_norm | 227 | 3.17 | 0.77 |
| convention\_norm | 228 | 2.99 | 0.78 |
| social\_norm | 222 | 3.12 | 0.86 |
| moral\_norm | 225 | 3.24 | 0.75 |

Descriptives for Clothing Interest by Framing X Norm Condition

| framing\_condition | norm\_condition | n | M\_ClothingInterest | SD\_ClothingInterest |
| --- | --- | --- | --- | --- |
| control\_framing | control\_norm | 79 | 2.99 | 0.85 |
| control\_framing | descriptive\_norm | 71 | 3.24 | 0.78 |
| control\_framing | convention\_norm | 66 | 3.02 | 0.93 |
| control\_framing | social\_norm | 91 | 3.16 | 0.78 |
| control\_framing | moral\_norm | 68 | 3.31 | 0.69 |
| pro\_env\_framing | control\_norm | 73 | 3.14 | 0.79 |
| pro\_env\_framing | descriptive\_norm | 76 | 3.13 | 0.82 |
| pro\_env\_framing | convention\_norm | 85 | 3.10 | 0.66 |
| pro\_env\_framing | social\_norm | 67 | 3.12 | 0.97 |
| pro\_env\_framing | moral\_norm | 80 | 3.13 | 0.80 |
| self\_enh\_framing | control\_norm | 79 | 3.30 | 0.81 |
| self\_enh\_framing | descriptive\_norm | 80 | 3.14 | 0.71 |
| self\_enh\_framing | convention\_norm | 77 | 2.85 | 0.77 |
| self\_enh\_framing | social\_norm | 64 | 3.05 | 0.87 |
| self\_enh\_framing | moral\_norm | 77 | 3.30 | 0.73 |

## Socially Desirable Responding

Descriptives for Self Deceptive Socially Desirable Responding by Framing Condition

| framing\_condition | n | M\_SDE\_SDR | SD\_SDE\_SDR |
| --- | --- | --- | --- |
| control\_framing | 375 | 3.69 | 0.83 |
| pro\_env\_framing | 381 | 3.79 | 0.84 |
| self\_enh\_framing | 377 | 3.67 | 0.89 |

Descriptives for Impression Management Socially Desirable Responding by Framing Condition

| framing\_condition | n | M\_IM\_SDR | SD\_IM\_SDR |
| --- | --- | --- | --- |
| control\_framing | 375 | 3.95 | 0.82 |
| pro\_env\_framing | 381 | 3.98 | 0.89 |
| self\_enh\_framing | 377 | 4.09 | 0.82 |

Descriptives for Self Deceptive Socially Desirable Responding by Norm Condition

| norm\_condition | n | M\_SDE\_SDR | SD\_SDE\_SDR |
| --- | --- | --- | --- |
| control\_norm | 231 | 3.68 | 0.79 |
| descriptive\_norm | 227 | 3.74 | 0.87 |
| convention\_norm | 228 | 3.73 | 0.86 |
| social\_norm | 222 | 3.65 | 0.88 |
| moral\_norm | 225 | 3.79 | 0.86 |

Descriptives for Impression Management Socially Desirable Responding by Norm Condition

| norm\_condition | n | M\_IM\_SDR | SD\_IM\_SDR |
| --- | --- | --- | --- |
| control\_norm | 231 | 3.96 | 0.83 |
| descriptive\_norm | 227 | 4.03 | 0.80 |
| convention\_norm | 228 | 4.05 | 0.82 |
| social\_norm | 222 | 3.94 | 0.88 |
| moral\_norm | 225 | 4.04 | 0.90 |

## Personality

Descriptives for Personality Traits by Framing Condition

| framing\_condition | n | M\_E | SD\_E | M\_C | SD\_C | M\_A | SD\_A | M\_N | SD\_N | M\_O | SD\_O | M\_H | SD\_H |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| control\_framing | 375 | 3.24 | 0.66 | 3.50 | 0.65 | 3.77 | 0.57 | 3.05 | 0.83 | 3.79 | 0.60 | 3.56 | 0.74 |
| pro\_env\_framing | 381 | 3.30 | 0.69 | 3.49 | 0.65 | 3.74 | 0.54 | 3.02 | 0.76 | 3.75 | 0.64 | 3.50 | 0.73 |
| self\_enh\_framing | 377 | 3.28 | 0.69 | 3.47 | 0.60 | 3.75 | 0.53 | 3.08 | 0.75 | 3.82 | 0.60 | 3.56 | 0.67 |

Descriptives for Personality Traits by Norm Condition

| norm\_condition | n | M\_E | SD\_E | M\_C | SD\_C | M\_A | SD\_A | M\_N | SD\_N | M\_O | SD\_O | M\_H | SD\_H |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| control\_norm | 231 | 3.27 | 0.72 | 3.41 | 0.60 | 3.74 | 0.54 | 3.08 | 0.75 | 3.76 | 0.61 | 3.51 | 0.72 |
| descriptive\_norm | 227 | 3.34 | 0.64 | 3.51 | 0.60 | 3.80 | 0.52 | 3.06 | 0.74 | 3.79 | 0.61 | 3.50 | 0.72 |
| convention\_norm | 228 | 3.28 | 0.68 | 3.53 | 0.63 | 3.76 | 0.52 | 3.04 | 0.77 | 3.76 | 0.65 | 3.62 | 0.68 |
| social\_norm | 222 | 3.20 | 0.69 | 3.48 | 0.66 | 3.73 | 0.56 | 3.07 | 0.81 | 3.81 | 0.57 | 3.53 | 0.75 |
| moral\_norm | 225 | 3.27 | 0.66 | 3.51 | 0.67 | 3.73 | 0.60 | 3.01 | 0.84 | 3.81 | 0.63 | 3.55 | 0.70 |

Descriptives for Personality Traits by Framing X Norm Condition

| framing\_condition | norm\_condition | n | M\_E | SD\_E | M\_C | SD\_C | M\_A | SD\_A | M\_N | SD\_N | M\_O | SD\_O | M\_H | SD\_H |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| control\_framing | control\_norm | 79 | 3.34 | 0.65 | 3.44 | 0.55 | 3.80 | 0.55 | 3.11 | 0.77 | 3.79 | 0.59 | 3.59 | 0.80 |
| control\_framing | descriptive\_norm | 71 | 3.35 | 0.62 | 3.48 | 0.65 | 3.76 | 0.54 | 3.06 | 0.77 | 3.84 | 0.60 | 3.54 | 0.57 |
| control\_framing | convention\_norm | 66 | 3.14 | 0.65 | 3.36 | 0.67 | 3.75 | 0.54 | 2.90 | 0.81 | 3.72 | 0.67 | 3.49 | 0.80 |
| control\_framing | social\_norm | 91 | 3.20 | 0.69 | 3.58 | 0.69 | 3.77 | 0.59 | 3.18 | 0.91 | 3.83 | 0.56 | 3.52 | 0.78 |
| control\_framing | moral\_norm | 68 | 3.14 | 0.63 | 3.62 | 0.68 | 3.77 | 0.63 | 2.93 | 0.84 | 3.77 | 0.58 | 3.65 | 0.69 |
| pro\_env\_framing | control\_norm | 73 | 3.21 | 0.73 | 3.33 | 0.64 | 3.68 | 0.56 | 3.04 | 0.78 | 3.72 | 0.59 | 3.38 | 0.72 |
| pro\_env\_framing | descriptive\_norm | 76 | 3.34 | 0.68 | 3.52 | 0.60 | 3.81 | 0.54 | 3.03 | 0.70 | 3.74 | 0.63 | 3.46 | 0.82 |
| pro\_env\_framing | convention\_norm | 85 | 3.40 | 0.65 | 3.63 | 0.61 | 3.77 | 0.50 | 3.06 | 0.72 | 3.71 | 0.67 | 3.66 | 0.65 |
| pro\_env\_framing | social\_norm | 67 | 3.19 | 0.67 | 3.45 | 0.67 | 3.71 | 0.52 | 2.95 | 0.72 | 3.79 | 0.59 | 3.44 | 0.69 |
| pro\_env\_framing | moral\_norm | 80 | 3.33 | 0.69 | 3.52 | 0.70 | 3.74 | 0.58 | 3.03 | 0.87 | 3.79 | 0.73 | 3.52 | 0.77 |
| self\_enh\_framing | control\_norm | 79 | 3.25 | 0.77 | 3.46 | 0.63 | 3.75 | 0.49 | 3.09 | 0.70 | 3.78 | 0.65 | 3.55 | 0.63 |
| self\_enh\_framing | descriptive\_norm | 80 | 3.33 | 0.63 | 3.52 | 0.57 | 3.84 | 0.48 | 3.09 | 0.76 | 3.81 | 0.61 | 3.49 | 0.76 |
| self\_enh\_framing | convention\_norm | 77 | 3.28 | 0.71 | 3.56 | 0.59 | 3.77 | 0.53 | 3.15 | 0.76 | 3.86 | 0.61 | 3.67 | 0.59 |
| self\_enh\_framing | social\_norm | 64 | 3.22 | 0.71 | 3.39 | 0.59 | 3.69 | 0.56 | 3.03 | 0.72 | 3.80 | 0.59 | 3.64 | 0.75 |
| self\_enh\_framing | moral\_norm | 77 | 3.33 | 0.64 | 3.41 | 0.62 | 3.70 | 0.60 | 3.05 | 0.82 | 3.88 | 0.58 | 3.49 | 0.63 |

## Consumer Behaviors

* consumer\_behaviors
  + 1 = I would like to enter into the raffle for a $50 gift card to spend on **new clothing items.**
  + 2 = I would like to enter into the raffle for a $50 gift card to spend on **secondhand clothing items.**

Label levels of consumer behaviors:

### Table of Proportions

## consumer\_behaviors  
## framing\_condition New Clothing Secondhand Clothing  
## control\_framing 0.1928251 0.1381166  
## pro\_env\_framing 0.1632287 0.1739910  
## self\_enh\_framing 0.1766816 0.1551570

## consumer\_behaviors  
## norm\_condition New Clothing Secondhand Clothing  
## control\_norm 0.11121076 0.09147982  
## descriptive\_norm 0.10852018 0.09417040  
## convention\_norm 0.10403587 0.09865471  
## social\_norm 0.10493274 0.09058296  
## moral\_norm 0.10403587 0.09237668

##   
## control\_norm descriptive\_norm convention\_norm social\_norm  
## control\_framing 0.06972639 0.06266549 0.05825243 0.08031774  
## pro\_env\_framing 0.06443071 0.06707855 0.07502207 0.05913504  
## self\_enh\_framing 0.06972639 0.07060900 0.06796117 0.05648720  
##   
## moral\_norm  
## control\_framing 0.06001765  
## pro\_env\_framing 0.07060900  
## self\_enh\_framing 0.06796117

### Marginals Tables

## consumer\_behaviors  
## framing\_condition New Clothing Secondhand Clothing  
## control\_framing 0.5826558 0.4173442  
## pro\_env\_framing 0.4840426 0.5159574  
## self\_enh\_framing 0.5324324 0.4675676

## consumer\_behaviors  
## norm\_condition New Clothing Secondhand Clothing  
## control\_norm 0.5486726 0.4513274  
## descriptive\_norm 0.5353982 0.4646018  
## convention\_norm 0.5132743 0.4867257  
## social\_norm 0.5366972 0.4633028  
## moral\_norm 0.5296804 0.4703196

##   
## control\_norm descriptive\_norm convention\_norm social\_norm  
## control\_framing 0.2106667 0.1893333 0.1760000 0.2426667  
## pro\_env\_framing 0.1916010 0.1994751 0.2230971 0.1758530  
## self\_enh\_framing 0.2095491 0.2122016 0.2042440 0.1697613  
##   
## moral\_norm  
## control\_framing 0.1813333  
## pro\_env\_framing 0.2099738  
## self\_enh\_framing 0.2042440

## Skepticism

* 1 = Yes
* 2 = No

Q: Is skepticism higher in one of the framing and/or norm conditions compared to the others?

Label levels of skepticism:

### Table of Proportions

## skepticism  
## framing\_condition Yes No  
## control\_framing 0.009734513 0.321238938  
## pro\_env\_framing 0.008849558 0.328318584  
## self\_enh\_framing 0.019469027 0.312389381

## skepticism  
## norm\_condition Yes No  
## control\_norm 0.007079646 0.196460177  
## descriptive\_norm 0.002654867 0.197345133  
## convention\_norm 0.007964602 0.193805310  
## social\_norm 0.012389381 0.184070796  
## moral\_norm 0.007964602 0.190265487

### Marginals Tables

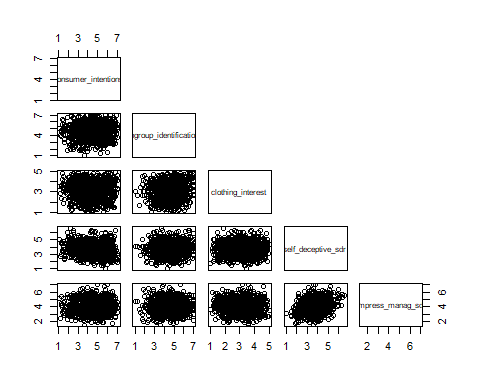
## skepticism  
## framing\_condition Yes No  
## control\_framing 0.02941176 0.97058824  
## pro\_env\_framing 0.02624672 0.97375328  
## self\_enh\_framing 0.05866667 0.94133333

## skepticism  
## norm\_condition Yes No  
## control\_norm 0.03478261 0.96521739  
## descriptive\_norm 0.01327434 0.98672566  
## convention\_norm 0.03947368 0.96052632  
## social\_norm 0.06306306 0.93693694  
## moral\_norm 0.04017857 0.95982143

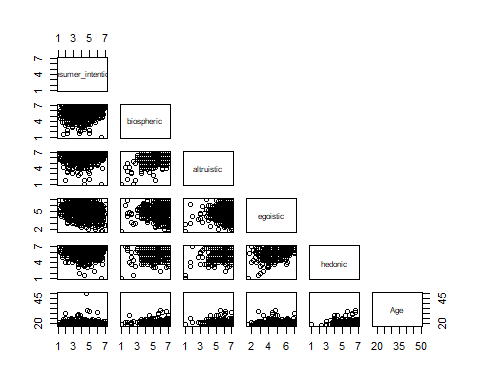
## Scatterplot Matrix

Correlations between consumer intentions & all other variables:

# Consumer intentions with ingroup identification, clothing interest, socially desirable, age  
data\_R %>%  
 dplyr::select(consumer\_intentions, ingroup\_identification, clothing\_interest, self\_deceptive\_sdr, impress\_manag\_sdr) %>%  
 pairs(upper.panel = NULL)



# Consumer intentions with values  
data\_R %>%  
 dplyr::select(consumer\_intentions, biospheric, altruistic, egoistic, hedonic, Age) %>%  
 pairs(upper.panel = NULL)



# Regression Analysis (DV = Consumer Intentions)

## Center Covariates

* Socially desirable responding
* Clothing interest
* Values
* Ingroup identification
* Age
* Gender
* Income (not sure how to handle inconsistencies in this variable was responded to)

## Contrast Coding

# Gender  
contrasts(data\_R$Gender) <- c(-1/2, 1/2)  
contrasts(data\_R$Gender)

## [,1]  
## Woman -0.5  
## Man 0.5

# Framing  
FrameCode1 <- c(-1/2, 0, 1/2) # control vs self-enhancing  
FrameCode2 <- c(-1/3, 2/3, -1/3) # arbitrary code  
  
contrasts(data\_R$framing\_condition) <- cbind(FrameCode1, FrameCode2)  
contrasts(data\_R$framing\_condition)

## FrameCode1 FrameCode2  
## control\_framing -0.5 -0.3333333  
## pro\_env\_framing 0.0 0.6666667  
## self\_enh\_framing 0.5 -0.3333333

# Norm  
contrasts(data\_R$norm\_condition) <- contr.helmert(5)  
contrasts(data\_R$norm\_condition) # control vs DN

## [,1] [,2] [,3] [,4]  
## control\_norm -1 -1 -1 -1  
## descriptive\_norm 1 -1 -1 -1  
## convention\_norm 0 2 -1 -1  
## social\_norm 0 0 3 -1  
## moral\_norm 0 0 0 4

# Skepticism  
contrasts(data\_R$skepticism) <- c(-1/2, 1/2)

## Running Model

full\_model\_1a <- lm(consumer\_intentions ~ framing\_condition\*norm\_condition\*biospheric\_center + framing\_condition\*norm\_condition\*altruistic\_center + framing\_condition\*norm\_condition\*egoistic\_center + framing\_condition\*norm\_condition\*hedonic\_center + framing\_condition\*norm\_condition\*ingroup\_identification\_center + self\_deceptive\_center + impress\_manag\_center + clothing\_interest\_center + Gender + Age\_center, data = data\_R)

## Model Output

Full Summary

* 156 observations deleted due to missingness
* n = 977
* number of parameters = 94
* F(93, 883) = 3.541, p < .001, adj\_R\_sq = .195

### ANOVA Summary

anova(full\_model\_1a) %>%  
 knitr::kable(digits = c(1, 2, 2, 2, 3))

|  | Df | Sum Sq | Mean Sq | F value | Pr(>F) |
| --- | --- | --- | --- | --- | --- |
| framing\_condition | 2 | 3.74 | 1.87 | 1.67 | 0.189 |
| norm\_condition | 4 | 7.27 | 1.82 | 1.62 | 0.167 |
| biospheric\_center | 1 | 114.09 | 114.09 | 101.85 | 0.000 |
| altruistic\_center | 1 | 0.03 | 0.03 | 0.03 | 0.860 |
| egoistic\_center | 1 | 112.31 | 112.31 | 100.27 | 0.000 |
| hedonic\_center | 1 | 2.09 | 2.09 | 1.87 | 0.172 |
| ingroup\_identification\_center | 1 | 5.92 | 5.92 | 5.28 | 0.022 |
| self\_deceptive\_center | 1 | 10.35 | 10.35 | 9.24 | 0.002 |
| impress\_manag\_center | 1 | 0.65 | 0.65 | 0.58 | 0.448 |
| clothing\_interest\_center | 1 | 0.38 | 0.38 | 0.34 | 0.559 |
| Gender | 1 | 3.71 | 3.71 | 3.32 | 0.069 |
| Age\_center | 1 | 6.37 | 6.37 | 5.69 | 0.017 |
| framing\_condition:norm\_condition | 8 | 4.68 | 0.58 | 0.52 | 0.840 |
| framing\_condition:biospheric\_center | 2 | 1.02 | 0.51 | 0.45 | 0.635 |
| norm\_condition:biospheric\_center | 4 | 8.29 | 2.07 | 1.85 | 0.117 |
| framing\_condition:altruistic\_center | 2 | 0.22 | 0.11 | 0.10 | 0.907 |
| norm\_condition:altruistic\_center | 4 | 3.52 | 0.88 | 0.79 | 0.534 |
| framing\_condition:egoistic\_center | 2 | 1.97 | 0.99 | 0.88 | 0.415 |
| norm\_condition:egoistic\_center | 4 | 0.88 | 0.22 | 0.20 | 0.940 |
| framing\_condition:hedonic\_center | 2 | 1.44 | 0.72 | 0.64 | 0.525 |
| norm\_condition:hedonic\_center | 4 | 11.27 | 2.82 | 2.51 | 0.040 |
| framing\_condition:ingroup\_identification\_center | 2 | 0.85 | 0.42 | 0.38 | 0.686 |
| norm\_condition:ingroup\_identification\_center | 4 | 0.65 | 0.16 | 0.15 | 0.965 |
| framing\_condition:norm\_condition:biospheric\_center | 8 | 12.21 | 1.53 | 1.36 | 0.209 |
| framing\_condition:norm\_condition:altruistic\_center | 8 | 16.76 | 2.09 | 1.87 | 0.061 |
| framing\_condition:norm\_condition:egoistic\_center | 8 | 18.96 | 2.37 | 2.12 | 0.032 |
| framing\_condition:norm\_condition:hedonic\_center | 8 | 7.28 | 0.91 | 0.81 | 0.592 |
| framing\_condition:norm\_condition:ingroup\_identification\_center | 8 | 13.30 | 1.66 | 1.48 | 0.159 |
| Residuals | 883 | 989.06 | 1.12 | NA | NA |

APA style table for regression summary

anova\_output <- anova(full\_model\_1a)  
  
apa\_table(anova\_output,  
 caption = "ANOVA Summary",  
 note = "DV = Consumer Intentions")

(#tab:unnamed-chunk-12)

*ANOVA Summary*

|  | Df | Sum Sq | Mean Sq | F value | Pr(>F) |
| --- | --- | --- | --- | --- | --- |
| framing\_condition | 2 | 3.74 | 1.87 | 1.67 | 0.19 |
| norm\_condition | 4 | 7.27 | 1.82 | 1.62 | 0.17 |
| biospheric\_center | 1 | 114.09 | 114.09 | 101.85 | 0.00 |
| altruistic\_center | 1 | 0.03 | 0.03 | 0.03 | 0.86 |
| egoistic\_center | 1 | 112.31 | 112.31 | 100.27 | 0.00 |
| hedonic\_center | 1 | 2.09 | 2.09 | 1.87 | 0.17 |
| ingroup\_identification\_center | 1 | 5.92 | 5.92 | 5.28 | 0.02 |
| self\_deceptive\_center | 1 | 10.35 | 10.35 | 9.24 | 0.00 |
| impress\_manag\_center | 1 | 0.65 | 0.65 | 0.58 | 0.45 |
| clothing\_interest\_center | 1 | 0.38 | 0.38 | 0.34 | 0.56 |
| Gender | 1 | 3.71 | 3.71 | 3.32 | 0.07 |
| Age\_center | 1 | 6.37 | 6.37 | 5.69 | 0.02 |
| framing\_condition:norm\_condition | 8 | 4.68 | 0.58 | 0.52 | 0.84 |
| framing\_condition:biospheric\_center | 2 | 1.02 | 0.51 | 0.45 | 0.63 |
| norm\_condition:biospheric\_center | 4 | 8.29 | 2.07 | 1.85 | 0.12 |
| framing\_condition:altruistic\_center | 2 | 0.22 | 0.11 | 0.10 | 0.91 |
| norm\_condition:altruistic\_center | 4 | 3.52 | 0.88 | 0.79 | 0.53 |
| framing\_condition:egoistic\_center | 2 | 1.97 | 0.99 | 0.88 | 0.41 |
| norm\_condition:egoistic\_center | 4 | 0.88 | 0.22 | 0.20 | 0.94 |
| framing\_condition:hedonic\_center | 2 | 1.44 | 0.72 | 0.64 | 0.52 |
| norm\_condition:hedonic\_center | 4 | 11.27 | 2.82 | 2.51 | 0.04 |
| framing\_condition:ingroup\_identification\_center | 2 | 0.85 | 0.42 | 0.38 | 0.69 |
| norm\_condition:ingroup\_identification\_center | 4 | 0.65 | 0.16 | 0.15 | 0.97 |
| framing\_condition:norm\_condition:biospheric\_center | 8 | 12.21 | 1.53 | 1.36 | 0.21 |
| framing\_condition:norm\_condition:altruistic\_center | 8 | 16.76 | 2.09 | 1.87 | 0.06 |
| framing\_condition:norm\_condition:egoistic\_center | 8 | 18.96 | 2.37 | 2.12 | 0.03 |
| framing\_condition:norm\_condition:hedonic\_center | 8 | 7.28 | 0.91 | 0.81 | 0.59 |
| framing\_condition:norm\_condition:ingroup\_identification\_center | 8 | 13.30 | 1.66 | 1.48 | 0.16 |
| Residuals | 883 | 989.06 | 1.12 | NA | NA |

*Note.* DV = Consumer Intentions

### Effect Sizes

#### Eta-Squared

etaSquared(full\_model\_1a) %>%   
 knitr::kable(digits = 3)

|  | eta.sq | eta.sq.part |
| --- | --- | --- |
| framing\_condition | 0.003 | 0.004 |
| norm\_condition | 0.004 | 0.005 |
| biospheric\_center | 0.048 | 0.062 |
| altruistic\_center | 0.003 | 0.004 |
| egoistic\_center | 0.048 | 0.062 |
| hedonic\_center | 0.002 | 0.003 |
| ingroup\_identification\_center | 0.001 | 0.001 |
| self\_deceptive\_center | 0.004 | 0.005 |
| impress\_manag\_center | 0.001 | 0.001 |
| clothing\_interest\_center | 0.000 | 0.000 |
| Gender | 0.001 | 0.001 |
| Age\_center | 0.005 | 0.007 |
| framing\_condition:norm\_condition | 0.003 | 0.004 |
| framing\_condition:biospheric\_center | 0.001 | 0.001 |
| norm\_condition:biospheric\_center | 0.005 | 0.007 |
| framing\_condition:altruistic\_center | 0.001 | 0.001 |
| norm\_condition:altruistic\_center | 0.007 | 0.009 |
| framing\_condition:egoistic\_center | 0.001 | 0.002 |
| norm\_condition:egoistic\_center | 0.001 | 0.001 |
| framing\_condition:hedonic\_center | 0.001 | 0.002 |
| norm\_condition:hedonic\_center | 0.008 | 0.010 |
| framing\_condition:ingroup\_identification\_center | 0.001 | 0.001 |
| norm\_condition:ingroup\_identification\_center | 0.001 | 0.001 |
| framing\_condition:norm\_condition:biospheric\_center | 0.013 | 0.018 |
| framing\_condition:norm\_condition:altruistic\_center | 0.011 | 0.015 |
| framing\_condition:norm\_condition:egoistic\_center | 0.014 | 0.019 |
| framing\_condition:norm\_condition:hedonic\_center | 0.005 | 0.007 |
| framing\_condition:norm\_condition:ingroup\_identification\_center | 0.010 | 0.013 |

