PTSD Meta-Analysis

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Load Data and R Packages

R Packages we will use:

```
library(haven)
library(tidyverse)
library(metafor)
library(brms)
library(lme4)
library(gt)
```

Load Data

Note that I've changed some of the raw data that is incorrect.

Note that for study 1, the number of men and women (115, 134) adds up 249, but the total is listed as 252, which is due to missing gender information for 3 individuals in the original source.

Presumably this the same issue with study 15 (Pat-Horenczyk).

Data Description

- participants - Number of Participants
- male - Number of Males
- mpercent - Percentage of males in the sample
- Female - Number of Females
- fpercent - Percentage of females in the sample

- age - mean age of sample participants

```
rm(list = ls())

df = haven::read_sav(file.path("data", "raw-data_11.03.24_final.sav")) %>%
     rename_with(tolower) %>%
     data.frame()

df %>%
  rowid_to_column() %>%
   knitr::kable()
```

rowparticipantsmalefemaleagetptsdmptsdsdaftermeasurecountryauthorsquality...																						
1	25211545.613453.214.3705.50NANA1	9.00	CRIES-8	Lebanon	Fayyad	1	7	75.4	52.6	38.9	36.5	35.3	29.4	16.3	15.9	2	12	18	7	7
2	173NA37.50NA62.5015.7595.8110.7010.90	120.00	CBCL	Syria	Abu-Kaf	4	1	NA	NA	NA	NA	NA	NA	NA	NA	3	13	18	3	1
3	403NA61.50NA38.5017.6010.5008.6505.00	NA	SPTSS	Iraq	Al-Hadethe	5	4	NA	NA	NA	NA	NA	NA	NA	NA	3	16	19	4	4
4	79746958.82841.2019.4019.81NANA0	NA	PCL-5	India	Bhat	3	7	7.0	27.1	NA	0.0	16.1	26.1	5.3	NA	2	19	24	6	7
5	231NA41.