### Regression Summary

regr\_summary$coefficients %>%  
 knitr::kable(digits = c(2,2,2,3))

|  | Estimate | Std. Error | t value | Pr(>|t|) |
| --- | --- | --- | --- | --- |
| (Intercept) | 4.38 | 0.04 | 119.95 | 0.000 |
| framing\_conditionFrameCode1 | 0.04 | 0.09 | 0.40 | 0.688 |
| framing\_conditionFrameCode2 | 0.12 | 0.07 | 1.63 | 0.104 |
| norm\_condition1 | 0.02 | 0.06 | 0.30 | 0.766 |
| norm\_condition2 | 0.02 | 0.03 | 0.75 | 0.455 |
| norm\_condition3 | -0.04 | 0.02 | -1.96 | 0.051 |
| norm\_condition4 | -0.02 | 0.02 | -0.96 | 0.337 |
| biospheric\_center | 0.35 | 0.05 | 7.12 | 0.000 |
| altruistic\_center | 0.12 | 0.07 | 1.79 | 0.073 |
| egoistic\_center | -0.35 | 0.05 | -7.34 | 0.000 |
| hedonic\_center | -0.09 | 0.06 | -1.62 | 0.106 |
| ingroup\_identification\_center | 0.03 | 0.04 | 0.88 | 0.380 |
| self\_deceptive\_center | -0.10 | 0.05 | -2.14 | 0.033 |
| impress\_manag\_center | -0.05 | 0.05 | -1.03 | 0.305 |
| clothing\_interest\_center | 0.01 | 0.05 | 0.15 | 0.880 |
| Gender1 | -0.09 | 0.08 | -1.06 | 0.288 |
| Age\_center | -0.05 | 0.02 | -2.42 | 0.016 |
| framing\_conditionFrameCode1:norm\_condition1 | 0.16 | 0.14 | 1.20 | 0.231 |
| framing\_conditionFrameCode2:norm\_condition1 | -0.12 | 0.12 | -1.02 | 0.306 |
| framing\_conditionFrameCode1:norm\_condition2 | 0.00 | 0.08 | 0.00 | 0.998 |
| framing\_conditionFrameCode2:norm\_condition2 | -0.06 | 0.07 | -0.89 | 0.376 |
| framing\_conditionFrameCode1:norm\_condition3 | 0.03 | 0.06 | 0.49 | 0.625 |
| framing\_conditionFrameCode2:norm\_condition3 | 0.04 | 0.05 | 0.76 | 0.450 |
| framing\_conditionFrameCode1:norm\_condition4 | 0.03 | 0.05 | 0.59 | 0.558 |
| framing\_conditionFrameCode2:norm\_condition4 | 0.00 | 0.04 | -0.09 | 0.928 |
| framing\_conditionFrameCode1:biospheric\_center | -0.03 | 0.13 | -0.21 | 0.831 |
| framing\_conditionFrameCode2:biospheric\_center | 0.08 | 0.10 | 0.77 | 0.443 |
| norm\_condition1:biospheric\_center | -0.07 | 0.07 | -0.94 | 0.346 |
| norm\_condition2:biospheric\_center | 0.06 | 0.04 | 1.29 | 0.197 |
| norm\_condition3:biospheric\_center | -0.04 | 0.03 | -1.13 | 0.258 |
| norm\_condition4:biospheric\_center | -0.05 | 0.03 | -1.89 | 0.060 |
| framing\_conditionFrameCode1:altruistic\_center | -0.01 | 0.17 | -0.07 | 0.947 |
| framing\_conditionFrameCode2:altruistic\_center | -0.12 | 0.13 | -0.88 | 0.378 |
| norm\_condition1:altruistic\_center | -0.17 | 0.10 | -1.67 | 0.096 |
| norm\_condition2:altruistic\_center | -0.03 | 0.06 | -0.56 | 0.576 |
| norm\_condition3:altruistic\_center | 0.02 | 0.04 | 0.50 | 0.614 |
| norm\_condition4:altruistic\_center | 0.07 | 0.03 | 2.30 | 0.022 |
| framing\_conditionFrameCode1:egoistic\_center | 0.05 | 0.12 | 0.43 | 0.670 |
| framing\_conditionFrameCode2:egoistic\_center | 0.10 | 0.09 | 1.11 | 0.266 |
| norm\_condition1:egoistic\_center | 0.01 | 0.08 | 0.16 | 0.873 |
| norm\_condition2:egoistic\_center | -0.01 | 0.04 | -0.13 | 0.900 |
| norm\_condition3:egoistic\_center | 0.02 | 0.03 | 0.56 | 0.573 |
| norm\_condition4:egoistic\_center | 0.02 | 0.02 | 1.02 | 0.307 |
| framing\_conditionFrameCode1:hedonic\_center | -0.11 | 0.14 | -0.75 | 0.454 |
| framing\_conditionFrameCode2:hedonic\_center | 0.12 | 0.12 | 1.03 | 0.301 |
| norm\_condition1:hedonic\_center | 0.06 | 0.10 | 0.60 | 0.552 |
| norm\_condition2:hedonic\_center | 0.08 | 0.05 | 1.49 | 0.135 |
| norm\_condition3:hedonic\_center | -0.05 | 0.04 | -1.41 | 0.158 |
| norm\_condition4:hedonic\_center | -0.06 | 0.03 | -2.04 | 0.042 |
| framing\_conditionFrameCode1:ingroup\_identification\_center | -0.03 | 0.09 | -0.30 | 0.767 |
| framing\_conditionFrameCode2:ingroup\_identification\_center | -0.04 | 0.08 | -0.55 | 0.583 |
| norm\_condition1:ingroup\_identification\_center | 0.02 | 0.06 | 0.28 | 0.778 |
| norm\_condition2:ingroup\_identification\_center | 0.00 | 0.03 | -0.14 | 0.885 |
| norm\_condition3:ingroup\_identification\_center | 0.00 | 0.02 | 0.16 | 0.876 |
| norm\_condition4:ingroup\_identification\_center | -0.02 | 0.02 | -1.18 | 0.238 |
| framing\_conditionFrameCode1:norm\_condition1:biospheric\_center | -0.13 | 0.19 | -0.69 | 0.488 |
| framing\_conditionFrameCode2:norm\_condition1:biospheric\_center | 0.03 | 0.15 | 0.19 | 0.853 |
| framing\_conditionFrameCode1:norm\_condition2:biospheric\_center | -0.14 | 0.11 | -1.23 | 0.220 |
| framing\_conditionFrameCode2:norm\_condition2:biospheric\_center | 0.10 | 0.09 | 1.10 | 0.271 |
| framing\_conditionFrameCode1:norm\_condition3:biospheric\_center | 0.20 | 0.08 | 2.42 | 0.016 |
| framing\_conditionFrameCode2:norm\_condition3:biospheric\_center | 0.08 | 0.06 | 1.34 | 0.180 |
| framing\_conditionFrameCode1:norm\_condition4:biospheric\_center | 0.06 | 0.07 | 0.86 | 0.393 |
| framing\_conditionFrameCode2:norm\_condition4:biospheric\_center | 0.10 | 0.05 | 2.01 | 0.045 |
| framing\_conditionFrameCode1:norm\_condition1:altruistic\_center | -0.21 | 0.27 | -0.78 | 0.435 |
| framing\_conditionFrameCode2:norm\_condition1:altruistic\_center | 0.22 | 0.21 | 1.04 | 0.298 |
| framing\_conditionFrameCode1:norm\_condition2:altruistic\_center | 0.21 | 0.15 | 1.39 | 0.164 |
| framing\_conditionFrameCode2:norm\_condition2:altruistic\_center | 0.01 | 0.12 | 0.06 | 0.950 |
| framing\_conditionFrameCode1:norm\_condition3:altruistic\_center | -0.27 | 0.12 | -2.33 | 0.020 |
| framing\_conditionFrameCode2:norm\_condition3:altruistic\_center | -0.05 | 0.09 | -0.55 | 0.580 |
| framing\_conditionFrameCode1:norm\_condition4:altruistic\_center | -0.01 | 0.08 | -0.09 | 0.929 |
| framing\_conditionFrameCode2:norm\_condition4:altruistic\_center | -0.11 | 0.06 | -1.73 | 0.084 |
| framing\_conditionFrameCode1:norm\_condition1:egoistic\_center | 0.31 | 0.19 | 1.59 | 0.113 |
| framing\_conditionFrameCode2:norm\_condition1:egoistic\_center | 0.25 | 0.15 | 1.64 | 0.101 |
| framing\_conditionFrameCode1:norm\_condition2:egoistic\_center | -0.17 | 0.10 | -1.72 | 0.086 |
| framing\_conditionFrameCode2:norm\_condition2:egoistic\_center | 0.16 | 0.08 | 1.93 | 0.054 |
| framing\_conditionFrameCode1:norm\_condition3:egoistic\_center | 0.07 | 0.07 | 0.92 | 0.357 |
| framing\_conditionFrameCode2:norm\_condition3:egoistic\_center | 0.03 | 0.06 | 0.49 | 0.623 |
| framing\_conditionFrameCode1:norm\_condition4:egoistic\_center | -0.13 | 0.06 | -2.09 | 0.037 |
| framing\_conditionFrameCode2:norm\_condition4:egoistic\_center | -0.03 | 0.05 | -0.63 | 0.531 |
| framing\_conditionFrameCode1:norm\_condition1:hedonic\_center | -0.08 | 0.24 | -0.34 | 0.735 |
| framing\_conditionFrameCode2:norm\_condition1:hedonic\_center | -0.36 | 0.20 | -1.80 | 0.072 |
| framing\_conditionFrameCode1:norm\_condition2:hedonic\_center | 0.00 | 0.12 | -0.04 | 0.968 |
| framing\_conditionFrameCode2:norm\_condition2:hedonic\_center | 0.01 | 0.11 | 0.05 | 0.962 |
| framing\_conditionFrameCode1:norm\_condition3:hedonic\_center | -0.11 | 0.09 | -1.18 | 0.237 |
| framing\_conditionFrameCode2:norm\_condition3:hedonic\_center | -0.03 | 0.08 | -0.36 | 0.722 |
| framing\_conditionFrameCode1:norm\_condition4:hedonic\_center | -0.02 | 0.07 | -0.26 | 0.793 |
| framing\_conditionFrameCode2:norm\_condition4:hedonic\_center | 0.05 | 0.06 | 0.91 | 0.363 |
| framing\_conditionFrameCode1:norm\_condition1:ingroup\_identification\_center | 0.21 | 0.14 | 1.46 | 0.144 |
| framing\_conditionFrameCode2:norm\_condition1:ingroup\_identification\_center | -0.03 | 0.12 | -0.27 | 0.784 |
| framing\_conditionFrameCode1:norm\_condition2:ingroup\_identification\_center | 0.12 | 0.09 | 1.42 | 0.155 |
| framing\_conditionFrameCode2:norm\_condition2:ingroup\_identification\_center | -0.02 | 0.07 | -0.27 | 0.787 |
| framing\_conditionFrameCode1:norm\_condition3:ingroup\_identification\_center | 0.05 | 0.06 | 0.83 | 0.406 |
| framing\_conditionFrameCode2:norm\_condition3:ingroup\_identification\_center | -0.02 | 0.05 | -0.32 | 0.746 |
| framing\_conditionFrameCode1:norm\_condition4:ingroup\_identification\_center | -0.10 | 0.04 | -2.27 | 0.024 |
| framing\_conditionFrameCode2:norm\_condition4:ingroup\_identification\_center | 0.06 | 0.04 | 1.43 | 0.153 |

APA style table for regression summary

apa\_regr <- apa\_print(full\_model\_1a)  
  
apa\_table(apa\_regr,  
 caption = "Regression Summary",  
 note = "DV = Consumer Intentions")

(#tab:unnamed-chunk-14)

*Regression Summary*

| Predictor |  | 95% CI |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Intercept | 4.38 | [4.31, 4.45] | 119.95 | 883 | < .001 |
| Framing conditionFrameCode1 | 0.04 | [-0.14, 0.21] | 0.40 | 883 | .688 |
| Framing conditionFrameCode2 | 0.12 | [-0.03, 0.27] | 1.63 | 883 | .104 |
| Norm condition1 | 0.02 | [-0.09, 0.12] | 0.30 | 883 | .766 |
| Norm condition2 | 0.02 | [-0.04, 0.09] | 0.75 | 883 | .455 |
| Norm condition3 | -0.04 | [-0.09, 0.00] | -1.96 | 883 | .051 |
| Norm condition4 | -0.02 | [-0.05, 0.02] | -0.96 | 883 | .337 |
| Biospheric center | 0.35 | [0.26, 0.45] | 7.12 | 883 | < .001 |
| Altruistic center | 0.12 | [-0.01, 0.25] | 1.79 | 883 | .073 |
| Egoistic center | -0.35 | [-0.44, -0.26] | -7.34 | 883 | < .001 |
| Hedonic center | -0.09 | [-0.21, 0.02] | -1.62 | 883 | .106 |
| Ingroup identification center | 0.03 | [-0.04, 0.10] | 0.88 | 883 | .380 |
| Self deceptive center | -0.10 | [-0.19, -0.01] | -2.14 | 883 | .033 |
| Impress manag center | -0.05 | [-0.13, 0.04] | -1.03 | 883 | .305 |
| Clothing interest center | 0.01 | [-0.09, 0.10] | 0.15 | 883 | .880 |
| Gender1 | -0.09 | [-0.25, 0.07] | -1.06 | 883 | .288 |
| Age center | -0.05 | [-0.10, -0.01] | -2.42 | 883 | .016 |
| Framing conditionFrameCode1 Norm condition1 | 0.16 | [-0.10, 0.43] | 1.20 | 883 | .231 |
| Framing conditionFrameCode2 Norm condition1 | -0.12 | [-0.35, 0.11] | -1.02 | 883 | .306 |
| Framing conditionFrameCode1 Norm condition2 | 0.00 | [-0.16, 0.16] | 0.00 | 883 | .998 |
| Framing conditionFrameCode2 Norm condition2 | -0.06 | [-0.19, 0.07] | -0.89 | 883 | .376 |
| Framing conditionFrameCode1 Norm condition3 | 0.03 | [-0.08, 0.14] | 0.49 | 883 | .625 |
| Framing conditionFrameCode2 Norm condition3 | 0.04 | [-0.06, 0.13] | 0.76 | 883 | .450 |
| Framing conditionFrameCode1 Norm condition4 | 0.03 | [-0.06, 0.11] | 0.59 | 883 | .558 |
| Framing conditionFrameCode2 Norm condition4 | 0.00 | [-0.08, 0.07] | -0.09 | 883 | .928 |
| Framing conditionFrameCode1 Biospheric center | -0.03 | [-0.28, 0.22] | -0.21 | 883 | .831 |
| Framing conditionFrameCode2 Biospheric center | 0.08 | [-0.12, 0.27] | 0.77 | 883 | .443 |
| Norm condition1 Biospheric center | -0.07 | [-0.21, 0.08] | -0.94 | 883 | .346 |
| Norm condition2 Biospheric center | 0.06 | [-0.03, 0.15] | 1.29 | 883 | .197 |
| Norm condition3 Biospheric center | -0.04 | [-0.10, 0.03] | -1.13 | 883 | .258 |
| Norm condition4 Biospheric center | -0.05 | [-0.10, 0.00] | -1.89 | 883 | .060 |
| Framing conditionFrameCode1 Altruistic center | -0.01 | [-0.34, 0.32] | -0.07 | 883 | .947 |
| Framing conditionFrameCode2 Altruistic center | -0.12 | [-0.38, 0.14] | -0.88 | 883 | .378 |
| Norm condition1 Altruistic center | -0.17 | [-0.38, 0.03] | -1.67 | 883 | .096 |
| Norm condition2 Altruistic center | -0.03 | [-0.15, 0.08] | -0.56 | 883 | .576 |
| Norm condition3 Altruistic center | 0.02 | [-0.07, 0.11] | 0.50 | 883 | .614 |
| Norm condition4 Altruistic center | 0.07 | [0.01, 0.13] | 2.30 | 883 | .022 |
| Framing conditionFrameCode1 Egoistic center | 0.05 | [-0.18, 0.28] | 0.43 | 883 | .670 |
| Framing conditionFrameCode2 Egoistic center | 0.10 | [-0.08, 0.29] | 1.11 | 883 | .266 |
| Norm condition1 Egoistic center | 0.01 | [-0.14, 0.16] | 0.16 | 883 | .873 |
| Norm condition2 Egoistic center | -0.01 | [-0.08, 0.07] | -0.13 | 883 | .900 |
| Norm condition3 Egoistic center | 0.02 | [-0.04, 0.07] | 0.56 | 883 | .573 |
| Norm condition4 Egoistic center | 0.02 | [-0.02, 0.07] | 1.02 | 883 | .307 |
| Framing conditionFrameCode1 Hedonic center | -0.11 | [-0.39, 0.17] | -0.75 | 883 | .454 |
| Framing conditionFrameCode2 Hedonic center | 0.12 | [-0.11, 0.36] | 1.03 | 883 | .301 |
| Norm condition1 Hedonic center | 0.06 | [-0.13, 0.25] | 0.60 | 883 | .552 |
| Norm condition2 Hedonic center | 0.08 | [-0.02, 0.18] | 1.49 | 883 | .135 |
| Norm condition3 Hedonic center | -0.05 | [-0.13, 0.02] | -1.41 | 883 | .158 |
| Norm condition4 Hedonic center | -0.06 | [-0.11, 0.00] | -2.04 | 883 | .042 |
| Framing conditionFrameCode1 Ingroup identification center | -0.03 | [-0.20, 0.15] | -0.30 | 883 | .767 |
| Framing conditionFrameCode2 Ingroup identification center | -0.04 | [-0.19, 0.11] | -0.55 | 883 | .583 |
| Norm condition1 Ingroup identification center | 0.02 | [-0.10, 0.13] | 0.28 | 883 | .778 |
| Norm condition2 Ingroup identification center | 0.00 | [-0.07, 0.06] | -0.14 | 883 | .885 |
| Norm condition3 Ingroup identification center | 0.00 | [-0.04, 0.05] | 0.16 | 883 | .876 |
| Norm condition4 Ingroup identification center | -0.02 | [-0.06, 0.01] | -1.18 | 883 | .238 |
| Framing conditionFrameCode1 Norm condition1 Biospheric center | -0.13 | [-0.50, 0.24] | -0.69 | 883 | .488 |
| Framing conditionFrameCode2 Norm condition1 Biospheric center | 0.03 | [-0.27, 0.32] | 0.19 | 883 | .853 |
| Framing conditionFrameCode1 Norm condition2 Biospheric center | -0.14 | [-0.36, 0.08] | -1.23 | 883 | .220 |
| Framing conditionFrameCode2 Norm condition2 Biospheric center | 0.10 | [-0.08, 0.29] | 1.10 | 883 | .271 |
| Framing conditionFrameCode1 Norm condition3 Biospheric center | 0.20 | [0.04, 0.36] | 2.42 | 883 | .016 |
| Framing conditionFrameCode2 Norm condition3 Biospheric center | 0.08 | [-0.04, 0.21] | 1.34 | 883 | .180 |
| Framing conditionFrameCode1 Norm condition4 Biospheric center | 0.06 | [-0.08, 0.20] | 0.86 | 883 | .393 |
| Framing conditionFrameCode2 Norm condition4 Biospheric center | 0.10 | [0.00, 0.20] | 2.01 | 883 | .045 |
| Framing conditionFrameCode1 Norm condition1 Altruistic center | -0.21 | [-0.73, 0.31] | -0.78 | 883 | .435 |
| Framing conditionFrameCode2 Norm condition1 Altruistic center | 0.22 | [-0.20, 0.64] | 1.04 | 883 | .298 |
| Framing conditionFrameCode1 Norm condition2 Altruistic center | 0.21 | [-0.08, 0.50] | 1.39 | 883 | .164 |
| Framing conditionFrameCode2 Norm condition2 Altruistic center | 0.01 | [-0.23, 0.24] | 0.06 | 883 | .950 |
| Framing conditionFrameCode1 Norm condition3 Altruistic center | -0.27 | [-0.49, -0.04] | -2.33 | 883 | .020 |
| Framing conditionFrameCode2 Norm condition3 Altruistic center | -0.05 | [-0.23, 0.13] | -0.55 | 883 | .580 |
| Framing conditionFrameCode1 Norm condition4 Altruistic center | -0.01 | [-0.17, 0.15] | -0.09 | 883 | .929 |
| Framing conditionFrameCode2 Norm condition4 Altruistic center | -0.11 | [-0.23, 0.01] | -1.73 | 883 | .084 |
| Framing conditionFrameCode1 Norm condition1 Egoistic center | 0.31 | [-0.07, 0.69] | 1.59 | 883 | .113 |
| Framing conditionFrameCode2 Norm condition1 Egoistic center | 0.25 | [-0.05, 0.55] | 1.64 | 883 | .101 |
| Framing conditionFrameCode1 Norm condition2 Egoistic center | -0.17 | [-0.37, 0.02] | -1.72 | 883 | .086 |
| Framing conditionFrameCode2 Norm condition2 Egoistic center | 0.16 | [0.00, 0.33] | 1.93 | 883 | .054 |
| Framing conditionFrameCode1 Norm condition3 Egoistic center | 0.07 | [-0.07, 0.21] | 0.92 | 883 | .357 |
| Framing conditionFrameCode2 Norm condition3 Egoistic center | 0.03 | [-0.09, 0.15] | 0.49 | 883 | .623 |
| Framing conditionFrameCode1 Norm condition4 Egoistic center | -0.13 | [-0.25, -0.01] | -2.09 | 883 | .037 |
| Framing conditionFrameCode2 Norm condition4 Egoistic center | -0.03 | [-0.12, 0.06] | -0.63 | 883 | .531 |
| Framing conditionFrameCode1 Norm condition1 Hedonic center | -0.08 | [-0.55, 0.39] | -0.34 | 883 | .735 |
| Framing conditionFrameCode2 Norm condition1 Hedonic center | -0.36 | [-0.75, 0.03] | -1.80 | 883 | .072 |
| Framing conditionFrameCode1 Norm condition2 Hedonic center | 0.00 | [-0.25, 0.24] | -0.04 | 883 | .968 |
| Framing conditionFrameCode2 Norm condition2 Hedonic center | 0.01 | [-0.21, 0.22] | 0.05 | 883 | .962 |
| Framing conditionFrameCode1 Norm condition3 Hedonic center | -0.11 | [-0.30, 0.07] | -1.18 | 883 | .237 |
| Framing conditionFrameCode2 Norm condition3 Hedonic center | -0.03 | [-0.18, 0.13] | -0.36 | 883 | .722 |
| Framing conditionFrameCode1 Norm condition4 Hedonic center | -0.02 | [-0.15, 0.12] | -0.26 | 883 | .793 |
| Framing conditionFrameCode2 Norm condition4 Hedonic center | 0.05 | [-0.06, 0.17] | 0.91 | 883 | .363 |
| Framing conditionFrameCode1 Norm condition1 Ingroup identification center | 0.21 | [-0.07, 0.48] | 1.46 | 883 | .144 |
| Framing conditionFrameCode2 Norm condition1 Ingroup identification center | -0.03 | [-0.27, 0.20] | -0.27 | 883 | .784 |
| Framing conditionFrameCode1 Norm condition2 Ingroup identification center | 0.12 | [-0.05, 0.29] | 1.42 | 883 | .155 |
| Framing conditionFrameCode2 Norm condition2 Ingroup identification center | -0.02 | [-0.16, 0.12] | -0.27 | 883 | .787 |
| Framing conditionFrameCode1 Norm condition3 Ingroup identification center | 0.05 | [-0.06, 0.15] | 0.83 | 883 | .406 |
| Framing conditionFrameCode2 Norm condition3 Ingroup identification center | -0.02 | [-0.11, 0.08] | -0.32 | 883 | .746 |
| Framing conditionFrameCode1 Norm condition4 Ingroup identification center | -0.10 | [-0.18, -0.01] | -2.27 | 883 | .024 |
| Framing conditionFrameCode2 Norm condition4 Ingroup identification center | 0.06 | [-0.02, 0.13] | 1.43 | 883 | .153 |

*Note.* DV = Consumer Intentions

Standardized regression coefficients

Succinct summary table

regr\_std\_summ$coefficients %>%  
 knitr::kable(digits = c(2,2,2,3))

|  | Estimate | Std. Error | t value | Pr(>|t|) |
| --- | --- | --- | --- | --- |
| (Intercept) | -0.03 | 0.03 | -0.91 | 0.361 |
| framing\_conditionFrameCode1 | 0.03 | 0.07 | 0.40 | 0.688 |
| framing\_conditionFrameCode2 | 0.10 | 0.06 | 1.63 | 0.104 |
| norm\_condition1 | 0.01 | 0.05 | 0.30 | 0.766 |
| norm\_condition2 | 0.02 | 0.03 | 0.75 | 0.455 |
| norm\_condition3 | -0.04 | 0.02 | -1.96 | 0.051 |
| norm\_condition4 | -0.01 | 0.02 | -0.96 | 0.337 |
| scale(biospheric) | 0.30 | 0.04 | 7.12 | 0.000 |
| scale(altruistic) | 0.08 | 0.05 | 1.79 | 0.073 |
| scale(egoistic) | -0.27 | 0.04 | -7.34 | 0.000 |
| scale(hedonic) | -0.06 | 0.04 | -1.62 | 0.106 |
| scale(ingroup\_identification) | 0.03 | 0.03 | 0.88 | 0.380 |
| scale(self\_deceptive\_sdr) | -0.07 | 0.03 | -2.14 | 0.033 |
| scale(impress\_manag\_sdr) | -0.03 | 0.03 | -1.03 | 0.305 |
| scale(clothing\_interest) | 0.00 | 0.03 | 0.15 | 0.880 |
| Gender1 | -0.07 | 0.07 | -1.06 | 0.288 |
| scale(Age) | -0.09 | 0.04 | -2.42 | 0.016 |
| framing\_conditionFrameCode1:norm\_condition1 | 0.14 | 0.11 | 1.20 | 0.231 |
| framing\_conditionFrameCode2:norm\_condition1 | -0.10 | 0.10 | -1.02 | 0.306 |
| framing\_conditionFrameCode1:norm\_condition2 | 0.00 | 0.07 | 0.00 | 0.998 |
| framing\_conditionFrameCode2:norm\_condition2 | -0.05 | 0.06 | -0.89 | 0.376 |
| framing\_conditionFrameCode1:norm\_condition3 | 0.02 | 0.05 | 0.49 | 0.625 |
| framing\_conditionFrameCode2:norm\_condition3 | 0.03 | 0.04 | 0.76 | 0.450 |
| framing\_conditionFrameCode1:norm\_condition4 | 0.02 | 0.04 | 0.59 | 0.558 |
| framing\_conditionFrameCode2:norm\_condition4 | 0.00 | 0.03 | -0.09 | 0.928 |
| framing\_conditionFrameCode1:scale(biospheric) | -0.02 | 0.11 | -0.21 | 0.831 |
| framing\_conditionFrameCode2:scale(biospheric) | 0.06 | 0.08 | 0.77 | 0.443 |
| norm\_condition1:scale(biospheric) | -0.06 | 0.06 | -0.94 | 0.346 |
| norm\_condition2:scale(biospheric) | 0.05 | 0.04 | 1.29 | 0.197 |
| norm\_condition3:scale(biospheric) | -0.03 | 0.03 | -1.13 | 0.258 |
| norm\_condition4:scale(biospheric) | -0.04 | 0.02 | -1.89 | 0.060 |
| framing\_conditionFrameCode1:scale(altruistic) | -0.01 | 0.11 | -0.07 | 0.947 |
| framing\_conditionFrameCode2:scale(altruistic) | -0.08 | 0.09 | -0.88 | 0.378 |
| norm\_condition1:scale(altruistic) | -0.12 | 0.07 | -1.67 | 0.096 |
| norm\_condition2:scale(altruistic) | -0.02 | 0.04 | -0.56 | 0.576 |
| norm\_condition3:scale(altruistic) | 0.02 | 0.03 | 0.50 | 0.614 |
| norm\_condition4:scale(altruistic) | 0.05 | 0.02 | 2.30 | 0.022 |
| framing\_conditionFrameCode1:scale(egoistic) | 0.04 | 0.09 | 0.43 | 0.670 |
| framing\_conditionFrameCode2:scale(egoistic) | 0.08 | 0.07 | 1.11 | 0.266 |
| norm\_condition1:scale(egoistic) | 0.01 | 0.06 | 0.16 | 0.873 |
| norm\_condition2:scale(egoistic) | 0.00 | 0.03 | -0.13 | 0.900 |
| norm\_condition3:scale(egoistic) | 0.01 | 0.02 | 0.56 | 0.573 |
| norm\_condition4:scale(egoistic) | 0.02 | 0.02 | 1.02 | 0.307 |
| framing\_conditionFrameCode1:scale(hedonic) | -0.07 | 0.10 | -0.75 | 0.454 |
| framing\_conditionFrameCode2:scale(hedonic) | 0.08 | 0.08 | 1.03 | 0.301 |
| norm\_condition1:scale(hedonic) | 0.04 | 0.06 | 0.60 | 0.552 |
| norm\_condition2:scale(hedonic) | 0.05 | 0.03 | 1.49 | 0.135 |
| norm\_condition3:scale(hedonic) | -0.04 | 0.03 | -1.41 | 0.158 |
| norm\_condition4:scale(hedonic) | -0.04 | 0.02 | -2.04 | 0.042 |
| framing\_conditionFrameCode1:scale(ingroup\_identification) | -0.02 | 0.08 | -0.30 | 0.767 |
| framing\_conditionFrameCode2:scale(ingroup\_identification) | -0.04 | 0.07 | -0.55 | 0.583 |
| norm\_condition1:scale(ingroup\_identification) | 0.01 | 0.05 | 0.28 | 0.778 |
| norm\_condition2:scale(ingroup\_identification) | 0.00 | 0.03 | -0.14 | 0.885 |
| norm\_condition3:scale(ingroup\_identification) | 0.00 | 0.02 | 0.16 | 0.876 |
| norm\_condition4:scale(ingroup\_identification) | -0.02 | 0.02 | -1.18 | 0.238 |
| framing\_conditionFrameCode1:norm\_condition1:scale(biospheric) | -0.11 | 0.16 | -0.69 | 0.488 |
| framing\_conditionFrameCode2:norm\_condition1:scale(biospheric) | 0.02 | 0.13 | 0.19 | 0.853 |
| framing\_conditionFrameCode1:norm\_condition2:scale(biospheric) | -0.12 | 0.09 | -1.23 | 0.220 |
| framing\_conditionFrameCode2:norm\_condition2:scale(biospheric) | 0.09 | 0.08 | 1.10 | 0.271 |
| framing\_conditionFrameCode1:norm\_condition3:scale(biospheric) | 0.17 | 0.07 | 2.42 | 0.016 |
| framing\_conditionFrameCode2:norm\_condition3:scale(biospheric) | 0.07 | 0.05 | 1.34 | 0.180 |
| framing\_conditionFrameCode1:norm\_condition4:scale(biospheric) | 0.05 | 0.06 | 0.86 | 0.393 |
| framing\_conditionFrameCode2:norm\_condition4:scale(biospheric) | 0.09 | 0.04 | 2.01 | 0.045 |
| framing\_conditionFrameCode1:norm\_condition1:scale(altruistic) | -0.14 | 0.18 | -0.78 | 0.435 |
| framing\_conditionFrameCode2:norm\_condition1:scale(altruistic) | 0.15 | 0.14 | 1.04 | 0.298 |
| framing\_conditionFrameCode1:norm\_condition2:scale(altruistic) | 0.14 | 0.10 | 1.39 | 0.164 |
| framing\_conditionFrameCode2:norm\_condition2:scale(altruistic) | 0.01 | 0.08 | 0.06 | 0.950 |
| framing\_conditionFrameCode1:norm\_condition3:scale(altruistic) | -0.18 | 0.08 | -2.33 | 0.020 |
| framing\_conditionFrameCode2:norm\_condition3:scale(altruistic) | -0.03 | 0.06 | -0.55 | 0.580 |
| framing\_conditionFrameCode1:norm\_condition4:scale(altruistic) | 0.00 | 0.05 | -0.09 | 0.929 |
| framing\_conditionFrameCode2:norm\_condition4:scale(altruistic) | -0.07 | 0.04 | -1.73 | 0.084 |
| framing\_conditionFrameCode1:norm\_condition1:scale(egoistic) | 0.24 | 0.15 | 1.59 | 0.113 |
| framing\_conditionFrameCode2:norm\_condition1:scale(egoistic) | 0.19 | 0.12 | 1.64 | 0.101 |
| framing\_conditionFrameCode1:norm\_condition2:scale(egoistic) | -0.13 | 0.08 | -1.72 | 0.086 |
| framing\_conditionFrameCode2:norm\_condition2:scale(egoistic) | 0.13 | 0.07 | 1.93 | 0.054 |
| framing\_conditionFrameCode1:norm\_condition3:scale(egoistic) | 0.05 | 0.06 | 0.92 | 0.357 |
| framing\_conditionFrameCode2:norm\_condition3:scale(egoistic) | 0.02 | 0.05 | 0.49 | 0.623 |
| framing\_conditionFrameCode1:norm\_condition4:scale(egoistic) | -0.10 | 0.05 | -2.09 | 0.037 |
| framing\_conditionFrameCode2:norm\_condition4:scale(egoistic) | -0.02 | 0.04 | -0.63 | 0.531 |
| framing\_conditionFrameCode1:norm\_condition1:scale(hedonic) | -0.05 | 0.16 | -0.34 | 0.735 |
| framing\_conditionFrameCode2:norm\_condition1:scale(hedonic) | -0.24 | 0.13 | -1.80 | 0.072 |
| framing\_conditionFrameCode1:norm\_condition2:scale(hedonic) | 0.00 | 0.08 | -0.04 | 0.968 |
| framing\_conditionFrameCode2:norm\_condition2:scale(hedonic) | 0.00 | 0.07 | 0.05 | 0.962 |
| framing\_conditionFrameCode1:norm\_condition3:scale(hedonic) | -0.07 | 0.06 | -1.18 | 0.237 |
| framing\_conditionFrameCode2:norm\_condition3:scale(hedonic) | -0.02 | 0.05 | -0.36 | 0.722 |
| framing\_conditionFrameCode1:norm\_condition4:scale(hedonic) | -0.01 | 0.05 | -0.26 | 0.793 |
| framing\_conditionFrameCode2:norm\_condition4:scale(hedonic) | 0.04 | 0.04 | 0.91 | 0.363 |
| framing\_conditionFrameCode1:norm\_condition1:scale(ingroup\_identification) | 0.18 | 0.12 | 1.46 | 0.144 |
| framing\_conditionFrameCode2:norm\_condition1:scale(ingroup\_identification) | -0.03 | 0.10 | -0.27 | 0.784 |
| framing\_conditionFrameCode1:norm\_condition2:scale(ingroup\_identification) | 0.10 | 0.07 | 1.42 | 0.155 |
| framing\_conditionFrameCode2:norm\_condition2:scale(ingroup\_identification) | -0.02 | 0.06 | -0.27 | 0.787 |
| framing\_conditionFrameCode1:norm\_condition3:scale(ingroup\_identification) | 0.04 | 0.05 | 0.83 | 0.406 |
| framing\_conditionFrameCode2:norm\_condition3:scale(ingroup\_identification) | -0.01 | 0.04 | -0.32 | 0.746 |
| framing\_conditionFrameCode1:norm\_condition4:scale(ingroup\_identification) | -0.08 | 0.04 | -2.27 | 0.024 |
| framing\_conditionFrameCode2:norm\_condition4:scale(ingroup\_identification) | 0.05 | 0.03 | 1.43 | 0.153 |

APA style table for standardized regression summary

apa\_regr\_std <- apa\_print(regr\_std)  
  
apa\_table(apa\_regr\_std,  
 caption = "Standardized Regression Summary",  
 note = "DV = Consumer Intentions")

(#tab:unnamed-chunk-17)

*Standardized Regression Summary*

| Predictor |  | 95% CI |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Intercept | -0.03 | [-0.09, 0.03] | -0.91 | 883 | .361 |
| Framing conditionFrameCode1 | 0.03 | [-0.12, 0.17] | 0.40 | 883 | .688 |
| Framing conditionFrameCode2 | 0.10 | [-0.02, 0.23] | 1.63 | 883 | .104 |
| Norm condition1 | 0.01 | [-0.08, 0.10] | 0.30 | 883 | .766 |
| Norm condition2 | 0.02 | [-0.03, 0.07] | 0.75 | 883 | .455 |
| Norm condition3 | -0.04 | [-0.08, 0.00] | -1.96 | 883 | .051 |
| Norm condition4 | -0.01 | [-0.04, 0.02] | -0.96 | 883 | .337 |
| Scalebiospheric | 0.30 | [0.21, 0.38] | 7.12 | 883 | < .001 |
| Scalealtruistic | 0.08 | [-0.01, 0.17] | 1.79 | 883 | .073 |
| Scaleegoistic | -0.27 | [-0.34, -0.20] | -7.34 | 883 | < .001 |
| Scalehedonic | -0.06 | [-0.14, 0.01] | -1.62 | 883 | .106 |
| Scaleingroup identification | 0.03 | [-0.03, 0.09] | 0.88 | 883 | .380 |
| Scaleself deceptive sdr | -0.07 | [-0.14, -0.01] | -2.14 | 883 | .033 |
| Scaleimpress manag sdr | -0.03 | [-0.10, 0.03] | -1.03 | 883 | .305 |
| Scaleclothing interest | 0.00 | [-0.06, 0.07] | 0.15 | 883 | .880 |
| Gender1 | -0.07 | [-0.21, 0.06] | -1.06 | 883 | .288 |
| ScaleAge | -0.09 | [-0.16, -0.02] | -2.42 | 883 | .016 |
| Framing conditionFrameCode1 Norm condition1 | 0.14 | [-0.09, 0.36] | 1.20 | 883 | .231 |
| Framing conditionFrameCode2 Norm condition1 | -0.10 | [-0.29, 0.09] | -1.02 | 883 | .306 |
| Framing conditionFrameCode1 Norm condition2 | 0.00 | [-0.13, 0.13] | 0.00 | 883 | .998 |
| Framing conditionFrameCode2 Norm condition2 | -0.05 | [-0.16, 0.06] | -0.89 | 883 | .376 |
| Framing conditionFrameCode1 Norm condition3 | 0.02 | [-0.07, 0.11] | 0.49 | 883 | .625 |
| Framing conditionFrameCode2 Norm condition3 | 0.03 | [-0.05, 0.11] | 0.76 | 883 | .450 |
| Framing conditionFrameCode1 Norm condition4 | 0.02 | [-0.05, 0.10] | 0.59 | 883 | .558 |
| Framing conditionFrameCode2 Norm condition4 | 0.00 | [-0.06, 0.06] | -0.09 | 883 | .928 |
| Framing conditionFrameCode1 Scalebiospheric | -0.02 | [-0.23, 0.19] | -0.21 | 883 | .831 |
| Framing conditionFrameCode2 Scalebiospheric | 0.06 | [-0.10, 0.23] | 0.77 | 883 | .443 |
| Norm condition1 Scalebiospheric | -0.06 | [-0.18, 0.06] | -0.94 | 883 | .346 |
| Norm condition2 Scalebiospheric | 0.05 | [-0.03, 0.12] | 1.29 | 883 | .197 |
| Norm condition3 Scalebiospheric | -0.03 | [-0.08, 0.02] | -1.13 | 883 | .258 |
| Norm condition4 Scalebiospheric | -0.04 | [-0.09, 0.00] | -1.89 | 883 | .060 |
| Framing conditionFrameCode1 Scalealtruistic | -0.01 | [-0.23, 0.22] | -0.07 | 883 | .947 |
| Framing conditionFrameCode2 Scalealtruistic | -0.08 | [-0.26, 0.10] | -0.88 | 883 | .378 |
| Norm condition1 Scalealtruistic | -0.12 | [-0.26, 0.02] | -1.67 | 883 | .096 |
| Norm condition2 Scalealtruistic | -0.02 | [-0.10, 0.06] | -0.56 | 883 | .576 |
| Norm condition3 Scalealtruistic | 0.02 | [-0.04, 0.08] | 0.50 | 883 | .614 |
| Norm condition4 Scalealtruistic | 0.05 | [0.01, 0.09] | 2.30 | 883 | .022 |
| Framing conditionFrameCode1 Scaleegoistic | 0.04 | [-0.14, 0.22] | 0.43 | 883 | .670 |
| Framing conditionFrameCode2 Scaleegoistic | 0.08 | [-0.06, 0.22] | 1.11 | 883 | .266 |
| Norm condition1 Scaleegoistic | 0.01 | [-0.11, 0.12] | 0.16 | 883 | .873 |
| Norm condition2 Scaleegoistic | 0.00 | [-0.07, 0.06] | -0.13 | 883 | .900 |
| Norm condition3 Scaleegoistic | 0.01 | [-0.03, 0.06] | 0.56 | 883 | .573 |
| Norm condition4 Scaleegoistic | 0.02 | [-0.02, 0.05] | 1.02 | 883 | .307 |
| Framing conditionFrameCode1 Scalehedonic | -0.07 | [-0.26, 0.12] | -0.75 | 883 | .454 |
| Framing conditionFrameCode2 Scalehedonic | 0.08 | [-0.07, 0.24] | 1.03 | 883 | .301 |
| Norm condition1 Scalehedonic | 0.04 | [-0.09, 0.16] | 0.60 | 883 | .552 |
| Norm condition2 Scalehedonic | 0.05 | [-0.02, 0.12] | 1.49 | 883 | .135 |
| Norm condition3 Scalehedonic | -0.04 | [-0.09, 0.01] | -1.41 | 883 | .158 |
| Norm condition4 Scalehedonic | -0.04 | [-0.07, 0.00] | -2.04 | 883 | .042 |
| Framing conditionFrameCode1 Scaleingroup identification | -0.02 | [-0.17, 0.13] | -0.30 | 883 | .767 |
| Framing conditionFrameCode2 Scaleingroup identification | -0.04 | [-0.16, 0.09] | -0.55 | 883 | .583 |
| Norm condition1 Scaleingroup identification | 0.01 | [-0.08, 0.11] | 0.28 | 883 | .778 |
| Norm condition2 Scaleingroup identification | 0.00 | [-0.06, 0.05] | -0.14 | 883 | .885 |
| Norm condition3 Scaleingroup identification | 0.00 | [-0.03, 0.04] | 0.16 | 883 | .876 |
| Norm condition4 Scaleingroup identification | -0.02 | [-0.05, 0.01] | -1.18 | 883 | .238 |
| Framing conditionFrameCode1 Norm condition1 Scalebiospheric | -0.11 | [-0.42, 0.20] | -0.69 | 883 | .488 |
| Framing conditionFrameCode2 Norm condition1 Scalebiospheric | 0.02 | [-0.22, 0.27] | 0.19 | 883 | .853 |
| Framing conditionFrameCode1 Norm condition2 Scalebiospheric | -0.12 | [-0.30, 0.07] | -1.23 | 883 | .220 |
| Framing conditionFrameCode2 Norm condition2 Scalebiospheric | 0.09 | [-0.07, 0.24] | 1.10 | 883 | .271 |
| Framing conditionFrameCode1 Norm condition3 Scalebiospheric | 0.17 | [0.03, 0.30] | 2.42 | 883 | .016 |
| Framing conditionFrameCode2 Norm condition3 Scalebiospheric | 0.07 | [-0.03, 0.17] | 1.34 | 883 | .180 |
| Framing conditionFrameCode1 Norm condition4 Scalebiospheric | 0.05 | [-0.07, 0.17] | 0.86 | 883 | .393 |
| Framing conditionFrameCode2 Norm condition4 Scalebiospheric | 0.09 | [0.00, 0.17] | 2.01 | 883 | .045 |
| Framing conditionFrameCode1 Norm condition1 Scalealtruistic | -0.14 | [-0.49, 0.21] | -0.78 | 883 | .435 |
| Framing conditionFrameCode2 Norm condition1 Scalealtruistic | 0.15 | [-0.13, 0.44] | 1.04 | 883 | .298 |
| Framing conditionFrameCode1 Norm condition2 Scalealtruistic | 0.14 | [-0.06, 0.34] | 1.39 | 883 | .164 |
| Framing conditionFrameCode2 Norm condition2 Scalealtruistic | 0.01 | [-0.15, 0.16] | 0.06 | 883 | .950 |
| Framing conditionFrameCode1 Norm condition3 Scalealtruistic | -0.18 | [-0.33, -0.03] | -2.33 | 883 | .020 |
| Framing conditionFrameCode2 Norm condition3 Scalealtruistic | -0.03 | [-0.15, 0.09] | -0.55 | 883 | .580 |
| Framing conditionFrameCode1 Norm condition4 Scalealtruistic | 0.00 | [-0.11, 0.10] | -0.09 | 883 | .929 |
| Framing conditionFrameCode2 Norm condition4 Scalealtruistic | -0.07 | [-0.16, 0.01] | -1.73 | 883 | .084 |
| Framing conditionFrameCode1 Norm condition1 Scaleegoistic | 0.24 | [-0.06, 0.53] | 1.59 | 883 | .113 |
| Framing conditionFrameCode2 Norm condition1 Scaleegoistic | 0.19 | [-0.04, 0.42] | 1.64 | 883 | .101 |
| Framing conditionFrameCode1 Norm condition2 Scaleegoistic | -0.13 | [-0.28, 0.02] | -1.72 | 883 | .086 |
| Framing conditionFrameCode2 Norm condition2 Scaleegoistic | 0.13 | [0.00, 0.26] | 1.93 | 883 | .054 |
| Framing conditionFrameCode1 Norm condition3 Scaleegoistic | 0.05 | [-0.06, 0.16] | 0.92 | 883 | .357 |
| Framing conditionFrameCode2 Norm condition3 Scaleegoistic | 0.02 | [-0.07, 0.11] | 0.49 | 883 | .623 |
| Framing conditionFrameCode1 Norm condition4 Scaleegoistic | -0.10 | [-0.19, -0.01] | -2.09 | 883 | .037 |
| Framing conditionFrameCode2 Norm condition4 Scaleegoistic | -0.02 | [-0.09, 0.05] | -0.63 | 883 | .531 |
| Framing conditionFrameCode1 Norm condition1 Scalehedonic | -0.05 | [-0.37, 0.26] | -0.34 | 883 | .735 |
| Framing conditionFrameCode2 Norm condition1 Scalehedonic | -0.24 | [-0.50, 0.02] | -1.80 | 883 | .072 |
| Framing conditionFrameCode1 Norm condition2 Scalehedonic | 0.00 | [-0.17, 0.16] | -0.04 | 883 | .968 |
| Framing conditionFrameCode2 Norm condition2 Scalehedonic | 0.00 | [-0.14, 0.15] | 0.05 | 883 | .962 |
| Framing conditionFrameCode1 Norm condition3 Scalehedonic | -0.07 | [-0.20, 0.05] | -1.18 | 883 | .237 |
| Framing conditionFrameCode2 Norm condition3 Scalehedonic | -0.02 | [-0.12, 0.08] | -0.36 | 883 | .722 |
| Framing conditionFrameCode1 Norm condition4 Scalehedonic | -0.01 | [-0.10, 0.08] | -0.26 | 883 | .793 |
| Framing conditionFrameCode2 Norm condition4 Scalehedonic | 0.04 | [-0.04, 0.11] | 0.91 | 883 | .363 |
| Framing conditionFrameCode1 Norm condition1 Scaleingroup identification | 0.18 | [-0.06, 0.41] | 1.46 | 883 | .144 |
| Framing conditionFrameCode2 Norm condition1 Scaleingroup identification | -0.03 | [-0.23, 0.17] | -0.27 | 883 | .784 |
| Framing conditionFrameCode1 Norm condition2 Scaleingroup identification | 0.10 | [-0.04, 0.25] | 1.42 | 883 | .155 |
| Framing conditionFrameCode2 Norm condition2 Scaleingroup identification | -0.02 | [-0.13, 0.10] | -0.27 | 883 | .787 |
| Framing conditionFrameCode1 Norm condition3 Scaleingroup identification | 0.04 | [-0.05, 0.13] | 0.83 | 883 | .406 |
| Framing conditionFrameCode2 Norm condition3 Scaleingroup identification | -0.01 | [-0.09, 0.07] | -0.32 | 883 | .746 |
| Framing conditionFrameCode1 Norm condition4 Scaleingroup identification | -0.08 | [-0.15, -0.01] | -2.27 | 883 | .024 |
| Framing conditionFrameCode2 Norm condition4 Scaleingroup identification | 0.05 | [-0.02, 0.11] | 1.43 | 883 | .153 |

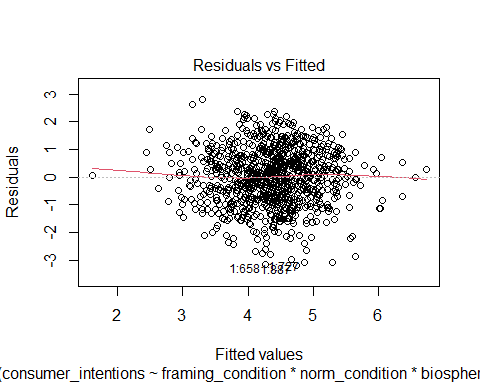
*Note.* DV = Consumer Intentions

## Regression Diagnostics

### Checking non-linearity

First, assess non-linearity using a residuals plots:

plot(full\_model\_1a, 1)

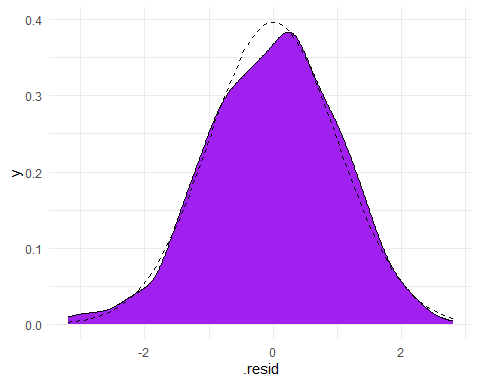


There does not appear to be a systematic pattern suggesting an uncaptured, non-linear trend.

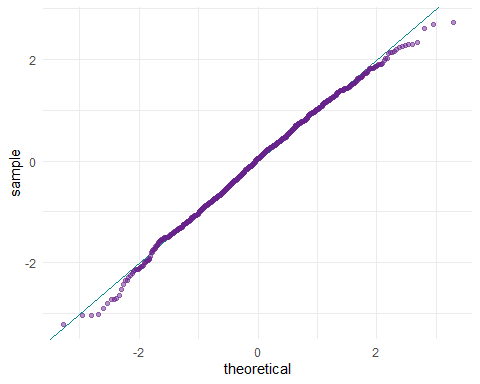
### Checking non-normally distributed errors

Second, assess non-normally distributed errors by plotting the residuals & using a QQ-plot:

# storing residuals  
full\_model\_1a\_aug <- augment(full\_model\_1a)  
  
# plotting histogram of residuals  
ggplot(data = full\_model\_1a\_aug, aes(x = .resid)) +   
 geom\_density(fill = "purple") +   
 stat\_function(linetype = 2,   
 fun = dnorm,   
 args = list(mean = mean(full\_model\_1a\_aug$.resid),   
 sd = sd(full\_model\_1a\_aug$.resid))) +  
 theme\_minimal()



# QQ-plot  
ggplot(full\_model\_1a) +  
 geom\_abline(color = "turquoise4") +   
 stat\_qq(aes(sample = .stdresid), color = "darkorchid4", alpha = .50) +  
 theme\_minimal()

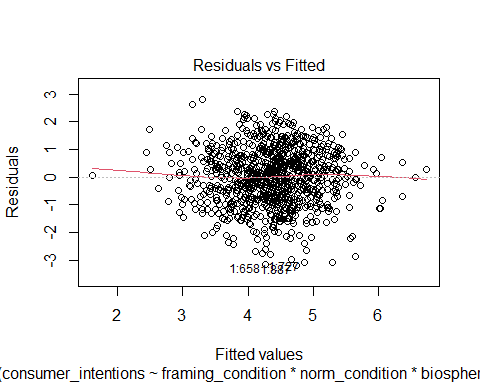


The distribution of residuals & QQ-plot suggest approximately normally distributed residuals.

### Checking heteroscedasticity

Third, check for heteroscedasticity by looking at spread of residuals on residuals plot:

plot(full\_model\_1a, 1)

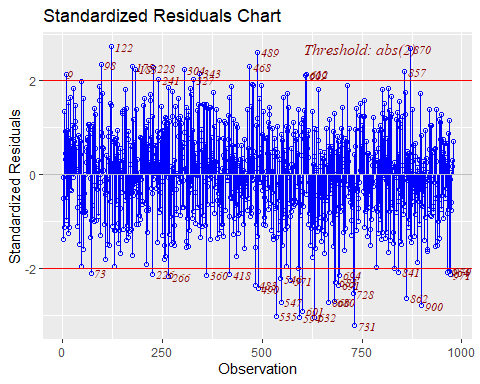


There does not appear to be an issue with heteroscedasticity.

### Checking multivariate outliers

Outliers based on distance from model using standardized residuals:

# using olsrr function  
ols\_plot\_resid\_stand(full\_model\_1a)



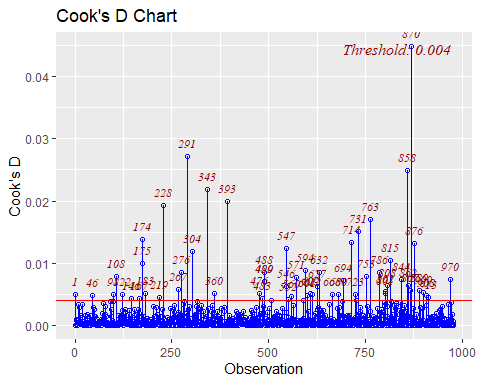
# or grabbing from model augment output  
full\_model\_1a\_aug <- augment(full\_model\_1a)  
  
full\_model\_1a\_aug$id <- full\_model\_1a\_aug$.rownames  
  
std\_resids <- full\_model\_1a\_aug %>%   
 dplyr::select(.rownames, .std.resid) %>%  
 arrange(desc(abs(.std.resid)))  
  
print(std\_resids, n = 15)

## # A tibble: 978 × 2  
## .rownames .std.resid  
## <chr> <dbl>  
## 1 1:887 -3.21  
## 2 1:727 -3.05  
## 3 1:771 -3.03  
## 4 1:658 -3.02  
## 5 1:734 -2.91  
## 6 1:1064 -2.79  
## 7 1:140 2.73  
## 8 1:813 -2.72  
## 9 1:671 -2.71  
## 10 1:828 -2.70  
## 11 1:1034 2.69  
## 12 1:1026 -2.64  
## 13 1:605 2.61  
## 14 1:884 -2.53  
## 15 1:606 -2.43  
## # ℹ 963 more rows

Examine outliers with standardized residuals greater than +/-2 or +/-3.

Outliers based on influence on model using Cook’s Distance:

# using olsrr function  
ols\_plot\_cooksd\_chart(full\_model\_1a)



# or grabbing from model augment output  
cooks\_d <- full\_model\_1a\_aug %>%   
 dplyr::select(.rownames, .cooksd) %>%  
 arrange(desc(abs(.cooksd)))  
  
print(cooks\_d, n = 15)

## # A tibble: 978 × 2  
## .rownames .cooksd  
## <chr> <dbl>  
## 1 1:1034 0.0448   
## 2 1:351 0.0272   
## 3 1:1022 0.0249   
## 4 1:422 0.0219   
## 5 1:487 0.0199   
## 6 1:278 0.0192   
## 7 1:921 0.0171   
## 8 1:887 0.0151   
## 9 1:211 0.0138   
## 10 1:870 0.0134   
## 11 1:1040 0.0131   
## 12 1:671 0.0124   
## 13 1:369 0.0119   
## 14 1:977 0.0105   
## 15 1:213 0.00992  
## # ℹ 963 more rows

One standard is that Cook’s D values greater than 3 times the average Cook’s D values are worth investigating.

### Checking multicollinearity

Using VIFs & tolerance:

ols\_vif\_tol(full\_model\_1a) %>%  
 arrange(desc(abs(VIF)))

## Variables  
## 1 framing\_conditionFrameCode1:norm\_condition4:altruistic\_center  
## 2 norm\_condition4:altruistic\_center  
## 3 framing\_conditionFrameCode1:norm\_condition4:biospheric\_center  
## 4 framing\_conditionFrameCode1:altruistic\_center  
## 5 framing\_conditionFrameCode1:norm\_condition2:altruistic\_center  
## 6 altruistic\_center  
## 7 norm\_condition4:biospheric\_center  
## 8 framing\_conditionFrameCode1:norm\_condition3:altruistic\_center  
## 9 framing\_conditionFrameCode2:norm\_condition4:altruistic\_center  
## 10 framing\_conditionFrameCode1:norm\_condition2:biospheric\_center  
## 11 framing\_conditionFrameCode1:norm\_condition1:altruistic\_center  
## 12 framing\_conditionFrameCode1:biospheric\_center  
## 13 norm\_condition2:altruistic\_center  
## 14 norm\_condition3:altruistic\_center  
## 15 framing\_conditionFrameCode1:norm\_condition3:biospheric\_center  
## 16 norm\_condition1:altruistic\_center  
## 17 framing\_conditionFrameCode2:altruistic\_center  
## 18 framing\_conditionFrameCode2:norm\_condition4:biospheric\_center  
## 19 biospheric\_center  
## 20 norm\_condition2:biospheric\_center  
## 21 framing\_conditionFrameCode1:norm\_condition4:hedonic\_center  
## 22 framing\_conditionFrameCode2:norm\_condition1:altruistic\_center  
## 23 framing\_conditionFrameCode2:norm\_condition2:altruistic\_center  
## 24 framing\_conditionFrameCode2:norm\_condition3:altruistic\_center  
## 25 norm\_condition3:biospheric\_center  
## 26 framing\_conditionFrameCode1:norm\_condition1:biospheric\_center  
## 27 framing\_conditionFrameCode1:hedonic\_center  
## 28 norm\_condition4:hedonic\_center  
## 29 framing\_conditionFrameCode2:biospheric\_center  
## 30 norm\_condition1:biospheric\_center  
## 31 framing\_conditionFrameCode1:norm\_condition1:hedonic\_center  
## 32 framing\_conditionFrameCode2:norm\_condition2:biospheric\_center  
## 33 framing\_conditionFrameCode1:norm\_condition3:hedonic\_center  
## 34 framing\_conditionFrameCode2:norm\_condition1:biospheric\_center  
## 35 hedonic\_center  
## 36 framing\_conditionFrameCode1:norm\_condition2:hedonic\_center  
## 37 framing\_conditionFrameCode2:norm\_condition3:biospheric\_center  
## 38 norm\_condition1:hedonic\_center  
## 39 framing\_conditionFrameCode2:norm\_condition4:hedonic\_center  
## 40 norm\_condition3:hedonic\_center  
## 41 norm\_condition2:hedonic\_center  
## 42 framing\_conditionFrameCode2:hedonic\_center  
## 43 framing\_conditionFrameCode2:norm\_condition1:hedonic\_center  
## 44 framing\_conditionFrameCode2:norm\_condition2:hedonic\_center  
## 45 framing\_conditionFrameCode2:norm\_condition3:hedonic\_center  
## 46 framing\_conditionFrameCode2:norm\_condition4:egoistic\_center  
## 47 norm\_condition4:egoistic\_center  
## 48 egoistic\_center  
## 49 framing\_conditionFrameCode1:norm\_condition1:egoistic\_center  
## 50 framing\_conditionFrameCode1:norm\_condition4:egoistic\_center  
## 51 framing\_conditionFrameCode1:egoistic\_center  
## 52 framing\_conditionFrameCode1:norm\_condition3:egoistic\_center  
## 53 norm\_condition1:egoistic\_center  
## 54 norm\_condition3:egoistic\_center  
## 55 framing\_conditionFrameCode2:egoistic\_center  
## 56 framing\_conditionFrameCode1:norm\_condition2:egoistic\_center  
## 57 Gender1  
## 58 framing\_conditionFrameCode2:norm\_condition1:egoistic\_center  
## 59 framing\_conditionFrameCode2:norm\_condition3:egoistic\_center  
## 60 norm\_condition2:egoistic\_center  
## 61 self\_deceptive\_center  
## 62 clothing\_interest\_center  
## 63 framing\_conditionFrameCode2:norm\_condition2:egoistic\_center  
## 64 impress\_manag\_center  
## 65 Age\_center  
## 66 framing\_conditionFrameCode1:norm\_condition3:ingroup\_identification\_center  
## 67 framing\_conditionFrameCode1:norm\_condition2:ingroup\_identification\_center  
## 68 framing\_conditionFrameCode1:norm\_condition1:ingroup\_identification\_center  
## 69 ingroup\_identification\_center  
## 70 framing\_conditionFrameCode1:ingroup\_identification\_center  
## 71 norm\_condition2:ingroup\_identification\_center  
## 72 norm\_condition3:ingroup\_identification\_center  
## 73 norm\_condition1:ingroup\_identification\_center  
## 74 norm\_condition4:ingroup\_identification\_center  
## 75 framing\_conditionFrameCode2:norm\_condition2:ingroup\_identification\_center  
## 76 framing\_conditionFrameCode1:norm\_condition4:ingroup\_identification\_center  
## 77 framing\_conditionFrameCode2:norm\_condition4:ingroup\_identification\_center  
## 78 framing\_conditionFrameCode2:ingroup\_identification\_center  
## 79 framing\_conditionFrameCode2:norm\_condition3:ingroup\_identification\_center  
## 80 framing\_conditionFrameCode2:norm\_condition1:ingroup\_identification\_center  
## 81 framing\_conditionFrameCode1:norm\_condition4  
## 82 framing\_conditionFrameCode1  
## 83 framing\_conditionFrameCode1:norm\_condition3  
## 84 framing\_conditionFrameCode1:norm\_condition2  
## 85 norm\_condition4  
## 86 framing\_conditionFrameCode2:norm\_condition1  
## 87 norm\_condition2  
## 88 framing\_conditionFrameCode2  
## 89 norm\_condition3  
## 90 norm\_condition1  
## 91 framing\_conditionFrameCode1:norm\_condition1  
## 92 framing\_conditionFrameCode2:norm\_condition2  
## 93 framing\_conditionFrameCode2:norm\_condition3  
## 94 framing\_conditionFrameCode2:norm\_condition4  
## Tolerance VIF  
## 1 0.3105352 3.220247  
## 2 0.3583642 2.790457  
## 3 0.3594633 2.781925  
## 4 0.3766631 2.654892  
## 5 0.3898989 2.564767  
## 6 0.3941126 2.537346  
## 7 0.4037053 2.477054  
## 8 0.4155774 2.406291  
## 9 0.4182102 2.391142  
## 10 0.4262157 2.346230  
## 11 0.4319110 2.315292  
## 12 0.4325696 2.311766  
## 13 0.4423143 2.260836  
## 14 0.4553626 2.196052  
## 15 0.4593053 2.177201  
## 16 0.4606325 2.170928  
## 17 0.4729614 2.114338  
## 18 0.4732669 2.112973  
## 19 0.4744023 2.107916  
## 20 0.4780649 2.091766  
## 21 0.4941876 2.023523  
## 22 0.4975442 2.009872  
## 23 0.5023417 1.990677  
## 24 0.5056055 1.977827  
## 25 0.5061637 1.975646  
## 26 0.5236410 1.909705  
## 27 0.5286037 1.891776  
## 28 0.5326293 1.877478  
## 29 0.5338767 1.873092  
## 30 0.5340135 1.872612  
## 31 0.5353603 1.867901  
## 32 0.5410430 1.848282  
## 33 0.5478084 1.825456  
## 34 0.5528516 1.808804  
## 35 0.5539558 1.805198  
## 36 0.5621097 1.779012  
## 37 0.5736870 1.743111  
## 38 0.5745013 1.740640  
## 39 0.5765148 1.734561  
## 40 0.5837704 1.713002  
## 41 0.5880433 1.700555  
## 42 0.6044816 1.654310  
## 43 0.6065004 1.648804  
## 44 0.6197696 1.613503  
## 45 0.6270767 1.594701  
## 46 0.6395264 1.563657  
## 47 0.6469185 1.545790  
## 48 0.6507154 1.536770  
## 49 0.6629052 1.508511  
## 50 0.6709618 1.490398  
## 51 0.6751923 1.481060  
## 52 0.6755733 1.480224  
## 53 0.6947303 1.439407  
## 54 0.7042218 1.420007  
## 55 0.7216347 1.385743  
## 56 0.7222568 1.384549  
## 57 0.7250172 1.379278  
## 58 0.7404742 1.350486  
## 59 0.7439445 1.344186  
## 60 0.7505009 1.332443  
## 61 0.7507683 1.331969  
## 62 0.7633160 1.310073  
## 63 0.7739626 1.292052  
## 64 0.7933091 1.260543  
## 65 0.7959467 1.256366  
## 66 0.8143943 1.227906  
## 67 0.8157542 1.225859  
## 68 0.8251031 1.211970  
## 69 0.8260677 1.210555  
## 70 0.8273651 1.208656  
## 71 0.8372578 1.194375  
## 72 0.8471398 1.180443  
## 73 0.8479972 1.179249  
## 74 0.8495885 1.177040  
## 75 0.8558514 1.168427  
## 76 0.8618245 1.160329  
## 77 0.8664654 1.154114  
## 78 0.8689725 1.150784  
## 79 0.8715637 1.147363  
## 80 0.8754074 1.142325  
## 81 0.8790022 1.137654  
## 82 0.8945426 1.117890  
## 83 0.9025181 1.108011  
## 84 0.9045204 1.105558  
## 85 0.9057636 1.104041  
## 86 0.9111884 1.097468  
## 87 0.9122508 1.096190  
## 88 0.9133287 1.094896  
## 89 0.9138132 1.094316  
## 90 0.9169215 1.090606  
## 91 0.9171766 1.090303  
## 92 0.9206706 1.086165  
## 93 0.9235092 1.082826  
## 94 0.9249245 1.081169

Either a *low* tolerance (below 0.20 is one rule of thumb) or a *high* VIF (above 5 or 10) is an indication of a problem with multicollinearity.

## Simple Effects

### Framing Condition

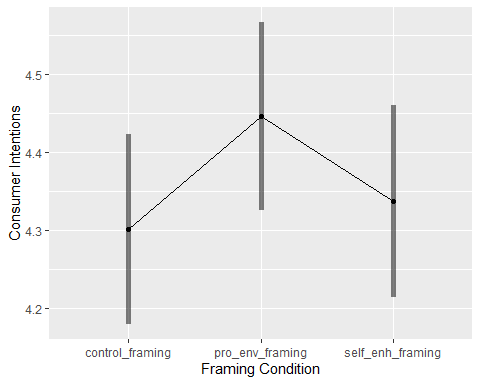
H1: Consumer intentions/behaviors will be lower in the self-enhancing framing than in the pro-environmental or control framing conditions.

Comparing each level of framing condition:

frame\_means <- emmeans(full\_model\_1a, pairwise ~ framing\_condition, adjust = "none")  
frame\_means

## $emmeans  
## framing\_condition emmean SE df lower.CL upper.CL  
## control\_framing 4.30 0.0621 883 4.18 4.42  
## pro\_env\_framing 4.45 0.0613 883 4.33 4.57  
## self\_enh\_framing 4.34 0.0627 883 4.21 4.46  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_framing - pro\_env\_framing -0.1446 0.0863 883 -1.675 0.0942  
## control\_framing - self\_enh\_framing -0.0357 0.0876 883 -0.407 0.6839  
## pro\_env\_framing - self\_enh\_framing 0.1089 0.0870 883 1.252 0.2110  
##   
## Results are averaged over the levels of: norm\_condition, Gender

emmip(full\_model\_1a, ~ framing\_condition, CIs = TRUE, xlab = "Framing Condition", ylab = "Consumer Intentions")



* Intentions are highest in the pro-environmental condition, but the difference between the pro-environmental and self-enhancing framings (t(883) = 1.20, p = .231) and the pro-environmental and control framing (t(883) = -1.66, p = .097) is not significant.
* The difference between self-enhancing and control framing is also not significant, t(883) = -0.45, p = .651.

Effect Sizes (Cohen’s D):

eff\_size(frame\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a))

## contrast effect.size SE df lower.CL upper.CL  
## (control\_framing - pro\_env\_framing) -0.1366 0.0816 883 -0.2968 0.0236  
## (control\_framing - self\_enh\_framing) -0.0337 0.0828 883 -0.1963 0.1288  
## (pro\_env\_framing - self\_enh\_framing) 0.1029 0.0823 883 -0.0585 0.2644  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

### Norm Condition

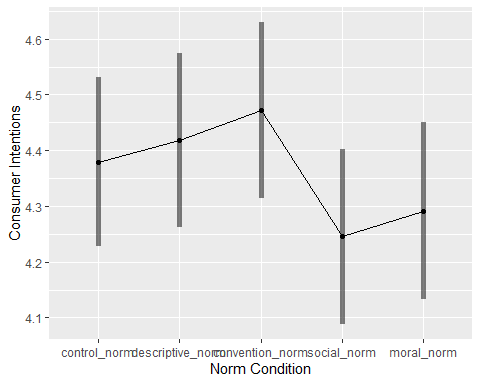
H2: Consumer intentions/behaviors will be lower in each norm condition compared to the control norm condition.

Comparing each level of norm condition:

norm\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition, adjust = "none")  
norm\_means

## $emmeans  
## norm\_condition emmean SE df lower.CL upper.CL  
## control\_norm 4.38 0.0773 883 4.23 4.53  
## descriptive\_norm 4.42 0.0793 883 4.26 4.57  
## convention\_norm 4.47 0.0803 883 4.31 4.63  
## social\_norm 4.25 0.0800 883 4.09 4.40  
## moral\_norm 4.29 0.0808 883 4.13 4.45  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm -0.0383 0.110 883 -0.348 0.7282  
## control\_norm - convention\_norm -0.0928 0.111 883 -0.836 0.4032  
## control\_norm - social\_norm 0.1343 0.110 883 1.217 0.2237  
## control\_norm - moral\_norm 0.0884 0.111 883 0.796 0.4265  
## descriptive\_norm - convention\_norm -0.0546 0.112 883 -0.486 0.6271  
## descriptive\_norm - social\_norm 0.1726 0.112 883 1.544 0.1229  
## descriptive\_norm - moral\_norm 0.1267 0.112 883 1.126 0.2603  
## convention\_norm - social\_norm 0.2272 0.113 883 2.016 0.0441  
## convention\_norm - moral\_norm 0.1812 0.114 883 1.595 0.1110  
## social\_norm - moral\_norm -0.0459 0.113 883 -0.407 0.6844  
##   
## Results are averaged over the levels of: framing\_condition, Gender

emmip(full\_model\_1a, ~ norm\_condition, CIs = TRUE, xlab = "Norm Condition", ylab = "Consumer Intentions")



* There was no significant difference between any norm condition compared to the control condition (all ps > .216)

Effect Sizes (Cohen’s D):

eff\_size(norm\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a))

## contrast effect.size SE df lower.CL upper.CL  
## (control\_norm - descriptive\_norm) -0.0361 0.104 883 -0.24016 0.168  
## (control\_norm - convention\_norm) -0.0877 0.105 883 -0.29357 0.118  
## (control\_norm - social\_norm) 0.1269 0.104 883 -0.07777 0.332  
## (control\_norm - moral\_norm) 0.0835 0.105 883 -0.12260 0.290  
## (descriptive\_norm - convention\_norm) -0.0516 0.106 883 -0.25982 0.157  
## (descriptive\_norm - social\_norm) 0.1631 0.106 883 -0.04433 0.370  
## (descriptive\_norm - moral\_norm) 0.1197 0.106 883 -0.08891 0.328  
## (convention\_norm - social\_norm) 0.2146 0.107 883 0.00541 0.424  
## (convention\_norm - moral\_norm) 0.1712 0.107 883 -0.03957 0.382  
## (social\_norm - moral\_norm) -0.0434 0.107 883 -0.25286 0.166  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

Exploratory finding:

* Intentions were significantly higher in the convention versus the social norm condition, t(883) = 1.60, p = .042.

### Framing X Norm

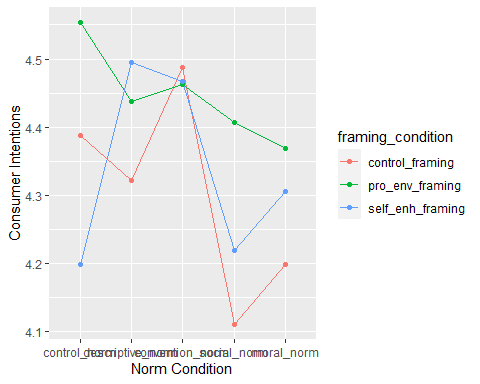
H3: There will be a two-way interaction between framing & norm condition such that the effect of each norm will be stronger in the self-enhancing framing than in the pro-environmental or control framing conditions.

Effect of norm condition at each level of framing condition:

cell\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition | framing\_condition, adjust = "none")  
cell\_means

## $emmeans  
## framing\_condition = control\_framing:  
## norm\_condition emmean SE df lower.CL upper.CL  
## control\_norm 4.39 0.131 883 4.13 4.65  
## descriptive\_norm 4.32 0.145 883 4.04 4.61  
## convention\_norm 4.49 0.145 883 4.20 4.77  
## social\_norm 4.11 0.120 883 3.87 4.35  
## moral\_norm 4.20 0.146 883 3.91 4.49  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition emmean SE df lower.CL upper.CL  
## control\_norm 4.55 0.136 883 4.29 4.82  
## descriptive\_norm 4.44 0.135 883 4.17 4.70  
## convention\_norm 4.46 0.129 883 4.21 4.72  
## social\_norm 4.41 0.144 883 4.12 4.69  
## moral\_norm 4.37 0.132 883 4.11 4.63  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition emmean SE df lower.CL upper.CL  
## control\_norm 4.20 0.133 883 3.94 4.46  
## descriptive\_norm 4.49 0.131 883 4.24 4.75  
## convention\_norm 4.47 0.142 883 4.19 4.75  
## social\_norm 4.22 0.149 883 3.93 4.51  
## moral\_norm 4.31 0.140 883 4.03 4.58  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## framing\_condition = control\_framing:  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm 0.0661 0.195 883 0.339 0.7349  
## control\_norm - convention\_norm -0.1002 0.196 883 -0.512 0.6091  
## control\_norm - social\_norm 0.2770 0.178 883 1.558 0.1195  
## control\_norm - moral\_norm 0.1885 0.197 883 0.958 0.3383  
## descriptive\_norm - convention\_norm -0.1662 0.205 883 -0.811 0.4175  
## descriptive\_norm - social\_norm 0.2109 0.188 883 1.124 0.2611  
## descriptive\_norm - moral\_norm 0.1224 0.206 883 0.595 0.5520  
## convention\_norm - social\_norm 0.3771 0.189 883 2.000 0.0458  
## convention\_norm - moral\_norm 0.2887 0.206 883 1.400 0.1619  
## social\_norm - moral\_norm -0.0885 0.189 883 -0.467 0.6407  
##   
## framing\_condition = pro\_env\_framing:  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm 0.1158 0.191 883 0.605 0.5451  
## control\_norm - convention\_norm 0.0913 0.187 883 0.488 0.6256  
## control\_norm - social\_norm 0.1473 0.197 883 0.747 0.4551  
## control\_norm - moral\_norm 0.1845 0.189 883 0.976 0.3291  
## descriptive\_norm - convention\_norm -0.0245 0.186 883 -0.131 0.8955  
## descriptive\_norm - social\_norm 0.0314 0.196 883 0.160 0.8728  
## descriptive\_norm - moral\_norm 0.0687 0.189 883 0.364 0.7160  
## convention\_norm - social\_norm 0.0559 0.192 883 0.291 0.7709  
## convention\_norm - moral\_norm 0.0932 0.184 883 0.507 0.6122  
## social\_norm - moral\_norm 0.0373 0.194 883 0.192 0.8475  
##   
## framing\_condition = self\_enh\_framing:  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm -0.2967 0.186 883 -1.597 0.1107  
## control\_norm - convention\_norm -0.2697 0.194 883 -1.391 0.1647  
## control\_norm - social\_norm -0.0212 0.199 883 -0.107 0.9151  
## control\_norm - moral\_norm -0.1078 0.193 883 -0.559 0.5761  
## descriptive\_norm - convention\_norm 0.0270 0.192 883 0.141 0.8882  
## descriptive\_norm - social\_norm 0.2754 0.198 883 1.392 0.1643  
## descriptive\_norm - moral\_norm 0.1889 0.192 883 0.985 0.3251  
## convention\_norm - social\_norm 0.2484 0.205 883 1.213 0.2253  
## convention\_norm - moral\_norm 0.1619 0.199 883 0.812 0.4172  
## social\_norm - moral\_norm -0.0866 0.204 883 -0.424 0.6716  
##   
## Results are averaged over the levels of: Gender

emmip(full\_model\_1a, framing\_condition ~ norm\_condition, CIs = FALSE, xlab = "Norm Condition", ylab = "Consumer Intentions")



* Differences between the control norm condition & other norm conditions were not significant within any of the framing conditions.

Effect Sizes (Cohen’s D):

eff\_size(cell\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a))

## framing\_condition = control\_framing:  
## contrast effect.size SE df lower.CL upper.CL  
## (control\_norm - descriptive\_norm) 0.0624 0.184 883 -0.29930 0.4242  
## (control\_norm - convention\_norm) -0.0946 0.185 883 -0.45781 0.2685  
## (control\_norm - social\_norm) 0.2617 0.168 883 -0.06815 0.5915  
## (control\_norm - moral\_norm) 0.1781 0.186 883 -0.18683 0.5430  
## (descriptive\_norm - convention\_norm) -0.1571 0.194 883 -0.53720 0.2231  
## (descriptive\_norm - social\_norm) 0.1993 0.177 883 -0.14865 0.5472  
## (descriptive\_norm - moral\_norm) 0.1157 0.194 883 -0.26591 0.4973  
## (convention\_norm - social\_norm) 0.3563 0.178 883 0.00624 0.7064  
## (convention\_norm - moral\_norm) 0.2728 0.195 883 -0.10990 0.6554  
## (social\_norm - moral\_norm) -0.0836 0.179 883 -0.43494 0.2678  
##   
## framing\_condition = pro\_env\_framing:  
## contrast effect.size SE df lower.CL upper.CL  
## (control\_norm - descriptive\_norm) 0.1094 0.181 883 -0.24544 0.4643  
## (control\_norm - convention\_norm) 0.0863 0.177 883 -0.26077 0.4334  
## (control\_norm - social\_norm) 0.1392 0.186 883 -0.22639 0.5047  
## (control\_norm - moral\_norm) 0.1744 0.179 883 -0.17619 0.5249  
## (descriptive\_norm - convention\_norm) -0.0231 0.176 883 -0.36883 0.3225  
## (descriptive\_norm - social\_norm) 0.0297 0.186 883 -0.33446 0.3939  
## (descriptive\_norm - moral\_norm) 0.0649 0.178 883 -0.28511 0.4149  
## (convention\_norm - social\_norm) 0.0528 0.181 883 -0.30326 0.4090  
## (convention\_norm - moral\_norm) 0.0880 0.174 883 -0.25269 0.4288  
## (social\_norm - moral\_norm) 0.0352 0.183 883 -0.32381 0.3942  
##   
## framing\_condition = self\_enh\_framing:  
## contrast effect.size SE df lower.CL upper.CL  
## (control\_norm - descriptive\_norm) -0.2803 0.176 883 -0.62507 0.0645  
## (control\_norm - convention\_norm) -0.2548 0.183 883 -0.61456 0.1050  
## (control\_norm - social\_norm) -0.0201 0.188 883 -0.38924 0.3491  
## (control\_norm - moral\_norm) -0.1018 0.182 883 -0.45927 0.2556  
## (descriptive\_norm - convention\_norm) 0.0255 0.181 883 -0.33065 0.3817  
## (descriptive\_norm - social\_norm) 0.2602 0.187 883 -0.10688 0.6274  
## (descriptive\_norm - moral\_norm) 0.1785 0.181 883 -0.17737 0.5343  
## (convention\_norm - social\_norm) 0.2347 0.194 883 -0.14507 0.6145  
## (convention\_norm - moral\_norm) 0.1529 0.188 883 -0.21699 0.5229  
## (social\_norm - moral\_norm) -0.0818 0.193 883 -0.46034 0.2968  
##   
## Results are averaged over the levels of: Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

* The effect sizes are larger comparing the control norm condition to the other norm conditions within the self-enhancing framing condition compared to within the control framing or pro-environmental framing conditions
  + But, inspection of the cell means demonstrates that this is being driven by the fact that consumer intentions in the self-enhancing framing/control norm condition started out lower than the control norm condition in the other two framing conditions.

Comparing consumer intentions for each norm condition between each framing condition:

# Control norm  
chosen\_values <- list(norm\_condition = c("control\_norm"), framing\_condition = c("control\_framing", "pro\_env\_framing", "self\_enh\_framing"))  
  
control\_norm\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition\*framing\_condition, at = chosen\_values, adjust = "none")  
  
control\_norm\_means

## $emmeans  
## norm\_condition framing\_condition emmean SE df lower.CL upper.CL  
## control\_norm control\_framing 4.39 0.131 883 4.13 4.65  
## control\_norm pro\_env\_framing 4.55 0.136 883 4.29 4.82  
## control\_norm self\_enh\_framing 4.20 0.133 883 3.94 4.46  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE  
## control\_norm control\_framing - control\_norm pro\_env\_framing -0.166 0.189  
## control\_norm control\_framing - control\_norm self\_enh\_framing 0.190 0.186  
## control\_norm pro\_env\_framing - control\_norm self\_enh\_framing 0.356 0.190  
## df t.ratio p.value  
## 883 -0.879 0.3794  
## 883 1.018 0.3088  
## 883 1.877 0.0609  
##   
## Results are averaged over the levels of: Gender

eff\_size(control\_norm\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a)) # cohen's d

## contrast effect.size  
## (control\_norm control\_framing - control\_norm pro\_env\_framing) -0.157  
## (control\_norm control\_framing - control\_norm self\_enh\_framing) 0.179  
## (control\_norm pro\_env\_framing - control\_norm self\_enh\_framing) 0.336  
## SE df lower.CL upper.CL  
## 0.179 883 -0.5074 0.193  
## 0.176 883 -0.1663 0.525  
## 0.179 883 -0.0158 0.688  
##   
## Results are averaged over the levels of: Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

# Descriptive norm  
chosen\_values <- list(norm\_condition = c("descriptive\_norm"), framing\_condition = c("control\_framing", "pro\_env\_framing", "self\_enh\_framing"))  
  
descr\_norm\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition\*framing\_condition, at = chosen\_values, adjust = "none")  
descr\_norm\_means

## $emmeans  
## norm\_condition framing\_condition emmean SE df lower.CL upper.CL  
## descriptive\_norm control\_framing 4.32 0.145 883 4.04 4.61  
## descriptive\_norm pro\_env\_framing 4.44 0.135 883 4.17 4.70  
## descriptive\_norm self\_enh\_framing 4.49 0.131 883 4.24 4.75  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate  
## descriptive\_norm control\_framing - descriptive\_norm pro\_env\_framing -0.1164  
## descriptive\_norm control\_framing - descriptive\_norm self\_enh\_framing -0.1731  
## descriptive\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing -0.0567  
## SE df t.ratio p.value  
## 0.198 883 -0.587 0.5571  
## 0.195 883 -0.889 0.3745  
## 0.189 883 -0.300 0.7641  
##   
## Results are averaged over the levels of: Gender

eff\_size(descr\_norm\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a)) # cohen's d

## contrast   
## (descriptive\_norm control\_framing - descriptive\_norm pro\_env\_framing)   
## (descriptive\_norm control\_framing - descriptive\_norm self\_enh\_framing)  
## (descriptive\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing)  
## effect.size SE df lower.CL upper.CL  
## -0.1100 0.187 883 -0.477 0.257  
## -0.1635 0.184 883 -0.525 0.198  
## -0.0536 0.178 883 -0.404 0.297  
##   
## Results are averaged over the levels of: Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

# Convention norm  
chosen\_values <- list(norm\_condition = c("convention\_norm"), framing\_condition = c("control\_framing", "pro\_env\_framing", "self\_enh\_framing"))  
  
conv\_norm\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition\*framing\_condition, at = chosen\_values, adjust = "none")  
conv\_norm\_means

## $emmeans  
## norm\_condition framing\_condition emmean SE df lower.CL upper.CL  
## convention\_norm control\_framing 4.49 0.145 883 4.20 4.77  
## convention\_norm pro\_env\_framing 4.46 0.129 883 4.21 4.72  
## convention\_norm self\_enh\_framing 4.47 0.142 883 4.19 4.75  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate  
## convention\_norm control\_framing - convention\_norm pro\_env\_framing 0.02538  
## convention\_norm control\_framing - convention\_norm self\_enh\_framing 0.02015  
## convention\_norm pro\_env\_framing - convention\_norm self\_enh\_framing -0.00522  
## SE df t.ratio p.value  
## 0.194 883 0.131 0.8960  
## 0.203 883 0.099 0.9210  
## 0.191 883 -0.027 0.9782  
##   
## Results are averaged over the levels of: Gender

eff\_size(conv\_norm\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a)) # cohen's d

## contrast   
## (convention\_norm control\_framing - convention\_norm pro\_env\_framing)   
## (convention\_norm control\_framing - convention\_norm self\_enh\_framing)  
## (convention\_norm pro\_env\_framing - convention\_norm self\_enh\_framing)  
## effect.size SE df lower.CL upper.CL  
## 0.02398 0.183 883 -0.336 0.384  
## 0.01904 0.192 883 -0.358 0.396  
## -0.00494 0.181 883 -0.360 0.350  
##   
## Results are averaged over the levels of: Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

# Social norm  
chosen\_values <- list(norm\_condition = c("social\_norm"), framing\_condition = c("control\_framing", "pro\_env\_framing", "self\_enh\_framing"))  
  
soc\_norm\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition\*framing\_condition, at = chosen\_values, adjust = "none")  
soc\_norm\_means

## $emmeans  
## norm\_condition framing\_condition emmean SE df lower.CL upper.CL  
## social\_norm control\_framing 4.11 0.120 883 3.87 4.35  
## social\_norm pro\_env\_framing 4.41 0.144 883 4.12 4.69  
## social\_norm self\_enh\_framing 4.22 0.149 883 3.93 4.51  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df  
## social\_norm control\_framing - social\_norm pro\_env\_framing -0.296 0.187 883  
## social\_norm control\_framing - social\_norm self\_enh\_framing -0.109 0.191 883  
## social\_norm pro\_env\_framing - social\_norm self\_enh\_framing 0.187 0.206 883  
## t.ratio p.value  
## -1.583 0.1137  
## -0.568 0.5699  
## 0.907 0.3647  
##   
## Results are averaged over the levels of: Gender

eff\_size(soc\_norm\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a)) # cohen's d

## contrast effect.size SE  
## (social\_norm control\_framing - social\_norm pro\_env\_framing) -0.280 0.177  
## (social\_norm control\_framing - social\_norm self\_enh\_framing) -0.103 0.180  
## (social\_norm pro\_env\_framing - social\_norm self\_enh\_framing) 0.177 0.195  
## df lower.CL upper.CL  
## 883 -0.626 0.0672  
## 883 -0.457 0.2516  
## 883 -0.206 0.5600  
##   
## Results are averaged over the levels of: Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

# Moral norm  
chosen\_values <- list(norm\_condition = c("moral\_norm"), framing\_condition = c("control\_framing", "pro\_env\_framing", "self\_enh\_framing"))  
  
moral\_norm\_means <- emmeans(full\_model\_1a, pairwise ~ norm\_condition\*framing\_condition, at = chosen\_values, adjust = "none")  
moral\_norm\_means

## $emmeans  
## norm\_condition framing\_condition emmean SE df lower.CL upper.CL  
## moral\_norm control\_framing 4.20 0.146 883 3.91 4.49  
## moral\_norm pro\_env\_framing 4.37 0.132 883 4.11 4.63  
## moral\_norm self\_enh\_framing 4.31 0.140 883 4.03 4.58  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df  
## moral\_norm control\_framing - moral\_norm pro\_env\_framing -0.1701 0.197 883  
## moral\_norm control\_framing - moral\_norm self\_enh\_framing -0.1066 0.203 883  
## moral\_norm pro\_env\_framing - moral\_norm self\_enh\_framing 0.0635 0.192 883  
## t.ratio p.value  
## -0.865 0.3873  
## -0.526 0.5988  
## 0.330 0.7415  
##   
## Results are averaged over the levels of: Gender

eff\_size(moral\_norm\_means, sigma = sigma(full\_model\_1a), edf = df.residual(full\_model\_1a)) # cohen's d

## contrast effect.size SE  
## (moral\_norm control\_framing - moral\_norm pro\_env\_framing) -0.161 0.186  
## (moral\_norm control\_framing - moral\_norm self\_enh\_framing) -0.101 0.191  
## (moral\_norm pro\_env\_framing - moral\_norm self\_enh\_framing) 0.060 0.182  
## df lower.CL upper.CL  
## 883 -0.526 0.204  
## 883 -0.477 0.275  
## 883 -0.297 0.417  
##   
## Results are averaged over the levels of: Gender   
## sigma used for effect sizes: 1.058   
## Confidence level used: 0.95

### Values Interactions

H4: There will be a three-way interaction between values (biospheric, egoistic, altruistic, hedonic), framing condition, & norm condition such that when a pro-environmental or control framing is used, values will moderate the effect of each norm condition, but not when a self-enhancing framing is used.

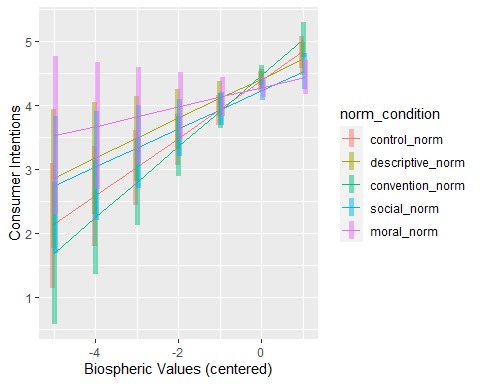
### Biospheric Values

First, relationship between biospheric values & consumer intentions for each norm condition:

emtrends(full\_model\_1a, ~norm\_condition, var = "biospheric\_center", adjust = "none")

## norm\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.452 0.0995 883 0.2565 0.647  
## descriptive\_norm 0.312 0.1096 883 0.0973 0.527  
## convention\_norm 0.556 0.1127 883 0.3352 0.777  
## social\_norm 0.297 0.1102 883 0.0809 0.514  
## moral\_norm 0.152 0.1222 883 -0.0877 0.392  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(biospheric\_center = seq(-5, 1.3, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ biospheric\_center, at = at\_list, CIs = TRUE, xlab = "Biospheric Values (centered)", ylab = "Consumer Intentions")



* Biospheric values was a significant, positive predictor of consumer intentions in all norm conditions except for the moral norm conditions in which it was a non-significant, positive predictor.

Is the slope of the relationship between biospheric values & consumer intentions stronger in any one of the norm conditions compared to the others?

emtrends(full\_model\_1a, pairwise~norm\_condition, var = "biospheric\_center", adjust = "none")

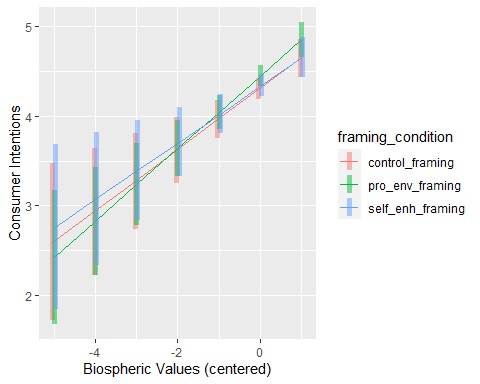
## $emtrends  
## norm\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.452 0.0995 883 0.2565 0.647  
## descriptive\_norm 0.312 0.1096 883 0.0973 0.527  
## convention\_norm 0.556 0.1127 883 0.3352 0.777  
## social\_norm 0.297 0.1102 883 0.0809 0.514  
## moral\_norm 0.152 0.1222 883 -0.0877 0.392  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm 0.1395 0.148 883 0.943 0.3460  
## control\_norm - convention\_norm -0.1044 0.150 883 -0.694 0.4877  
## control\_norm - social\_norm 0.1546 0.149 883 1.040 0.2988  
## control\_norm - moral\_norm 0.2997 0.157 883 1.903 0.0574  
## descriptive\_norm - convention\_norm -0.2439 0.157 883 -1.553 0.1207  
## descriptive\_norm - social\_norm 0.0151 0.155 883 0.097 0.9224  
## descriptive\_norm - moral\_norm 0.1601 0.164 883 0.977 0.3289  
## convention\_norm - social\_norm 0.2591 0.157 883 1.647 0.0999  
## convention\_norm - moral\_norm 0.4041 0.166 883 2.428 0.0154  
## social\_norm - moral\_norm 0.1450 0.165 883 0.880 0.3789  
##   
## Results are averaged over the levels of: framing\_condition, Gender

Second, relationship between biospheric values & consumer intentions for each framing condition:

emtrends(full\_model\_1a, ~framing\_condition, var = "biospheric\_center", adjust = "none")

## framing\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_framing 0.342 0.0880 883 0.170 0.515  
## pro\_env\_framing 0.405 0.0755 883 0.256 0.553  
## self\_enh\_framing 0.315 0.0933 883 0.132 0.498  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(biospheric\_center = seq(-5, 1.3, by = 1))  
  
emmip(full\_model\_1a, framing\_condition ~ biospheric\_center, at = at\_list, CIs = TRUE, xlab = "Biospheric Values (centered)", ylab = "Consumer Intentions")



* Biospheric values were significantly, positively related to consumer intentions in all framing conditions.

Is the slope of the relationship between biospheric values & consumer intentions stronger in any one of the framing conditions compared to the others?

emtrends(full\_model\_1a, pairwise~framing\_condition, var = "biospheric\_center", adjust = "none")

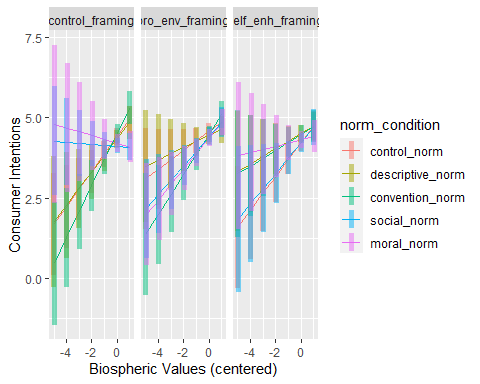
## $emtrends  
## framing\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_framing 0.342 0.0880 883 0.170 0.515  
## pro\_env\_framing 0.405 0.0755 883 0.256 0.553  
## self\_enh\_framing 0.315 0.0933 883 0.132 0.498  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_framing - pro\_env\_framing -0.0623 0.116 883 -0.538 0.5904  
## control\_framing - self\_enh\_framing 0.0273 0.128 883 0.213 0.8314  
## pro\_env\_framing - self\_enh\_framing 0.0896 0.120 883 0.747 0.4550  
##   
## Results are averaged over the levels of: norm\_condition, Gender

Third, interaction between biospheric values, framing, & norm condition:

emtrends(full\_model\_1a, ~norm\_condition | framing\_condition, var = "biospheric\_center", adjust = "none")

## framing\_condition = control\_framing:  
## norm\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.5416 0.160 883 0.2274 0.856  
## descriptive\_norm 0.5133 0.206 883 0.1082 0.918  
## convention\_norm 0.8058 0.196 883 0.4219 1.190  
## social\_norm -0.0309 0.171 883 -0.3669 0.305  
## moral\_norm -0.1184 0.241 883 -0.5912 0.354  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.2911 0.161 883 -0.0243 0.606  
## descriptive\_norm 0.1890 0.174 883 -0.1526 0.530  
## convention\_norm 0.6198 0.189 883 0.2482 0.991  
## social\_norm 0.4477 0.160 883 0.1343 0.761  
## moral\_norm 0.4758 0.159 883 0.1645 0.787  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition biospheric\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.5229 0.194 883 0.1415 0.904  
## descriptive\_norm 0.2347 0.186 883 -0.1308 0.600  
## convention\_norm 0.2433 0.200 883 -0.1500 0.637  
## social\_norm 0.4749 0.232 883 0.0186 0.931  
## moral\_norm 0.0992 0.226 883 -0.3453 0.544  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95

# Separate graph for each framing condition  
at\_list <- list(biospheric\_center = seq(-5, 1.3, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ biospheric\_center | framing\_condition, at = at\_list, CIs = TRUE, xlab = "Biospheric Values (centered)", ylab = "Consumer Intentions")



* In the control framing condition, biospheric values were significantly, positively related to consumer intentions in the **control norm**, **descriptive norm**, and **convention** conditions but non-significantly, negatively related in the **social norm** and **moral norm** conditions.
* In the pro-environmental framing condition, biospheric values were significantly, positively realted to consumer intentions in the **convention**, **social norm** and **moral norm** conditions, and non-significantly, positively related in the **control norm** and **descriptive norm** conditions.
* In the self-enhancing framing condition, biospheric values were significantly, positively related to consumer intentions in the **control norm** condition, but non-significantly, positively related in all other norm conditions.

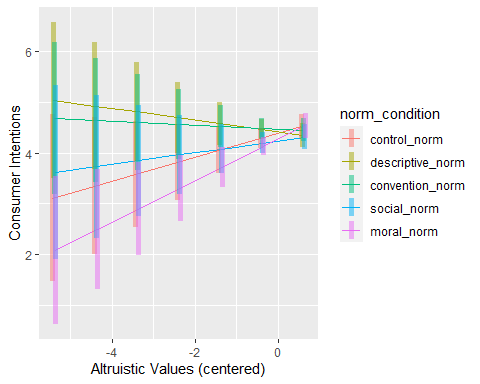
### Altruistic Values

First, relationship between altruistic values & consumer intentions for each norm condition:

emtrends(full\_model\_1a, ~norm\_condition, var = "altruistic\_center", adjust = "none")

## norm\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.2341 0.154 883 -0.0688 0.537  
## descriptive\_norm -0.1157 0.144 883 -0.3978 0.166  
## convention\_norm -0.0385 0.140 883 -0.3141 0.237  
## social\_norm 0.1174 0.160 883 -0.1969 0.432  
## moral\_norm 0.4097 0.139 883 0.1375 0.682  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(altruistic\_center = seq(-5.4, 1, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ altruistic\_center, at = at\_list, CIs = TRUE, xlab = "Altruistic Values (centered)", ylab = "Consumer Intentions")



* Altruistic values was a non-significant predictor of consumer intentions in the **control norm**, **descriptive norm**, **convention**, and **social norm** conditions.
* Altruistic values was a significant, positive predictor of consumer intentions in the **moral norm** condition.

Is the slope of the relationship between altruistic values & consumer intentions stronger in any one of the norm conditions compared to the others?

emtrends(full\_model\_1a, pairwise~norm\_condition, var = "altruistic\_center", adjust = "none")

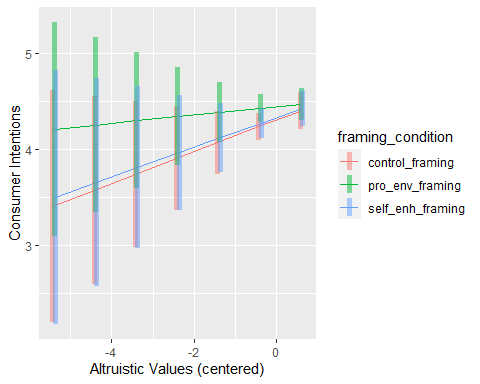
## $emtrends  
## norm\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.2341 0.154 883 -0.0688 0.537  
## descriptive\_norm -0.1157 0.144 883 -0.3978 0.166  
## convention\_norm -0.0385 0.140 883 -0.3141 0.237  
## social\_norm 0.1174 0.160 883 -0.1969 0.432  
## moral\_norm 0.4097 0.139 883 0.1375 0.682  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm 0.3498 0.210 883 1.669 0.0955  
## control\_norm - convention\_norm 0.2726 0.207 883 1.317 0.1882  
## control\_norm - social\_norm 0.1167 0.220 883 0.530 0.5960  
## control\_norm - moral\_norm -0.1756 0.205 883 -0.854 0.3931  
## descriptive\_norm - convention\_norm -0.0772 0.200 883 -0.385 0.7002  
## descriptive\_norm - social\_norm -0.2331 0.214 883 -1.089 0.2763  
## descriptive\_norm - moral\_norm -0.5254 0.199 883 -2.641 0.0084  
## convention\_norm - social\_norm -0.1559 0.212 883 -0.735 0.4627  
## convention\_norm - moral\_norm -0.4482 0.196 883 -2.283 0.0227  
## social\_norm - moral\_norm -0.2923 0.210 883 -1.389 0.1652  
##   
## Results are averaged over the levels of: framing\_condition, Gender

Second, relationship between altruistic values & consumer intentions for each framing condition:

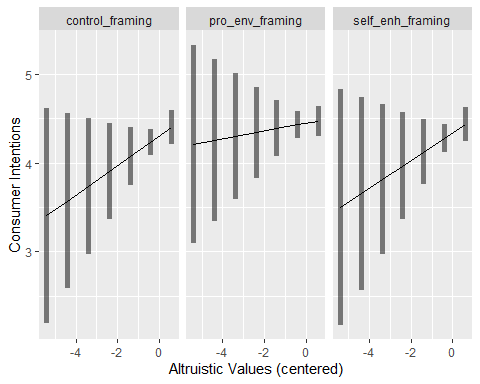
emtrends(full\_model\_1a, ~framing\_condition, var = "altruistic\_center", adjust = "none")

## framing\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_framing 0.1659 0.114 883 -0.0588 0.391  
## pro\_env\_framing 0.0434 0.104 883 -0.1612 0.248  
## self\_enh\_framing 0.1549 0.125 883 -0.0900 0.400  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(altruistic\_center = seq(-5.4, 1, by = 1))  
  
emmip(full\_model\_1a, framing\_condition ~ altruistic\_center, at = at\_list, CIs = TRUE, xlab = "Altruistic Values (centered)", ylab = "Consumer Intentions")



# Separate graph for each norm  
emmip(full\_model\_1a, ~ altruistic\_center | framing\_condition, at = at\_list, CIs = TRUE, xlab = "Altruistic Values (centered)", ylab = "Consumer Intentions")



* Altruistic values are positively, but non-significantly, related to consumer intentions in each framing condition.

Is the slope of the relationship between altruistic values & consumer intentions stronger in any one of the framing conditions compared to the others?

emtrends(full\_model\_1a, pairwise~framing\_condition, var = "altruistic\_center", adjust = "none")

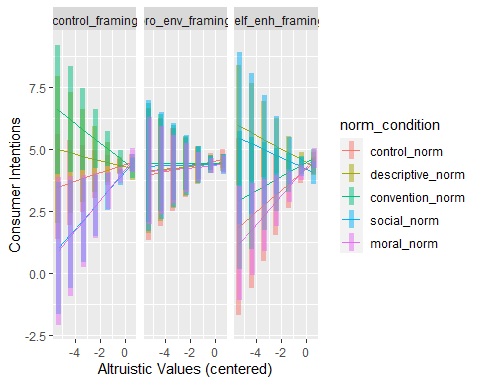
## $emtrends  
## framing\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_framing 0.1659 0.114 883 -0.0588 0.391  
## pro\_env\_framing 0.0434 0.104 883 -0.1612 0.248  
## self\_enh\_framing 0.1549 0.125 883 -0.0900 0.400  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_framing - pro\_env\_framing 0.1226 0.153 883 0.801 0.4236  
## control\_framing - self\_enh\_framing 0.0111 0.168 883 0.066 0.9473  
## pro\_env\_framing - self\_enh\_framing -0.1115 0.161 883 -0.694 0.4881  
##   
## Results are averaged over the levels of: norm\_condition, Gender

Third, interaction between altruistic values, framing, & norm condition:

emtrends(full\_model\_1a, ~norm\_condition | framing\_condition, var = "altruistic\_center", adjust = "none")

## framing\_condition = control\_framing:  
## norm\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.16469 0.197 883 -0.2227 0.5521  
## descriptive\_norm -0.12639 0.283 883 -0.6810 0.4282  
## convention\_norm -0.39552 0.246 883 -0.8792 0.0881  
## social\_norm 0.57397 0.249 883 0.0854 1.0625  
## moral\_norm 0.61297 0.287 883 0.0498 1.1761  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.10810 0.246 883 -0.3754 0.5916  
## descriptive\_norm 0.05552 0.231 883 -0.3983 0.5093  
## convention\_norm -0.00098 0.224 883 -0.4402 0.4382  
## social\_norm 0.01098 0.247 883 -0.4732 0.4951  
## moral\_norm 0.04324 0.204 883 -0.3574 0.4439  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition altruistic\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.42958 0.333 883 -0.2248 1.0839  
## descriptive\_norm -0.27627 0.228 883 -0.7245 0.1719  
## convention\_norm 0.28099 0.258 883 -0.2251 0.7871  
## social\_norm -0.23283 0.325 883 -0.8707 0.4050  
## moral\_norm 0.57287 0.218 883 0.1451 1.0006  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95

# Separate graph for each framing condition  
at\_list <- list(altruistic\_center = seq(-5.4, 1, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ altruistic\_center | framing\_condition, at = at\_list, CIs = TRUE, xlab = "Altruistic Values (centered)", ylab = "Consumer Intentions")



* In the control framing condition, altruistic values were significantly, positively related to consumer intentions in the **social norm** and **moral norm** conditions, but non-significantly related in the **control norm**, **descriptive norm**, and **convention** conditions.
* In the pro-environmental framing condition, altruistic values were not significantly related to consumer intentions in any of the norm conditions.
* In the self-enhancing framing condition, altruistic values were significantly, positively related to consumer intentions in the **moral norm** condition, but non-significantly related in all other norm conditions.

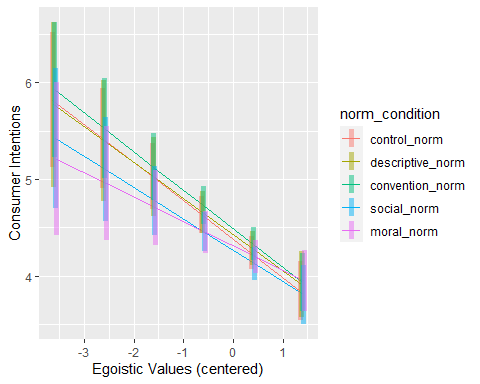
### Egoistic Values

First, relationship between egoistic values & consumer intentions for each norm condition:

emtrends(full\_model\_1a, ~norm\_condition, var = "egoistic\_center", adjust = "none")

## norm\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.396 0.0964 883 -0.585 -0.2066  
## descriptive\_norm -0.372 0.1169 883 -0.601 -0.1423  
## convention\_norm -0.399 0.0953 883 -0.586 -0.2118  
## social\_norm -0.324 0.0990 883 -0.518 -0.1297  
## moral\_norm -0.252 0.1071 883 -0.463 -0.0422  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(egoistic\_center = seq(-3.6, 2.2, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ egoistic\_center, at = at\_list, CIs = TRUE, xlab = "Egoistic Values (centered)", ylab = "Consumer Intentions")



* Egoistic values were a significant, negative predictor of consumer intentions within each norm condition

Is the slope of the relationship between egoistic values & consumer intentions stronger in any one of the norm conditions compared to the others?

emtrends(full\_model\_1a, pairwise~norm\_condition, var = "egoistic\_center", adjust = "none")

## $emtrends  
## norm\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.396 0.0964 883 -0.585 -0.2066  
## descriptive\_norm -0.372 0.1169 883 -0.601 -0.1423  
## convention\_norm -0.399 0.0953 883 -0.586 -0.2118  
## social\_norm -0.324 0.0990 883 -0.518 -0.1297  
## moral\_norm -0.252 0.1071 883 -0.463 -0.0422  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm -0.02400 0.151 883 -0.159 0.8734  
## control\_norm - convention\_norm 0.00316 0.135 883 0.023 0.9813  
## control\_norm - social\_norm -0.07179 0.137 883 -0.522 0.6015  
## control\_norm - moral\_norm -0.14338 0.143 883 -1.003 0.3162  
## descriptive\_norm - convention\_norm 0.02716 0.150 883 0.181 0.8562  
## descriptive\_norm - social\_norm -0.04779 0.152 883 -0.314 0.7537  
## descriptive\_norm - moral\_norm -0.11938 0.157 883 -0.760 0.4476  
## convention\_norm - social\_norm -0.07495 0.137 883 -0.548 0.5840  
## convention\_norm - moral\_norm -0.14654 0.142 883 -1.030 0.3035  
## social\_norm - moral\_norm -0.07159 0.145 883 -0.495 0.6206  
##   
## Results are averaged over the levels of: framing\_condition, Gender

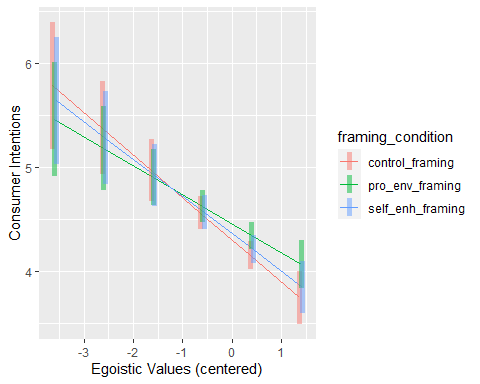
No, the difference between any two slopes was not significant.

Second, relationship between egoistic values & consumer intentions for each framing condition:

emtrends(full\_model\_1a, ~framing\_condition, var = "egoistic\_center", adjust = "none")

## framing\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_framing -0.408 0.0837 883 -0.572 -0.244  
## pro\_env\_framing -0.279 0.0743 883 -0.425 -0.133  
## self\_enh\_framing -0.359 0.0828 883 -0.521 -0.196  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(egoistic\_center = seq(-3.6, 2.2, by = 1))  
  
emmip(full\_model\_1a, framing\_condition ~ egoistic\_center, at = at\_list, CIs = TRUE, xlab = "Egoistic Values (centered)", ylab = "Consumer Intentions")



* Egoistic values were a significant, negative predictor of consumer intentions within each framing condition

Is the slope of the relationship between egoistic values & consumer intentions stronger in any one of the framing conditions compared to the others?

emtrends(full\_model\_1a, pairwise~framing\_condition, var = "egoistic\_center", adjust = "none")

## $emtrends  
## framing\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_framing -0.408 0.0837 883 -0.572 -0.244  
## pro\_env\_framing -0.279 0.0743 883 -0.425 -0.133  
## self\_enh\_framing -0.359 0.0828 883 -0.521 -0.196  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_framing - pro\_env\_framing -0.1291 0.111 883 -1.167 0.2435  
## control\_framing - self\_enh\_framing -0.0496 0.116 883 -0.426 0.6700  
## pro\_env\_framing - self\_enh\_framing 0.0795 0.110 883 0.723 0.4698  
##   
## Results are averaged over the levels of: norm\_condition, Gender

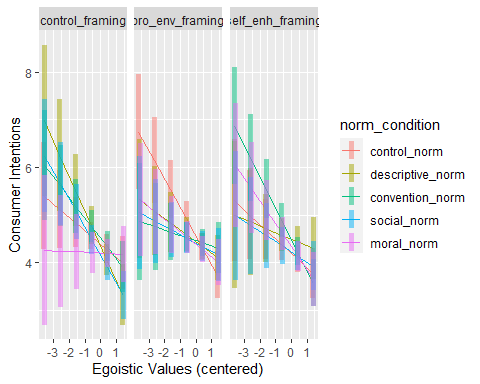
No, the difference between any two slopes was not significant.

Third, interaction between egoistic values, framing, & norm condition:

emtrends(full\_model\_1a, ~norm\_condition | framing\_condition, var = "egoistic\_center", adjust = "none")

## framing\_condition = control\_framing:  
## norm\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.281 0.163 883 -0.600 0.0384  
## descriptive\_norm -0.730 0.218 883 -1.158 -0.3010  
## convention\_norm -0.427 0.160 883 -0.741 -0.1131  
## social\_norm -0.585 0.165 883 -0.910 -0.2609  
## moral\_norm -0.018 0.210 883 -0.430 0.3943  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.601 0.163 883 -0.921 -0.2814  
## descriptive\_norm -0.246 0.165 883 -0.570 0.0784  
## convention\_norm -0.111 0.170 883 -0.444 0.2227  
## social\_norm -0.176 0.167 883 -0.503 0.1512  
## moral\_norm -0.261 0.160 883 -0.576 0.0534  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition egoistic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.305 0.174 883 -0.646 0.0355  
## descriptive\_norm -0.140 0.217 883 -0.565 0.2854  
## convention\_norm -0.659 0.164 883 -0.980 -0.3382  
## social\_norm -0.211 0.179 883 -0.562 0.1406  
## moral\_norm -0.478 0.180 883 -0.831 -0.1244  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95

# Separate graph for each framing condition  
at\_list <- list(egoistic\_center = seq(-3.6, 2.2, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ egoistic\_center | framing\_condition, at = at\_list, CIs = TRUE, xlab = "Egoistic Values (centered)", ylab = "Consumer Intentions")



* In the control framing condition, egoistic values were *not* significantly related to consumer intentions in the **control norm** or **moral norm** conditions (but were signifcantly, negatively related to consumer intentions in the other norm conditions).
* In the pro-environmental framing condition, egoistic values were *not* significantly related to consumer intentions in the **descriptive norm**, **convention**, **social norm**, and **moral norm** conditions (but were still significantly, negatively related in the control norm condition).
* In the self-enhancing framing condition, egoistic values were *not* significantly related to consumer intentions in the **control norm**, **descriptive norm** and **social norm** conditions (but were still significantly, negatively related in the convention & moral norm conditions).

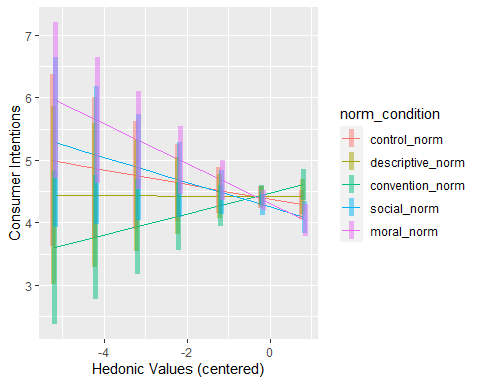
### Hedoninc Values

First, relationship between hedonic values & consumer intentions for each norm condition:

emtrends(full\_model\_1a, ~norm\_condition, var = "hedonic\_center", adjust = "none")

## norm\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.11757 0.132 883 -0.3759 0.1407  
## descriptive\_norm -0.00342 0.140 883 -0.2775 0.2707  
## convention\_norm 0.16779 0.119 883 -0.0653 0.4009  
## social\_norm -0.19823 0.132 883 -0.4570 0.0606  
## moral\_norm -0.31917 0.122 883 -0.5588 -0.0795  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(hedonic\_center = seq(-5.2, 1.2, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ hedonic\_center, at = at\_list, CIs = TRUE, xlab = "Hedonic Values (centered)", ylab = "Consumer Intentions")



* Hedonic values were not significantly related to consumer intentions in any norm condition except for the moral norm condition in which they were significantly, negatively related to consumer intentions.

Is the slope of the relationship between hedonic values & consumer intentions stronger in any one of the norm conditions compared to the others?

emtrends(full\_model\_1a, pairwise~norm\_condition, var = "hedonic\_center", adjust = "none")

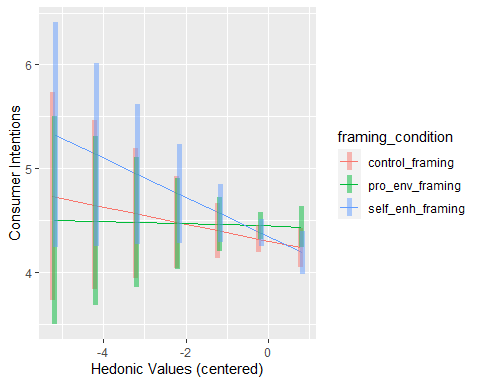
## $emtrends  
## norm\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.11757 0.132 883 -0.3759 0.1407  
## descriptive\_norm -0.00342 0.140 883 -0.2775 0.2707  
## convention\_norm 0.16779 0.119 883 -0.0653 0.4009  
## social\_norm -0.19823 0.132 883 -0.4570 0.0606  
## moral\_norm -0.31917 0.122 883 -0.5588 -0.0795  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm -0.1141 0.192 883 -0.596 0.5516  
## control\_norm - convention\_norm -0.2854 0.177 883 -1.610 0.1079  
## control\_norm - social\_norm 0.0807 0.186 883 0.435 0.6638  
## control\_norm - moral\_norm 0.2016 0.179 883 1.128 0.2598  
## descriptive\_norm - convention\_norm -0.1712 0.183 883 -0.934 0.3505  
## descriptive\_norm - social\_norm 0.1948 0.192 883 1.015 0.3103  
## descriptive\_norm - moral\_norm 0.3157 0.185 883 1.705 0.0885  
## convention\_norm - social\_norm 0.3660 0.177 883 2.063 0.0395  
## convention\_norm - moral\_norm 0.4870 0.170 883 2.859 0.0044  
## social\_norm - moral\_norm 0.1209 0.179 883 0.677 0.4988  
##   
## Results are averaged over the levels of: framing\_condition, Gender

Second, relationship between hedonic values & consumer intentions for each framing condition:

emtrends(full\_model\_1a, ~framing\_condition, var = "hedonic\_center", adjust = "none")

## framing\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_framing -0.0822 0.0969 883 -0.272 0.1079  
## pro\_env\_framing -0.0109 0.0975 883 -0.202 0.1804  
## self\_enh\_framing -0.1892 0.1056 883 -0.396 0.0179  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(hedonic\_center = seq(-5.2, 1.2, by = 1))  
  
emmip(full\_model\_1a, framing\_condition ~ hedonic\_center, at = at\_list, CIs = TRUE, xlab = "Hedonic Values (centered)", ylab = "Consumer Intentions")



* Hedonic values were non-significantly, negatively related to consumer intentions in all framing conditions.

Is the slope of the relationship between hedonic values & consumer intentions stronger in any one of the framing conditions compared to the others?

emtrends(full\_model\_1a, pairwise~framing\_condition, var = "hedonic\_center", adjust = "none")

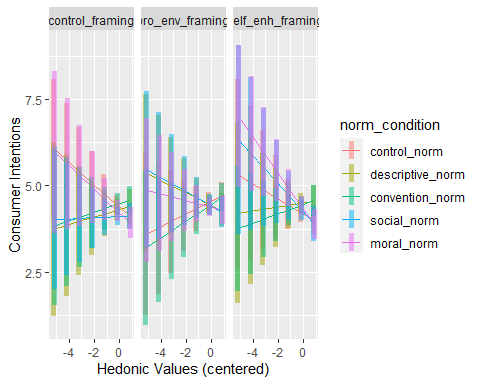
## $emtrends  
## framing\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_framing -0.0822 0.0969 883 -0.272 0.1079  
## pro\_env\_framing -0.0109 0.0975 883 -0.202 0.1804  
## self\_enh\_framing -0.1892 0.1056 883 -0.396 0.0179  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_framing - pro\_env\_framing -0.0713 0.137 883 -0.519 0.6036  
## control\_framing - self\_enh\_framing 0.1071 0.143 883 0.749 0.4538  
## pro\_env\_framing - self\_enh\_framing 0.1783 0.143 883 1.247 0.2128  
##   
## Results are averaged over the levels of: norm\_condition, Gender

Third, interaction between hedonic values, framing, & norm condition:

emtrends(full\_model\_1a, ~norm\_condition | framing\_condition, var = "hedonic\_center", adjust = "none")

## framing\_condition = control\_framing:  
## norm\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.3236 0.192 883 -0.701 0.0533  
## descriptive\_norm 0.1118 0.247 883 -0.373 0.5971  
## convention\_norm 0.1246 0.218 883 -0.303 0.5525  
## social\_norm 0.0174 0.194 883 -0.364 0.3987  
## moral\_norm -0.3411 0.227 883 -0.786 0.1040  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_norm 0.1858 0.223 883 -0.251 0.6229  
## descriptive\_norm -0.1796 0.227 883 -0.625 0.2657  
## convention\_norm 0.2418 0.215 883 -0.181 0.6646  
## social\_norm -0.2062 0.219 883 -0.636 0.2232  
## moral\_norm -0.0964 0.203 883 -0.494 0.3014  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition hedonic\_center.trend SE df lower.CL upper.CL  
## control\_norm -0.2149 0.263 883 -0.732 0.3018  
## descriptive\_norm 0.0575 0.252 883 -0.437 0.5520  
## convention\_norm 0.1370 0.182 883 -0.221 0.4950  
## social\_norm -0.4058 0.264 883 -0.925 0.1130  
## moral\_norm -0.5200 0.202 883 -0.916 -0.1239  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95

# Separate graph for each framing condition  
at\_list <- list(hedonic\_center = seq(-5.2, 1.2, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ hedonic\_center | framing\_condition, at = at\_list, CIs = TRUE, xlab = "Hedonic Values (centered)", ylab = "Consumer Intentions")



* In the control framing condition, hedonic values were not significantly related to consumer intentions in any norm condition.
* In the pro-environmental framing condition, hedonic values were not significantly related to consumer intentions in any norm condition.
* In the self-enhancing framing condition, hedonic values were not significantly related to consumer intentions in any norm condition except for the moral norm condition in which they were significantly, related related.

### Ingroup Identification Interactions

H5: There will be a two-way interaction between ingroup identification and norm condition.

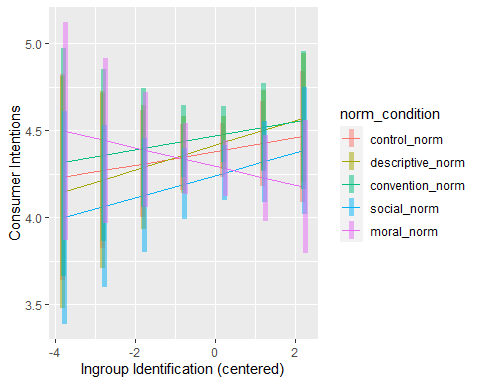
In the overall analysis, there was no significant two-way interaction between ingroup identification & framing condition or between ingroup identification & norm condition.

First, relationship between ingroup identification & consumer intentions for each norm condition:

emtrends(full\_model\_1a, ~norm\_condition, var = "ingroup\_identification\_center", adjust = "none")

## norm\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_norm 0.0389 0.0780 883 -0.1141  
## descriptive\_norm 0.0711 0.0837 883 -0.0932  
## convention\_norm 0.0402 0.0850 883 -0.1267  
## social\_norm 0.0642 0.0780 883 -0.0890  
## moral\_norm -0.0536 0.0809 883 -0.2124  
## upper.CL  
## 0.192  
## 0.235  
## 0.207  
## 0.217  
## 0.105  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(ingroup\_identification\_center = seq(-3.8, 2.6, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ ingroup\_identification\_center, at = at\_list, CIs = TRUE, xlab = "Ingroup Identification (centered)", ylab = "Consumer Intentions")



* Ingroup identification was not significantly related to consumer intentions in any of the norm conditions.

Is the slope of the relationship between ingroup idenitification & consumer intentions stronger in any one of the norm conditions compared to the others?

emtrends(full\_model\_1a, pairwise~norm\_condition, var = "ingroup\_identification\_center", adjust = "none")

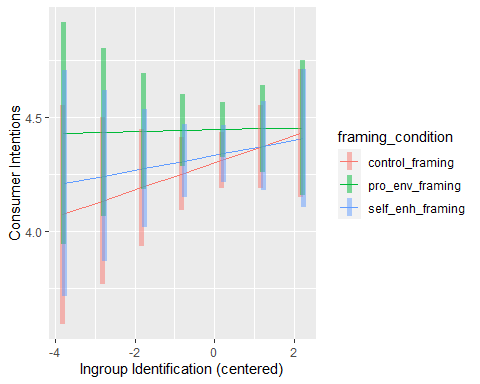
## $emtrends  
## norm\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_norm 0.0389 0.0780 883 -0.1141  
## descriptive\_norm 0.0711 0.0837 883 -0.0932  
## convention\_norm 0.0402 0.0850 883 -0.1267  
## social\_norm 0.0642 0.0780 883 -0.0890  
## moral\_norm -0.0536 0.0809 883 -0.2124  
## upper.CL  
## 0.192  
## 0.235  
## 0.207  
## 0.217  
## 0.105  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_norm - descriptive\_norm -0.03220 0.114 883 -0.283 0.7776  
## control\_norm - convention\_norm -0.00135 0.115 883 -0.012 0.9906  
## control\_norm - social\_norm -0.02532 0.110 883 -0.231 0.8176  
## control\_norm - moral\_norm 0.09247 0.113 883 0.819 0.4129  
## descriptive\_norm - convention\_norm 0.03085 0.119 883 0.259 0.7954  
## descriptive\_norm - social\_norm 0.00688 0.114 883 0.061 0.9517  
## descriptive\_norm - moral\_norm 0.12467 0.116 883 1.073 0.2837  
## convention\_norm - social\_norm -0.02397 0.115 883 -0.208 0.8350  
## convention\_norm - moral\_norm 0.09382 0.117 883 0.799 0.4242  
## social\_norm - moral\_norm 0.11779 0.112 883 1.048 0.2949  
##   
## Results are averaged over the levels of: framing\_condition, Gender

Second, relationship between ingroup identification & consumer intentions for each framing condition:

emtrends(full\_model\_1a, ~framing\_condition, var = "ingroup\_identification\_center", adjust = "none")

## framing\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_framing 0.05927 0.0611 883 -0.0606  
## pro\_env\_framing 0.00407 0.0631 883 -0.1197  
## self\_enh\_framing 0.03310 0.0644 883 -0.0932  
## upper.CL  
## 0.179  
## 0.128  
## 0.159  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95

# On a single graph  
at\_list <- list(ingroup\_identification\_center = seq(-3.8, 2.6, by = 1))  
  
emmip(full\_model\_1a, framing\_condition ~ ingroup\_identification\_center, at = at\_list, CIs = TRUE, xlab = "Ingroup Identification (centered)", ylab = "Consumer Intentions")



* Ingroup identification was non-significantly, negatively related to consumer intentions in all framing conditions.

Is the slope of the relationship between ingroup idenitification & consumer intentions stronger in any one of the framing conditions compared to the others?

emtrends(full\_model\_1a, pairwise~framing\_condition, var = "ingroup\_identification\_center", adjust = "none")

## $emtrends  
## framing\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_framing 0.05927 0.0611 883 -0.0606  
## pro\_env\_framing 0.00407 0.0631 883 -0.1197  
## self\_enh\_framing 0.03310 0.0644 883 -0.0932  
## upper.CL  
## 0.179  
## 0.128  
## 0.159  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df t.ratio p.value  
## control\_framing - pro\_env\_framing 0.0552 0.0874 883 0.632 0.5276  
## control\_framing - self\_enh\_framing 0.0262 0.0885 883 0.296 0.7674  
## pro\_env\_framing - self\_enh\_framing -0.0290 0.0897 883 -0.324 0.7462  
##   
## Results are averaged over the levels of: norm\_condition, Gender

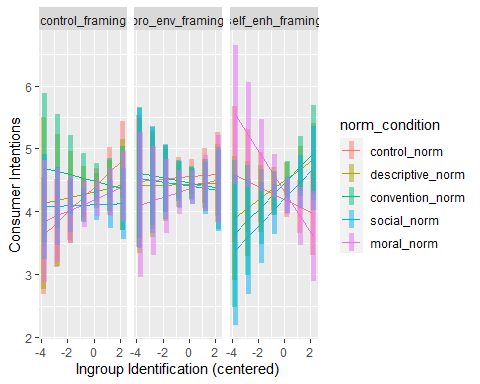
Exploratory RQ1: Is there a three-way interaction between ingroup identification, framing, and norm condition?

Third, interaction between ingroup identification, framing, & norm condition:

emtrends(full\_model\_1a, ~norm\_condition | framing\_condition, var = "ingroup\_identification\_center", adjust = "tukey")

## framing\_condition = control\_framing:  
## norm\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_norm 0.20030 0.123 883 -0.116  
## descriptive\_norm 0.04880 0.171 883 -0.391  
## convention\_norm -0.05389 0.148 883 -0.436  
## social\_norm 0.00815 0.112 883 -0.279  
## moral\_norm 0.09299 0.119 883 -0.213  
## upper.CL  
## 0.5164  
## 0.4884  
## 0.3282  
## 0.2957  
## 0.3990  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_norm 0.01827 0.138 883 -0.337  
## descriptive\_norm 0.00675 0.136 883 -0.343  
## convention\_norm -0.04033 0.137 883 -0.393  
## social\_norm -0.03307 0.141 883 -0.396  
## moral\_norm 0.06871 0.150 883 -0.318  
## upper.CL  
## 0.3740  
## 0.3563  
## 0.3122  
## 0.3300  
## 0.4559  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition ingroup\_identification\_center.trend SE df lower.CL  
## control\_norm -0.10198 0.141 883 -0.466  
## descriptive\_norm 0.15765 0.123 883 -0.159  
## convention\_norm 0.21487 0.156 883 -0.186  
## social\_norm 0.21747 0.149 883 -0.167  
## moral\_norm -0.32251 0.148 883 -0.703  
## upper.CL  
## 0.2618  
## 0.4748  
## 0.6155  
## 0.6021  
## 0.0583  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
## Conf-level adjustment: sidak method for 5 estimates

# Separate graph for each framing condition  
at\_list <- list(ingroup\_identification\_center = seq(-3.8, 2.6, by = 1))  
  
emmip(full\_model\_1a, norm\_condition ~ ingroup\_identification\_center | framing\_condition, at = at\_list, CIs = TRUE, xlab = "Ingroup Identification (centered)", ylab = "Consumer Intentions")



* In the control framing condition, ingroup identification was non-significantly related to consumer intentions in all norm conditions.
* In the pro-environmental framing condition, ingroup identification was non-significantly related to consumer intentions in all norm conditions.
* In the self-enhancing framing condition, ingroup identification was non-significantly related to consumer intentions in all norm conditions except for the moral norm condition in which ingroup identification was significantly, negatively related to consumer intentions.

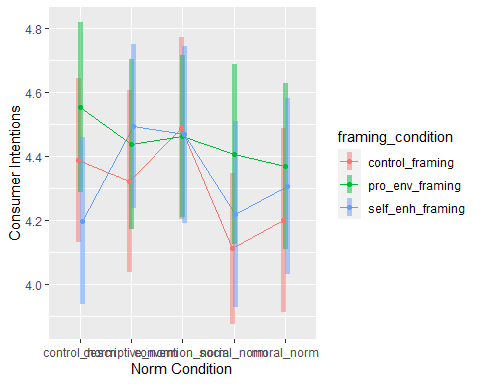
### All cells compared to control

Exploratory RQ2: Which combination of framing and norm condition produced the strongest reductions in consumer intentions compared to the control condition?

emmeans(full\_model\_1a, pairwise ~ norm\_condition\*framing\_condition, adjust = "tukey")

## $emmeans  
## norm\_condition framing\_condition emmean SE df lower.CL upper.CL  
## control\_norm control\_framing 4.39 0.131 883 4.13 4.65  
## descriptive\_norm control\_framing 4.32 0.145 883 4.04 4.61  
## convention\_norm control\_framing 4.49 0.145 883 4.20 4.77  
## social\_norm control\_framing 4.11 0.120 883 3.87 4.35  
## moral\_norm control\_framing 4.20 0.146 883 3.91 4.49  
## control\_norm pro\_env\_framing 4.55 0.136 883 4.29 4.82  
## descriptive\_norm pro\_env\_framing 4.44 0.135 883 4.17 4.70  
## convention\_norm pro\_env\_framing 4.46 0.129 883 4.21 4.72  
## social\_norm pro\_env\_framing 4.41 0.144 883 4.12 4.69  
## moral\_norm pro\_env\_framing 4.37 0.132 883 4.11 4.63  
## control\_norm self\_enh\_framing 4.20 0.133 883 3.94 4.46  
## descriptive\_norm self\_enh\_framing 4.49 0.131 883 4.24 4.75  
## convention\_norm self\_enh\_framing 4.47 0.142 883 4.19 4.75  
## social\_norm self\_enh\_framing 4.22 0.149 883 3.93 4.51  
## moral\_norm self\_enh\_framing 4.31 0.140 883 4.03 4.58  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate  
## control\_norm control\_framing - descriptive\_norm control\_framing 0.06607  
## control\_norm control\_framing - convention\_norm control\_framing -0.10017  
## control\_norm control\_framing - social\_norm control\_framing 0.27696  
## control\_norm control\_framing - moral\_norm control\_framing 0.18850  
## control\_norm control\_framing - control\_norm pro\_env\_framing -0.16614  
## control\_norm control\_framing - descriptive\_norm pro\_env\_framing -0.05030  
## control\_norm control\_framing - convention\_norm pro\_env\_framing -0.07479  
## control\_norm control\_framing - social\_norm pro\_env\_framing -0.01886  
## control\_norm control\_framing - moral\_norm pro\_env\_framing 0.01839  
## control\_norm control\_framing - control\_norm self\_enh\_framing 0.18965  
## control\_norm control\_framing - descriptive\_norm self\_enh\_framing -0.10701  
## control\_norm control\_framing - convention\_norm self\_enh\_framing -0.08002  
## control\_norm control\_framing - social\_norm self\_enh\_framing 0.16842  
## control\_norm control\_framing - moral\_norm self\_enh\_framing 0.08186  
## descriptive\_norm control\_framing - convention\_norm control\_framing -0.16624  
## descriptive\_norm control\_framing - social\_norm control\_framing 0.21089  
## descriptive\_norm control\_framing - moral\_norm control\_framing 0.12243  
## descriptive\_norm control\_framing - control\_norm pro\_env\_framing -0.23220  
## descriptive\_norm control\_framing - descriptive\_norm pro\_env\_framing -0.11637  
## descriptive\_norm control\_framing - convention\_norm pro\_env\_framing -0.14086  
## descriptive\_norm control\_framing - social\_norm pro\_env\_framing -0.08493  
## descriptive\_norm control\_framing - moral\_norm pro\_env\_framing -0.04768  
## descriptive\_norm control\_framing - control\_norm self\_enh\_framing 0.12358  
## descriptive\_norm control\_framing - descriptive\_norm self\_enh\_framing -0.17308  
## descriptive\_norm control\_framing - convention\_norm self\_enh\_framing -0.14608  
## descriptive\_norm control\_framing - social\_norm self\_enh\_framing 0.10235  
## descriptive\_norm control\_framing - moral\_norm self\_enh\_framing 0.01579  
## convention\_norm control\_framing - social\_norm control\_framing 0.37713  
## convention\_norm control\_framing - moral\_norm control\_framing 0.28867  
## convention\_norm control\_framing - control\_norm pro\_env\_framing -0.06597  
## convention\_norm control\_framing - descriptive\_norm pro\_env\_framing 0.04987  
## convention\_norm control\_framing - convention\_norm pro\_env\_framing 0.02538  
## convention\_norm control\_framing - social\_norm pro\_env\_framing 0.08131  
## convention\_norm control\_framing - moral\_norm pro\_env\_framing 0.11856  
## convention\_norm control\_framing - control\_norm self\_enh\_framing 0.28981  
## convention\_norm control\_framing - descriptive\_norm self\_enh\_framing -0.00684  
## convention\_norm control\_framing - convention\_norm self\_enh\_framing 0.02015  
## convention\_norm control\_framing - social\_norm self\_enh\_framing 0.26858  
## convention\_norm control\_framing - moral\_norm self\_enh\_framing 0.18203  
## social\_norm control\_framing - moral\_norm control\_framing -0.08846  
## social\_norm control\_framing - control\_norm pro\_env\_framing -0.44310  
## social\_norm control\_framing - descriptive\_norm pro\_env\_framing -0.32726  
## social\_norm control\_framing - convention\_norm pro\_env\_framing -0.35175  
## social\_norm control\_framing - social\_norm pro\_env\_framing -0.29582  
## social\_norm control\_framing - moral\_norm pro\_env\_framing -0.25857  
## social\_norm control\_framing - control\_norm self\_enh\_framing -0.08732  
## social\_norm control\_framing - descriptive\_norm self\_enh\_framing -0.38397  
## social\_norm control\_framing - convention\_norm self\_enh\_framing -0.35698  
## social\_norm control\_framing - social\_norm self\_enh\_framing -0.10855  
## social\_norm control\_framing - moral\_norm self\_enh\_framing -0.19510  
## moral\_norm control\_framing - control\_norm pro\_env\_framing -0.35464  
## moral\_norm control\_framing - descriptive\_norm pro\_env\_framing -0.23880  
## moral\_norm control\_framing - convention\_norm pro\_env\_framing -0.26329  
## moral\_norm control\_framing - social\_norm pro\_env\_framing -0.20737  
## moral\_norm control\_framing - moral\_norm pro\_env\_framing -0.17011  
## moral\_norm control\_framing - control\_norm self\_enh\_framing 0.00114  
## moral\_norm control\_framing - descriptive\_norm self\_enh\_framing -0.29551  
## moral\_norm control\_framing - convention\_norm self\_enh\_framing -0.26852  
## moral\_norm control\_framing - social\_norm self\_enh\_framing -0.02009  
## moral\_norm control\_framing - moral\_norm self\_enh\_framing -0.10664  
## control\_norm pro\_env\_framing - descriptive\_norm pro\_env\_framing 0.11584  
## control\_norm pro\_env\_framing - convention\_norm pro\_env\_framing 0.09134  
## control\_norm pro\_env\_framing - social\_norm pro\_env\_framing 0.14727  
## control\_norm pro\_env\_framing - moral\_norm pro\_env\_framing 0.18453  
## control\_norm pro\_env\_framing - control\_norm self\_enh\_framing 0.35578  
## control\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing 0.05912  
## control\_norm pro\_env\_framing - convention\_norm self\_enh\_framing 0.08612  
## control\_norm pro\_env\_framing - social\_norm self\_enh\_framing 0.33455  
## control\_norm pro\_env\_framing - moral\_norm self\_enh\_framing 0.24800  
## descriptive\_norm pro\_env\_framing - convention\_norm pro\_env\_framing -0.02449  
## descriptive\_norm pro\_env\_framing - social\_norm pro\_env\_framing 0.03144  
## descriptive\_norm pro\_env\_framing - moral\_norm pro\_env\_framing 0.06869  
## descriptive\_norm pro\_env\_framing - control\_norm self\_enh\_framing 0.23995  
## descriptive\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing -0.05671  
## descriptive\_norm pro\_env\_framing - convention\_norm self\_enh\_framing -0.02971  
## descriptive\_norm pro\_env\_framing - social\_norm self\_enh\_framing 0.21872  
## descriptive\_norm pro\_env\_framing - moral\_norm self\_enh\_framing 0.13216  
## convention\_norm pro\_env\_framing - social\_norm pro\_env\_framing 0.05593  
## convention\_norm pro\_env\_framing - moral\_norm pro\_env\_framing 0.09318  
## convention\_norm pro\_env\_framing - control\_norm self\_enh\_framing 0.26444  
## convention\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing -0.03222  
## convention\_norm pro\_env\_framing - convention\_norm self\_enh\_framing -0.00522  
## convention\_norm pro\_env\_framing - social\_norm self\_enh\_framing 0.24321  
## convention\_norm pro\_env\_framing - moral\_norm self\_enh\_framing 0.15665  
## social\_norm pro\_env\_framing - moral\_norm pro\_env\_framing 0.03725  
## social\_norm pro\_env\_framing - control\_norm self\_enh\_framing 0.20851  
## social\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing -0.08815  
## social\_norm pro\_env\_framing - convention\_norm self\_enh\_framing -0.06115  
## social\_norm pro\_env\_framing - social\_norm self\_enh\_framing 0.18728  
## social\_norm pro\_env\_framing - moral\_norm self\_enh\_framing 0.10072  
## moral\_norm pro\_env\_framing - control\_norm self\_enh\_framing 0.17125  
## moral\_norm pro\_env\_framing - descriptive\_norm self\_enh\_framing -0.12540  
## moral\_norm pro\_env\_framing - convention\_norm self\_enh\_framing -0.09841  
## moral\_norm pro\_env\_framing - social\_norm self\_enh\_framing 0.15003  
## moral\_norm pro\_env\_framing - moral\_norm self\_enh\_framing 0.06347  
## control\_norm self\_enh\_framing - descriptive\_norm self\_enh\_framing -0.29666  
## control\_norm self\_enh\_framing - convention\_norm self\_enh\_framing -0.26966  
## control\_norm self\_enh\_framing - social\_norm self\_enh\_framing -0.02123  
## control\_norm self\_enh\_framing - moral\_norm self\_enh\_framing -0.10779  
## descriptive\_norm self\_enh\_framing - convention\_norm self\_enh\_framing 0.02700  
## descriptive\_norm self\_enh\_framing - social\_norm self\_enh\_framing 0.27543  
## descriptive\_norm self\_enh\_framing - moral\_norm self\_enh\_framing 0.18887  
## convention\_norm self\_enh\_framing - social\_norm self\_enh\_framing 0.24843  
## convention\_norm self\_enh\_framing - moral\_norm self\_enh\_framing 0.16187  
## social\_norm self\_enh\_framing - moral\_norm self\_enh\_framing -0.08656  
## SE df t.ratio p.value  
## 0.195 883 0.339 1.0000  
## 0.196 883 -0.512 1.0000  
## 0.178 883 1.558 0.9668  
## 0.197 883 0.958 0.9998  
## 0.189 883 -0.879 0.9999  
## 0.189 883 -0.267 1.0000  
## 0.184 883 -0.407 1.0000  
## 0.194 883 -0.097 1.0000  
## 0.185 883 0.099 1.0000  
## 0.186 883 1.018 0.9995  
## 0.185 883 -0.579 1.0000  
## 0.192 883 -0.416 1.0000  
## 0.198 883 0.851 0.9999  
## 0.192 883 0.426 1.0000  
## 0.205 883 -0.811 1.0000  
## 0.188 883 1.124 0.9986  
## 0.206 883 0.595 1.0000  
## 0.198 883 -1.172 0.9979  
## 0.198 883 -0.587 1.0000  
## 0.194 883 -0.728 1.0000  
## 0.203 883 -0.418 1.0000  
## 0.195 883 -0.245 1.0000  
## 0.195 883 0.633 1.0000  
## 0.195 883 -0.889 0.9999  
## 0.202 883 -0.722 1.0000  
## 0.207 883 0.494 1.0000  
## 0.201 883 0.079 1.0000  
## 0.189 883 2.000 0.7983  
## 0.206 883 1.400 0.9873  
## 0.199 883 -0.332 1.0000  
## 0.198 883 0.252 1.0000  
## 0.194 883 0.131 1.0000  
## 0.204 883 0.399 1.0000  
## 0.196 883 0.605 1.0000  
## 0.197 883 1.472 0.9798  
## 0.196 883 -0.035 1.0000  
## 0.203 883 0.099 1.0000  
## 0.208 883 1.293 0.9941  
## 0.202 883 0.901 0.9999  
## 0.189 883 -0.467 1.0000  
## 0.181 883 -2.444 0.4825  
## 0.181 883 -1.805 0.8959  
## 0.176 883 -1.996 0.8007  
## 0.187 883 -1.583 0.9621  
## 0.178 883 -1.454 0.9820  
## 0.178 883 -0.490 1.0000  
## 0.178 883 -2.160 0.6936  
## 0.186 883 -1.921 0.8421  
## 0.191 883 -0.568 1.0000  
## 0.185 883 -1.056 0.9993  
## 0.200 883 -1.778 0.9067  
## 0.199 883 -1.201 0.9972  
## 0.195 883 -1.351 0.9909  
## 0.204 883 -1.016 0.9996  
## 0.197 883 -0.865 0.9999  
## 0.197 883 0.006 1.0000  
## 0.197 883 -1.502 0.9758  
## 0.204 883 -1.315 0.9930  
## 0.209 883 -0.096 1.0000  
## 0.203 883 -0.526 1.0000  
## 0.191 883 0.605 1.0000  
## 0.187 883 0.488 1.0000  
## 0.197 883 0.747 1.0000  
## 0.189 883 0.976 0.9997  
## 0.190 883 1.877 0.8644  
## 0.189 883 0.313 1.0000  
## 0.197 883 0.438 1.0000  
## 0.201 883 1.662 0.9438  
## 0.195 883 1.272 0.9950  
## 0.186 883 -0.131 1.0000  
## 0.196 883 0.160 1.0000  
## 0.189 883 0.364 1.0000  
## 0.190 883 1.263 0.9953  
## 0.189 883 -0.300 1.0000  
## 0.196 883 -0.151 1.0000  
## 0.201 883 1.089 0.9990  
## 0.194 883 0.680 1.0000  
## 0.192 883 0.291 1.0000  
## 0.184 883 0.507 1.0000  
## 0.185 883 1.432 0.9844  
## 0.184 883 -0.176 1.0000  
## 0.191 883 -0.027 1.0000  
## 0.197 883 1.237 0.9962  
## 0.190 883 0.823 1.0000  
## 0.194 883 0.192 1.0000  
## 0.195 883 1.072 0.9992  
## 0.194 883 -0.455 1.0000  
## 0.202 883 -0.303 1.0000  
## 0.206 883 0.907 0.9999  
## 0.200 883 0.503 1.0000  
## 0.186 883 0.921 0.9999  
## 0.185 883 -0.678 1.0000  
## 0.193 883 -0.510 1.0000  
## 0.198 883 0.757 1.0000  
## 0.192 883 0.330 1.0000  
## 0.186 883 -1.597 0.9593  
## 0.194 883 -1.391 0.9881  
## 0.199 883 -0.107 1.0000  
## 0.193 883 -0.559 1.0000  
## 0.192 883 0.141 1.0000  
## 0.198 883 1.392 0.9879  
## 0.192 883 0.985 0.9997  
## 0.205 883 1.213 0.9969  
## 0.199 883 0.812 1.0000  
## 0.204 883 -0.424 1.0000  
##   
## Results are averaged over the levels of: Gender   
## P value adjustment: tukey method for comparing a family of 15 estimates

emmip(full\_model\_1a, framing\_condition ~ norm\_condition, CIs = TRUE, xlab = "Norm Condition", ylab = "Consumer Intentions")



There are no significant differences between the control norm/control framing condition and any of the other combinations of framing/norm conditions.

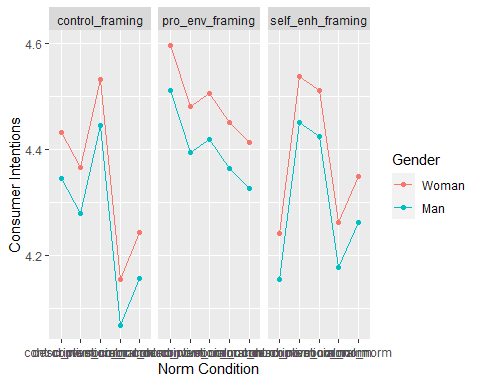
### Gender Interactions (exploratory)

Three-way Gender Interactions:

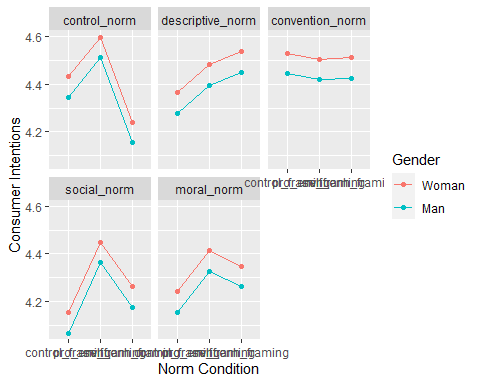
emmeans(full\_model\_1a, ~ norm\_condition\*Gender\*framing\_condition, adjust = "none")

## norm\_condition Gender framing\_condition emmean SE df lower.CL upper.CL  
## control\_norm Woman control\_framing 4.43 0.135 883 4.17 4.70  
## descriptive\_norm Woman control\_framing 4.36 0.147 883 4.08 4.65  
## convention\_norm Woman control\_framing 4.53 0.150 883 4.24 4.82  
## social\_norm Woman control\_framing 4.15 0.124 883 3.91 4.40  
## moral\_norm Woman control\_framing 4.24 0.151 883 3.95 4.54  
## control\_norm Man control\_framing 4.34 0.140 883 4.07 4.62  
## descriptive\_norm Man control\_framing 4.28 0.154 883 3.98 4.58  
## convention\_norm Man control\_framing 4.44 0.152 883 4.15 4.74  
## social\_norm Man control\_framing 4.07 0.130 883 3.81 4.32  
## moral\_norm Man control\_framing 4.16 0.153 883 3.85 4.46  
## control\_norm Woman pro\_env\_framing 4.60 0.140 883 4.32 4.87  
## descriptive\_norm Woman pro\_env\_framing 4.48 0.140 883 4.21 4.76  
## convention\_norm Woman pro\_env\_framing 4.51 0.132 883 4.25 4.77  
## social\_norm Woman pro\_env\_framing 4.45 0.145 883 4.17 4.73  
## moral\_norm Woman pro\_env\_framing 4.41 0.133 883 4.15 4.67  
## control\_norm Man pro\_env\_framing 4.51 0.144 883 4.23 4.79  
## descriptive\_norm Man pro\_env\_framing 4.39 0.142 883 4.12 4.67  
## convention\_norm Man pro\_env\_framing 4.42 0.138 883 4.15 4.69  
## social\_norm Man pro\_env\_framing 4.36 0.154 883 4.06 4.66  
## moral\_norm Man pro\_env\_framing 4.33 0.143 883 4.05 4.61  
## control\_norm Woman self\_enh\_framing 4.24 0.135 883 3.98 4.51  
## descriptive\_norm Woman self\_enh\_framing 4.54 0.134 883 4.27 4.80  
## convention\_norm Woman self\_enh\_framing 4.51 0.146 883 4.22 4.80  
## social\_norm Woman self\_enh\_framing 4.26 0.152 883 3.96 4.56  
## moral\_norm Woman self\_enh\_framing 4.35 0.145 883 4.06 4.63  
## control\_norm Man self\_enh\_framing 4.15 0.143 883 3.87 4.44  
## descriptive\_norm Man self\_enh\_framing 4.45 0.141 883 4.17 4.73  
## convention\_norm Man self\_enh\_framing 4.42 0.149 883 4.13 4.72  
## social\_norm Man self\_enh\_framing 4.18 0.156 883 3.87 4.48  
## moral\_norm Man self\_enh\_framing 4.26 0.147 883 3.97 4.55  
##   
## Confidence level used: 0.95

emmip(full\_model\_1a, Gender ~ norm\_condition | framing\_condition, CIs = FALSE, xlab = "Norm Condition", ylab = "Consumer Intentions")



emmip(full\_model\_1a, Gender ~ framing\_condition | norm\_condition, CIs = FALSE, xlab = "Norm Condition", ylab = "Consumer Intentions")



# Logistic Analysis (DV = Consumer Behaviors)

Consumer Behaviors:

* 0 = New Clothing
* 1 = Secondhand Clothing

## Running Model

log\_model <- glm(consumer\_behaviors ~ framing\_condition\*norm\_condition\*biospheric\_center + framing\_condition\*norm\_condition\*altruistic\_center + framing\_condition\*norm\_condition\*egoistic\_center + framing\_condition\*norm\_condition\*hedonic\_center + framing\_condition\*norm\_condition\*ingroup\_identification\_center + self\_deceptive\_center + impress\_manag\_center + clothing\_interest\_center + Gender + Age\_center, data = data\_R, family = "binomial")

## Model Summary

### ANOVA Output

anova(log\_model) %>%  
 knitr::kable(digits = 3)

|  | Df | Deviance | Resid. Df | Resid. Dev |
| --- | --- | --- | --- | --- |
| NULL | NA | NA | 962 | 1325.614 |
| framing\_condition | 2 | 5.641 | 960 | 1319.973 |
| norm\_condition | 4 | 0.585 | 956 | 1319.388 |
| biospheric\_center | 1 | 31.938 | 955 | 1287.450 |
| altruistic\_center | 1 | 0.189 | 954 | 1287.261 |
| egoistic\_center | 1 | 74.860 | 953 | 1212.402 |
| hedonic\_center | 1 | 0.273 | 952 | 1212.129 |
| ingroup\_identification\_center | 1 | 1.054 | 951 | 1211.075 |
| self\_deceptive\_center | 1 | 13.559 | 950 | 1197.517 |
| impress\_manag\_center | 1 | 7.840 | 949 | 1189.677 |
| clothing\_interest\_center | 1 | 0.644 | 948 | 1189.032 |
| Gender | 1 | 0.027 | 947 | 1189.005 |
| Age\_center | 1 | 5.573 | 946 | 1183.433 |
| framing\_condition:norm\_condition | 8 | 2.955 | 938 | 1180.478 |
| framing\_condition:biospheric\_center | 2 | 0.743 | 936 | 1179.735 |
| norm\_condition:biospheric\_center | 4 | 3.569 | 932 | 1176.166 |
| framing\_condition:altruistic\_center | 2 | 4.538 | 930 | 1171.628 |
| norm\_condition:altruistic\_center | 4 | 5.672 | 926 | 1165.956 |
| framing\_condition:egoistic\_center | 2 | 3.892 | 924 | 1162.064 |
| norm\_condition:egoistic\_center | 4 | 1.620 | 920 | 1160.444 |
| framing\_condition:hedonic\_center | 2 | 1.834 | 918 | 1158.610 |
| norm\_condition:hedonic\_center | 4 | 4.553 | 914 | 1154.057 |
| framing\_condition:ingroup\_identification\_center | 2 | 0.809 | 912 | 1153.248 |
| norm\_condition:ingroup\_identification\_center | 4 | 1.453 | 908 | 1151.795 |
| framing\_condition:norm\_condition:biospheric\_center | 8 | 5.940 | 900 | 1145.855 |
| framing\_condition:norm\_condition:altruistic\_center | 8 | 13.045 | 892 | 1132.810 |
| framing\_condition:norm\_condition:egoistic\_center | 8 | 4.139 | 884 | 1128.670 |
| framing\_condition:norm\_condition:hedonic\_center | 8 | 7.927 | 876 | 1120.743 |
| framing\_condition:norm\_condition:ingroup\_identification\_center | 8 | 4.755 | 868 | 1115.988 |

### Regression Summary

* 171 observations deleted due to missingness

log\_summ$coefficients %>%  
 knitr::kable(digits = c(2, 2, 2, 3))

|  | Estimate | Std. Error | z value | Pr(>|z|) |
| --- | --- | --- | --- | --- |
| (Intercept) | -0.17 | 0.08 | -2.18 | 0.029 |
| framing\_conditionFrameCode1 | 0.14 | 0.19 | 0.75 | 0.455 |
| framing\_conditionFrameCode2 | 0.49 | 0.17 | 2.94 | 0.003 |
| norm\_condition1 | 0.17 | 0.12 | 1.39 | 0.165 |
| norm\_condition2 | 0.00 | 0.07 | -0.04 | 0.965 |
| norm\_condition3 | 0.00 | 0.05 | 0.02 | 0.984 |
| norm\_condition4 | 0.01 | 0.04 | 0.27 | 0.790 |
| biospheric\_center | 0.46 | 0.12 | 3.97 | 0.000 |
| altruistic\_center | 0.28 | 0.16 | 1.69 | 0.091 |
| egoistic\_center | -0.82 | 0.11 | -7.19 | 0.000 |
| hedonic\_center | -0.03 | 0.13 | -0.20 | 0.843 |
| ingroup\_identification\_center | 0.06 | 0.08 | 0.79 | 0.430 |
| self\_deceptive\_center | -0.24 | 0.10 | -2.36 | 0.018 |
| impress\_manag\_center | -0.27 | 0.10 | -2.72 | 0.007 |
| clothing\_interest\_center | 0.06 | 0.10 | 0.54 | 0.592 |
| Gender1 | 0.06 | 0.18 | 0.37 | 0.713 |
| Age\_center | -0.11 | 0.05 | -2.32 | 0.020 |
| framing\_conditionFrameCode1:norm\_condition1 | 0.30 | 0.29 | 1.02 | 0.308 |
| framing\_conditionFrameCode2:norm\_condition1 | 0.34 | 0.27 | 1.24 | 0.214 |
| framing\_conditionFrameCode1:norm\_condition2 | -0.09 | 0.17 | -0.53 | 0.599 |
| framing\_conditionFrameCode2:norm\_condition2 | -0.07 | 0.15 | -0.48 | 0.633 |
| framing\_conditionFrameCode1:norm\_condition3 | 0.10 | 0.12 | 0.81 | 0.419 |
| framing\_conditionFrameCode2:norm\_condition3 | 0.05 | 0.11 | 0.45 | 0.651 |
| framing\_conditionFrameCode1:norm\_condition4 | 0.02 | 0.10 | 0.24 | 0.813 |
| framing\_conditionFrameCode2:norm\_condition4 | -0.03 | 0.08 | -0.40 | 0.691 |
| framing\_conditionFrameCode1:biospheric\_center | -0.18 | 0.30 | -0.61 | 0.544 |
| framing\_conditionFrameCode2:biospheric\_center | 0.53 | 0.24 | 2.21 | 0.027 |
| norm\_condition1:biospheric\_center | 0.24 | 0.18 | 1.37 | 0.172 |
| norm\_condition2:biospheric\_center | 0.01 | 0.10 | 0.08 | 0.933 |
| norm\_condition3:biospheric\_center | 0.01 | 0.07 | 0.10 | 0.917 |
| norm\_condition4:biospheric\_center | 0.00 | 0.06 | 0.04 | 0.968 |
| framing\_conditionFrameCode1:altruistic\_center | 0.53 | 0.40 | 1.34 | 0.180 |
| framing\_conditionFrameCode2:altruistic\_center | -0.78 | 0.33 | -2.34 | 0.019 |
| norm\_condition1:altruistic\_center | -0.50 | 0.27 | -1.88 | 0.061 |
| norm\_condition2:altruistic\_center | 0.23 | 0.14 | 1.64 | 0.102 |
| norm\_condition3:altruistic\_center | 0.13 | 0.11 | 1.20 | 0.229 |
| norm\_condition4:altruistic\_center | 0.08 | 0.07 | 1.07 | 0.286 |
| framing\_conditionFrameCode1:egoistic\_center | -0.46 | 0.27 | -1.68 | 0.093 |
| framing\_conditionFrameCode2:egoistic\_center | -0.17 | 0.23 | -0.75 | 0.451 |
| norm\_condition1:egoistic\_center | 0.16 | 0.18 | 0.86 | 0.388 |
| norm\_condition2:egoistic\_center | -0.03 | 0.10 | -0.30 | 0.765 |
| norm\_condition3:egoistic\_center | 0.06 | 0.07 | 0.87 | 0.384 |
| norm\_condition4:egoistic\_center | -0.03 | 0.06 | -0.48 | 0.628 |
| framing\_conditionFrameCode1:hedonic\_center | -0.28 | 0.32 | -0.88 | 0.381 |
| framing\_conditionFrameCode2:hedonic\_center | -0.03 | 0.28 | -0.09 | 0.925 |
| norm\_condition1:hedonic\_center | -0.06 | 0.21 | -0.30 | 0.765 |
| norm\_condition2:hedonic\_center | -0.06 | 0.12 | -0.54 | 0.591 |
| norm\_condition3:hedonic\_center | -0.13 | 0.09 | -1.54 | 0.125 |
| norm\_condition4:hedonic\_center | -0.04 | 0.06 | -0.59 | 0.553 |
| framing\_conditionFrameCode1:ingroup\_identification\_center | 0.13 | 0.20 | 0.65 | 0.515 |
| framing\_conditionFrameCode2:ingroup\_identification\_center | 0.12 | 0.17 | 0.73 | 0.467 |
| norm\_condition1:ingroup\_identification\_center | -0.11 | 0.12 | -0.93 | 0.353 |
| norm\_condition2:ingroup\_identification\_center | 0.00 | 0.08 | 0.01 | 0.995 |
| norm\_condition3:ingroup\_identification\_center | 0.02 | 0.05 | 0.45 | 0.651 |
| norm\_condition4:ingroup\_identification\_center | -0.03 | 0.04 | -0.75 | 0.451 |
| framing\_conditionFrameCode1:norm\_condition1:biospheric\_center | -0.44 | 0.42 | -1.04 | 0.297 |
| framing\_conditionFrameCode2:norm\_condition1:biospheric\_center | -0.22 | 0.38 | -0.59 | 0.555 |
| framing\_conditionFrameCode1:norm\_condition2:biospheric\_center | 0.17 | 0.26 | 0.66 | 0.508 |
| framing\_conditionFrameCode2:norm\_condition2:biospheric\_center | -0.10 | 0.21 | -0.47 | 0.637 |
| framing\_conditionFrameCode1:norm\_condition3:biospheric\_center | 0.02 | 0.19 | 0.08 | 0.935 |
| framing\_conditionFrameCode2:norm\_condition3:biospheric\_center | 0.01 | 0.15 | 0.09 | 0.928 |
| framing\_conditionFrameCode1:norm\_condition4:biospheric\_center | 0.33 | 0.17 | 2.00 | 0.046 |
| framing\_conditionFrameCode2:norm\_condition4:biospheric\_center | 0.01 | 0.12 | 0.08 | 0.936 |
| framing\_conditionFrameCode1:norm\_condition1:altruistic\_center | 0.33 | 0.63 | 0.52 | 0.604 |
| framing\_conditionFrameCode2:norm\_condition1:altruistic\_center | 0.29 | 0.58 | 0.50 | 0.620 |
| framing\_conditionFrameCode1:norm\_condition2:altruistic\_center | -0.21 | 0.34 | -0.61 | 0.545 |
| framing\_conditionFrameCode2:norm\_condition2:altruistic\_center | 0.47 | 0.30 | 1.57 | 0.117 |
| framing\_conditionFrameCode1:norm\_condition3:altruistic\_center | -0.09 | 0.28 | -0.33 | 0.743 |
| framing\_conditionFrameCode2:norm\_condition3:altruistic\_center | 0.21 | 0.22 | 0.96 | 0.338 |
| framing\_conditionFrameCode1:norm\_condition4:altruistic\_center | -0.42 | 0.19 | -2.18 | 0.029 |
| framing\_conditionFrameCode2:norm\_condition4:altruistic\_center | -0.01 | 0.15 | -0.07 | 0.944 |
| framing\_conditionFrameCode1:norm\_condition1:egoistic\_center | 0.02 | 0.45 | 0.05 | 0.961 |
| framing\_conditionFrameCode2:norm\_condition1:egoistic\_center | -0.17 | 0.38 | -0.46 | 0.643 |
| framing\_conditionFrameCode1:norm\_condition2:egoistic\_center | 0.24 | 0.24 | 1.00 | 0.316 |
| framing\_conditionFrameCode2:norm\_condition2:egoistic\_center | 0.06 | 0.21 | 0.30 | 0.763 |
| framing\_conditionFrameCode1:norm\_condition3:egoistic\_center | 0.09 | 0.16 | 0.58 | 0.564 |
| framing\_conditionFrameCode2:norm\_condition3:egoistic\_center | -0.05 | 0.15 | -0.33 | 0.739 |
| framing\_conditionFrameCode1:norm\_condition4:egoistic\_center | 0.14 | 0.15 | 0.91 | 0.362 |
| framing\_conditionFrameCode2:norm\_condition4:egoistic\_center | 0.02 | 0.12 | 0.17 | 0.863 |
| framing\_conditionFrameCode1:norm\_condition1:hedonic\_center | 0.50 | 0.53 | 0.94 | 0.346 |
| framing\_conditionFrameCode2:norm\_condition1:hedonic\_center | -0.24 | 0.45 | -0.53 | 0.597 |
| framing\_conditionFrameCode1:norm\_condition2:hedonic\_center | -0.29 | 0.28 | -1.03 | 0.301 |
| framing\_conditionFrameCode2:norm\_condition2:hedonic\_center | 0.19 | 0.25 | 0.77 | 0.439 |
| framing\_conditionFrameCode1:norm\_condition3:hedonic\_center | -0.11 | 0.22 | -0.49 | 0.625 |
| framing\_conditionFrameCode2:norm\_condition3:hedonic\_center | 0.30 | 0.18 | 1.61 | 0.108 |
| framing\_conditionFrameCode1:norm\_condition4:hedonic\_center | 0.01 | 0.16 | 0.04 | 0.968 |
| framing\_conditionFrameCode2:norm\_condition4:hedonic\_center | 0.19 | 0.13 | 1.39 | 0.165 |
| framing\_conditionFrameCode1:norm\_condition1:ingroup\_identification\_center | -0.03 | 0.30 | -0.11 | 0.912 |
| framing\_conditionFrameCode2:norm\_condition1:ingroup\_identification\_center | 0.14 | 0.26 | 0.53 | 0.599 |
| framing\_conditionFrameCode1:norm\_condition2:ingroup\_identification\_center | 0.28 | 0.20 | 1.45 | 0.148 |
| framing\_conditionFrameCode2:norm\_condition2:ingroup\_identification\_center | 0.12 | 0.16 | 0.77 | 0.439 |
| framing\_conditionFrameCode1:norm\_condition3:ingroup\_identification\_center | 0.01 | 0.13 | 0.11 | 0.914 |
| framing\_conditionFrameCode2:norm\_condition3:ingroup\_identification\_center | 0.00 | 0.11 | 0.00 | 0.999 |
| framing\_conditionFrameCode1:norm\_condition4:ingroup\_identification\_center | -0.06 | 0.09 | -0.66 | 0.509 |
| framing\_conditionFrameCode2:norm\_condition4:ingroup\_identification\_center | 0.10 | 0.09 | 1.10 | 0.272 |

### Odds Ratios

Converting log odds estimates to odds ratios:

exp(coef(log\_model)) %>%  
 knitr::kable(digits = 2)

|  | x |
| --- | --- |
| (Intercept) | 0.84 |
| framing\_conditionFrameCode1 | 1.15 |
| framing\_conditionFrameCode2 | 1.64 |
| norm\_condition1 | 1.19 |
| norm\_condition2 | 1.00 |
| norm\_condition3 | 1.00 |
| norm\_condition4 | 1.01 |
| biospheric\_center | 1.59 |
| altruistic\_center | 1.32 |
| egoistic\_center | 0.44 |
| hedonic\_center | 0.97 |
| ingroup\_identification\_center | 1.07 |
| self\_deceptive\_center | 0.79 |
| impress\_manag\_center | 0.77 |
| clothing\_interest\_center | 1.06 |
| Gender1 | 1.07 |
| Age\_center | 0.89 |
| framing\_conditionFrameCode1:norm\_condition1 | 1.34 |
| framing\_conditionFrameCode2:norm\_condition1 | 1.40 |
| framing\_conditionFrameCode1:norm\_condition2 | 0.91 |
| framing\_conditionFrameCode2:norm\_condition2 | 0.93 |
| framing\_conditionFrameCode1:norm\_condition3 | 1.10 |
| framing\_conditionFrameCode2:norm\_condition3 | 1.05 |
| framing\_conditionFrameCode1:norm\_condition4 | 1.02 |
| framing\_conditionFrameCode2:norm\_condition4 | 0.97 |
| framing\_conditionFrameCode1:biospheric\_center | 0.84 |
| framing\_conditionFrameCode2:biospheric\_center | 1.69 |
| norm\_condition1:biospheric\_center | 1.27 |
| norm\_condition2:biospheric\_center | 1.01 |
| norm\_condition3:biospheric\_center | 1.01 |
| norm\_condition4:biospheric\_center | 1.00 |
| framing\_conditionFrameCode1:altruistic\_center | 1.70 |
| framing\_conditionFrameCode2:altruistic\_center | 0.46 |
| norm\_condition1:altruistic\_center | 0.61 |
| norm\_condition2:altruistic\_center | 1.26 |
| norm\_condition3:altruistic\_center | 1.14 |
| norm\_condition4:altruistic\_center | 1.08 |
| framing\_conditionFrameCode1:egoistic\_center | 0.63 |
| framing\_conditionFrameCode2:egoistic\_center | 0.84 |
| norm\_condition1:egoistic\_center | 1.17 |
| norm\_condition2:egoistic\_center | 0.97 |
| norm\_condition3:egoistic\_center | 1.06 |
| norm\_condition4:egoistic\_center | 0.97 |
| framing\_conditionFrameCode1:hedonic\_center | 0.75 |
| framing\_conditionFrameCode2:hedonic\_center | 0.97 |
| norm\_condition1:hedonic\_center | 0.94 |
| norm\_condition2:hedonic\_center | 0.94 |
| norm\_condition3:hedonic\_center | 0.87 |
| norm\_condition4:hedonic\_center | 0.96 |
| framing\_conditionFrameCode1:ingroup\_identification\_center | 1.14 |
| framing\_conditionFrameCode2:ingroup\_identification\_center | 1.13 |
| norm\_condition1:ingroup\_identification\_center | 0.89 |
| norm\_condition2:ingroup\_identification\_center | 1.00 |
| norm\_condition3:ingroup\_identification\_center | 1.02 |
| norm\_condition4:ingroup\_identification\_center | 0.97 |
| framing\_conditionFrameCode1:norm\_condition1:biospheric\_center | 0.64 |
| framing\_conditionFrameCode2:norm\_condition1:biospheric\_center | 0.80 |
| framing\_conditionFrameCode1:norm\_condition2:biospheric\_center | 1.19 |
| framing\_conditionFrameCode2:norm\_condition2:biospheric\_center | 0.90 |
| framing\_conditionFrameCode1:norm\_condition3:biospheric\_center | 1.02 |
| framing\_conditionFrameCode2:norm\_condition3:biospheric\_center | 1.01 |
| framing\_conditionFrameCode1:norm\_condition4:biospheric\_center | 1.40 |
| framing\_conditionFrameCode2:norm\_condition4:biospheric\_center | 1.01 |
| framing\_conditionFrameCode1:norm\_condition1:altruistic\_center | 1.39 |
| framing\_conditionFrameCode2:norm\_condition1:altruistic\_center | 1.33 |
| framing\_conditionFrameCode1:norm\_condition2:altruistic\_center | 0.81 |
| framing\_conditionFrameCode2:norm\_condition2:altruistic\_center | 1.60 |
| framing\_conditionFrameCode1:norm\_condition3:altruistic\_center | 0.91 |
| framing\_conditionFrameCode2:norm\_condition3:altruistic\_center | 1.23 |
| framing\_conditionFrameCode1:norm\_condition4:altruistic\_center | 0.66 |
| framing\_conditionFrameCode2:norm\_condition4:altruistic\_center | 0.99 |
| framing\_conditionFrameCode1:norm\_condition1:egoistic\_center | 1.02 |
| framing\_conditionFrameCode2:norm\_condition1:egoistic\_center | 0.84 |
| framing\_conditionFrameCode1:norm\_condition2:egoistic\_center | 1.27 |
| framing\_conditionFrameCode2:norm\_condition2:egoistic\_center | 1.06 |
| framing\_conditionFrameCode1:norm\_condition3:egoistic\_center | 1.10 |
| framing\_conditionFrameCode2:norm\_condition3:egoistic\_center | 0.95 |
| framing\_conditionFrameCode1:norm\_condition4:egoistic\_center | 1.15 |
| framing\_conditionFrameCode2:norm\_condition4:egoistic\_center | 1.02 |
| framing\_conditionFrameCode1:norm\_condition1:hedonic\_center | 1.65 |
| framing\_conditionFrameCode2:norm\_condition1:hedonic\_center | 0.79 |
| framing\_conditionFrameCode1:norm\_condition2:hedonic\_center | 0.75 |
| framing\_conditionFrameCode2:norm\_condition2:hedonic\_center | 1.21 |
| framing\_conditionFrameCode1:norm\_condition3:hedonic\_center | 0.90 |
| framing\_conditionFrameCode2:norm\_condition3:hedonic\_center | 1.34 |
| framing\_conditionFrameCode1:norm\_condition4:hedonic\_center | 1.01 |
| framing\_conditionFrameCode2:norm\_condition4:hedonic\_center | 1.20 |
| framing\_conditionFrameCode1:norm\_condition1:ingroup\_identification\_center | 0.97 |
| framing\_conditionFrameCode2:norm\_condition1:ingroup\_identification\_center | 1.15 |
| framing\_conditionFrameCode1:norm\_condition2:ingroup\_identification\_center | 1.33 |
| framing\_conditionFrameCode2:norm\_condition2:ingroup\_identification\_center | 1.13 |
| framing\_conditionFrameCode1:norm\_condition3:ingroup\_identification\_center | 1.01 |
| framing\_conditionFrameCode2:norm\_condition3:ingroup\_identification\_center | 1.00 |
| framing\_conditionFrameCode1:norm\_condition4:ingroup\_identification\_center | 0.94 |
| framing\_conditionFrameCode2:norm\_condition4:ingroup\_identification\_center | 1.10 |

# with CIs  
#exp(cbind(OR = coef(log\_model), confint(log\_model))) %>%  
 #knitr::kable(digits = 2)

## Assessing Overall Effects

Effect of framing condition

wald.test(b = coef(log\_model), Sigma = vcov(log\_model), Terms = 2:3)

## Wald test:  
## ----------  
##   
## Chi-squared test:  
## X2 = 9.2, df = 2, P(> X2) = 0.0098

Effect of framing condition

wald.test(b = coef(log\_model), Sigma = vcov(log\_model), Terms = 4:7)

## Wald test:  
## ----------  
##   
## Chi-squared test:  
## X2 = 2.0, df = 4, P(> X2) = 0.73

Framing X Norm Interaction

wald.test(b = coef(log\_model), Sigma = vcov(log\_model), Terms = 17:24)

## Wald test:  
## ----------  
##   
## Chi-squared test:  
## X2 = 8.9, df = 8, P(> X2) = 0.35

Framing X Biospheric Interaction

wald.test(b = coef(log\_model), Sigma = vcov(log\_model), Terms = 25:26)

## Wald test:  
## ----------  
##   
## Chi-squared test:  
## X2 = 0.54, df = 2, P(> X2) = 0.76

Norm X Biospheric Interaction

wald.test(b = coef(log\_model), Sigma = vcov(log\_model), Terms = 27:30)

## Wald test:  
## ----------  
##   
## Chi-squared test:  
## X2 = 7.0, df = 4, P(> X2) = 0.14

## Simple Effects

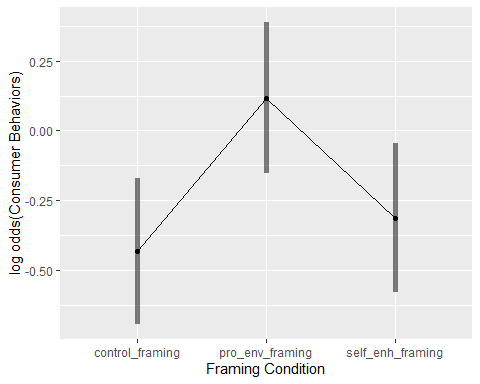
### Framing Condition

H1: Consumer intentions/behaviors will be lower in the self-enhancing framing than in the pro-environmental or control framing conditions.

# on the log odds scale  
emmeans(log\_model, pairwise ~ framing\_condition, adjust = "none")

## $emmeans  
## framing\_condition emmean SE df asymp.LCL asymp.UCL  
## control\_framing -0.432 0.133 Inf -0.692 -0.1713  
## pro\_env\_framing 0.118 0.138 Inf -0.153 0.3886  
## self\_enh\_framing -0.312 0.136 Inf -0.579 -0.0453  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Results are given on the logit (not the response) scale.   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df z.ratio p.value  
## control\_framing - pro\_env\_framing -0.550 0.190 Inf -2.895 0.0038  
## control\_framing - self\_enh\_framing -0.119 0.188 Inf -0.634 0.5262  
## pro\_env\_framing - self\_enh\_framing 0.430 0.193 Inf 2.232 0.0256  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Results are given on the log odds ratio (not the response) scale.

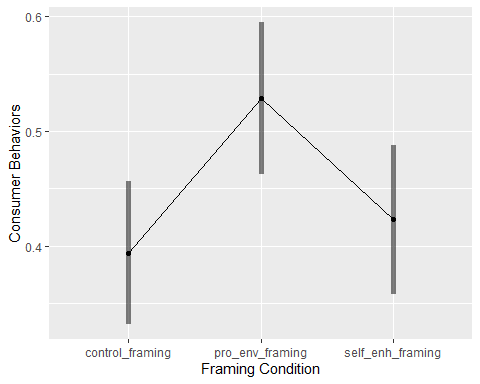
emmip(log\_model, ~ framing\_condition, CIs = TRUE, xlab = "Framing Condition", ylab = "log odds(Consumer Behaviors)")



# using probabilities  
emmeans(log\_model, pairwise ~ framing\_condition, adjust = "none", regrid = "response")

## $emmeans  
## framing\_condition prob SE df asymp.LCL asymp.UCL  
## control\_framing 0.394 0.0317 Inf 0.332 0.456  
## pro\_env\_framing 0.529 0.0337 Inf 0.463 0.595  
## self\_enh\_framing 0.423 0.0330 Inf 0.358 0.488  
##   
## Results are averaged over the levels of: norm\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df z.ratio p.value  
## control\_framing - pro\_env\_framing -0.135 0.0458 Inf -2.940 0.0033  
## control\_framing - self\_enh\_framing -0.029 0.0453 Inf -0.639 0.5228  
## pro\_env\_framing - self\_enh\_framing 0.106 0.0468 Inf 2.257 0.0240  
##   
## Results are averaged over the levels of: norm\_condition, Gender

emmip(log\_model, ~ framing\_condition, CIs = TRUE, regrid = "response", xlab = "Framing Condition", ylab = "Consumer Behaviors")



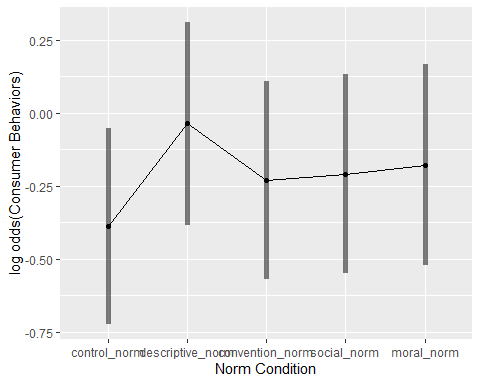
### Norm Condition

H2: Consumer intentions/behaviors will be lower in each norm condition compared to the control norm condition.

# on the log odds scale  
emmeans(log\_model, pairwise ~ norm\_condition, adjust = "none")

## $emmeans  
## norm\_condition emmean SE df asymp.LCL asymp.UCL  
## control\_norm -0.388 0.171 Inf -0.724 -0.0529  
## descriptive\_norm -0.037 0.177 Inf -0.384 0.3104  
## convention\_norm -0.230 0.173 Inf -0.569 0.1086  
## social\_norm -0.210 0.174 Inf -0.550 0.1303  
## moral\_norm -0.178 0.176 Inf -0.522 0.1662  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Results are given on the logit (not the response) scale.   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm -0.3513 0.245 Inf -1.432 0.1520  
## control\_norm - convention\_norm -0.1582 0.242 Inf -0.655 0.5127  
## control\_norm - social\_norm -0.1786 0.241 Inf -0.741 0.4587  
## control\_norm - moral\_norm -0.2104 0.244 Inf -0.863 0.3880  
## descriptive\_norm - convention\_norm 0.1931 0.247 Inf 0.783 0.4337  
## descriptive\_norm - social\_norm 0.1727 0.247 Inf 0.700 0.4837  
## descriptive\_norm - moral\_norm 0.1409 0.249 Inf 0.567 0.5707  
## convention\_norm - social\_norm -0.0204 0.243 Inf -0.084 0.9333  
## convention\_norm - moral\_norm -0.0522 0.246 Inf -0.212 0.8320  
## social\_norm - moral\_norm -0.0318 0.245 Inf -0.130 0.8968  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Results are given on the log odds ratio (not the response) scale.

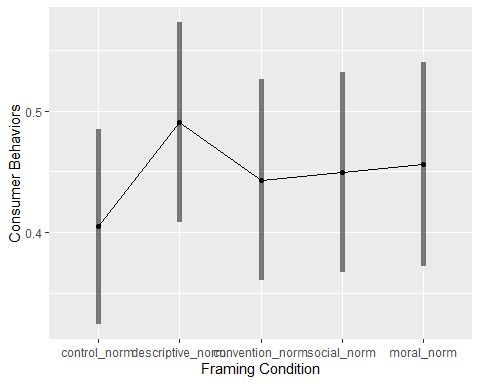
emmip(log\_model, ~ norm\_condition, CIs = TRUE, xlab = "Norm Condition", ylab = "log odds(Consumer Behaviors)")



# using probabilities  
emmeans(log\_model, pairwise ~ norm\_condition, adjust = "none", regrid = "response")

## $emmeans  
## norm\_condition prob SE df asymp.LCL asymp.UCL  
## control\_norm 0.405 0.0410 Inf 0.324 0.485  
## descriptive\_norm 0.491 0.0421 Inf 0.408 0.573  
## convention\_norm 0.443 0.0423 Inf 0.360 0.526  
## social\_norm 0.449 0.0420 Inf 0.367 0.531  
## moral\_norm 0.456 0.0430 Inf 0.372 0.540  
##   
## Results are averaged over the levels of: framing\_condition, Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm -0.08602 0.0585 Inf -1.471 0.1412  
## control\_norm - convention\_norm -0.03855 0.0585 Inf -0.659 0.5099  
## control\_norm - social\_norm -0.04464 0.0580 Inf -0.770 0.4416  
## control\_norm - moral\_norm -0.05149 0.0591 Inf -0.872 0.3833  
## descriptive\_norm - convention\_norm 0.04748 0.0594 Inf 0.799 0.4242  
## descriptive\_norm - social\_norm 0.04138 0.0591 Inf 0.701 0.4836  
## descriptive\_norm - moral\_norm 0.03453 0.0600 Inf 0.576 0.5647  
## convention\_norm - social\_norm -0.00609 0.0591 Inf -0.103 0.9179  
## convention\_norm - moral\_norm -0.01295 0.0602 Inf -0.215 0.8296  
## social\_norm - moral\_norm -0.00685 0.0597 Inf -0.115 0.9086  
##   
## Results are averaged over the levels of: framing\_condition, Gender

emmip(log\_model, ~ norm\_condition, CIs = TRUE, regrid = "response", xlab = "Framing Condition", ylab = "Consumer Behaviors")



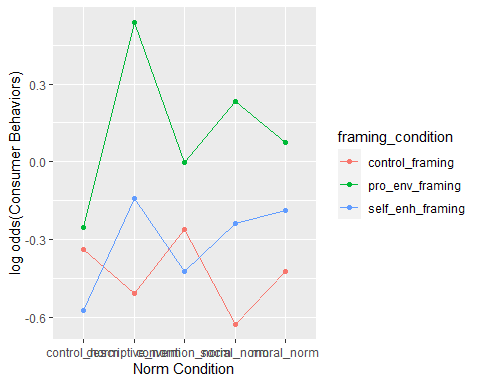
### Framing X Norm

H3: There will be a two-way interaction between framing & norm condition such that the effect of each norm will be stronger in the self-enhancing framing than in the pro-environmental or control framing conditions.

# on the log odds scale  
emmeans(log\_model, pairwise ~ norm\_condition | framing\_condition, adjust = "none")

## $emmeans  
## framing\_condition = control\_framing:  
## norm\_condition emmean SE df asymp.LCL asymp.UCL  
## control\_norm -0.33902 0.282 Inf -0.893 0.2147  
## descriptive\_norm -0.50816 0.301 Inf -1.099 0.0824  
## convention\_norm -0.26252 0.304 Inf -0.858 0.3332  
## social\_norm -0.62682 0.258 Inf -1.132 -0.1214  
## moral\_norm -0.42173 0.323 Inf -1.056 0.2120  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition emmean SE df asymp.LCL asymp.UCL  
## control\_norm -0.25411 0.292 Inf -0.826 0.3178  
## descriptive\_norm 0.53774 0.349 Inf -0.147 1.2226  
## convention\_norm -0.00391 0.275 Inf -0.544 0.5358  
## social\_norm 0.23409 0.316 Inf -0.385 0.8528  
## moral\_norm 0.07592 0.293 Inf -0.497 0.6493  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition emmean SE df asymp.LCL asymp.UCL  
## control\_norm -0.57182 0.309 Inf -1.177 0.0336  
## descriptive\_norm -0.14066 0.269 Inf -0.667 0.3861  
## convention\_norm -0.42394 0.316 Inf -1.042 0.1945  
## social\_norm -0.23653 0.320 Inf -0.863 0.3900  
## moral\_norm -0.18807 0.294 Inf -0.764 0.3882  
##   
## Results are averaged over the levels of: Gender   
## Results are given on the logit (not the response) scale.   
## Confidence level used: 0.95   
##   
## $contrasts  
## framing\_condition = control\_framing:  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm 0.1691 0.412 Inf 0.411 0.6813  
## control\_norm - convention\_norm -0.0765 0.415 Inf -0.184 0.8536  
## control\_norm - social\_norm 0.2878 0.381 Inf 0.756 0.4499  
## control\_norm - moral\_norm 0.0827 0.429 Inf 0.193 0.8473  
## descriptive\_norm - convention\_norm -0.2456 0.427 Inf -0.575 0.5652  
## descriptive\_norm - social\_norm 0.1187 0.394 Inf 0.301 0.7633  
## descriptive\_norm - moral\_norm -0.0864 0.442 Inf -0.196 0.8449  
## convention\_norm - social\_norm 0.3643 0.397 Inf 0.917 0.3594  
## convention\_norm - moral\_norm 0.1592 0.444 Inf 0.359 0.7196  
## social\_norm - moral\_norm -0.2051 0.413 Inf -0.497 0.6195  
##   
## framing\_condition = pro\_env\_framing:  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm -0.7919 0.455 Inf -1.740 0.0819  
## control\_norm - convention\_norm -0.2502 0.401 Inf -0.625 0.5322  
## control\_norm - social\_norm -0.4882 0.428 Inf -1.139 0.2546  
## control\_norm - moral\_norm -0.3300 0.412 Inf -0.801 0.4229  
## descriptive\_norm - convention\_norm 0.5416 0.445 Inf 1.218 0.2231  
## descriptive\_norm - social\_norm 0.3037 0.471 Inf 0.645 0.5188  
## descriptive\_norm - moral\_norm 0.4618 0.457 Inf 1.012 0.3117  
## convention\_norm - social\_norm -0.2380 0.417 Inf -0.571 0.5681  
## convention\_norm - moral\_norm -0.0798 0.400 Inf -0.200 0.8419  
## social\_norm - moral\_norm 0.1582 0.427 Inf 0.370 0.7112  
##   
## framing\_condition = self\_enh\_framing:  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm -0.4312 0.408 Inf -1.058 0.2902  
## control\_norm - convention\_norm -0.1479 0.440 Inf -0.336 0.7371  
## control\_norm - social\_norm -0.3353 0.443 Inf -0.756 0.4495  
## control\_norm - moral\_norm -0.3838 0.426 Inf -0.901 0.3674  
## descriptive\_norm - convention\_norm 0.2833 0.412 Inf 0.688 0.4913  
## descriptive\_norm - social\_norm 0.0959 0.417 Inf 0.230 0.8181  
## descriptive\_norm - moral\_norm 0.0474 0.399 Inf 0.119 0.9053  
## convention\_norm - social\_norm -0.1874 0.448 Inf -0.418 0.6757  
## convention\_norm - moral\_norm -0.2359 0.432 Inf -0.546 0.5853  
## social\_norm - moral\_norm -0.0485 0.434 Inf -0.112 0.9110  
##   
## Results are averaged over the levels of: Gender   
## Results are given on the log odds ratio (not the response) scale.

emmip(log\_model, framing\_condition ~ norm\_condition, CIs = FALSE, xlab = "Norm Condition", ylab = "log odds(Consumer Behaviors)")



# using probabilities  
emmeans(log\_model, pairwise ~ norm\_condition | framing\_condition, adjust = "none", regrid = "response")

## $emmeans  
## framing\_condition = control\_framing:  
## norm\_condition prob SE df asymp.LCL asymp.UCL  
## control\_norm 0.416 0.0686 Inf 0.282 0.551  
## descriptive\_norm 0.376 0.0707 Inf 0.237 0.514  
## convention\_norm 0.435 0.0747 Inf 0.288 0.581  
## social\_norm 0.348 0.0585 Inf 0.234 0.463  
## moral\_norm 0.396 0.0773 Inf 0.245 0.548  
##   
## framing\_condition = pro\_env\_framing:  
## norm\_condition prob SE df asymp.LCL asymp.UCL  
## control\_norm 0.437 0.0718 Inf 0.296 0.577  
## descriptive\_norm 0.631 0.0813 Inf 0.472 0.791  
## convention\_norm 0.499 0.0688 Inf 0.364 0.634  
## social\_norm 0.558 0.0778 Inf 0.406 0.711  
## moral\_norm 0.519 0.0730 Inf 0.376 0.662  
##   
## framing\_condition = self\_enh\_framing:  
## norm\_condition prob SE df asymp.LCL asymp.UCL  
## control\_norm 0.361 0.0712 Inf 0.221 0.500  
## descriptive\_norm 0.465 0.0668 Inf 0.334 0.596  
## convention\_norm 0.396 0.0754 Inf 0.248 0.543  
## social\_norm 0.441 0.0788 Inf 0.287 0.596  
## moral\_norm 0.453 0.0728 Inf 0.310 0.596  
##   
## Results are averaged over the levels of: Gender   
## Confidence level used: 0.95   
##   
## $contrasts  
## framing\_condition = control\_framing:  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm 0.0404 0.0982 Inf 0.411 0.6807  
## control\_norm - convention\_norm -0.0187 0.1013 Inf -0.184 0.8537  
## control\_norm - social\_norm 0.0678 0.0898 Inf 0.755 0.4503  
## control\_norm - moral\_norm 0.0199 0.1034 Inf 0.193 0.8471  
## descriptive\_norm - convention\_norm -0.0591 0.1026 Inf -0.576 0.5645  
## descriptive\_norm - social\_norm 0.0274 0.0912 Inf 0.300 0.7639  
## descriptive\_norm - moral\_norm -0.0205 0.1047 Inf -0.196 0.8449  
## convention\_norm - social\_norm 0.0865 0.0946 Inf 0.914 0.3606  
## convention\_norm - moral\_norm 0.0386 0.1074 Inf 0.360 0.7191  
## social\_norm - moral\_norm -0.0479 0.0968 Inf -0.494 0.6212  
##   
## framing\_condition = pro\_env\_framing:  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm -0.1944 0.1085 Inf -1.793 0.0730  
## control\_norm - convention\_norm -0.0622 0.0993 Inf -0.627 0.5310  
## control\_norm - social\_norm -0.1214 0.1055 Inf -1.151 0.2499  
## control\_norm - moral\_norm -0.0821 0.1020 Inf -0.805 0.4208  
## descriptive\_norm - convention\_norm 0.1322 0.1065 Inf 1.242 0.2143  
## descriptive\_norm - social\_norm 0.0730 0.1125 Inf 0.649 0.5164  
## descriptive\_norm - moral\_norm 0.1123 0.1095 Inf 1.026 0.3051  
## convention\_norm - social\_norm -0.0592 0.1034 Inf -0.573 0.5668  
## convention\_norm - moral\_norm -0.0199 0.0999 Inf -0.200 0.8418  
## social\_norm - moral\_norm 0.0393 0.1059 Inf 0.371 0.7108  
##   
## framing\_condition = self\_enh\_framing:  
## contrast estimate SE df z.ratio p.value  
## control\_norm - descriptive\_norm -0.1041 0.0972 Inf -1.070 0.2846  
## control\_norm - convention\_norm -0.0347 0.1035 Inf -0.336 0.7370  
## control\_norm - social\_norm -0.0803 0.1059 Inf -0.758 0.4485  
## control\_norm - moral\_norm -0.0923 0.1017 Inf -0.907 0.3642  
## descriptive\_norm - convention\_norm 0.0693 0.1001 Inf 0.692 0.4887  
## descriptive\_norm - social\_norm 0.0237 0.1031 Inf 0.230 0.8179  
## descriptive\_norm - moral\_norm 0.0118 0.0989 Inf 0.119 0.9053  
## convention\_norm - social\_norm -0.0456 0.1088 Inf -0.419 0.6754  
## convention\_norm - moral\_norm -0.0575 0.1051 Inf -0.547 0.5840  
## social\_norm - moral\_norm -0.0120 0.1071 Inf -0.112 0.9110  
##   
## Results are averaged over the levels of: Gender

emmip(log\_model, framing\_condition ~ norm\_condition, CIs = FALSE, regrid = "response", xlab = "Framing Condition", ylab = "Consumer Behaviors")

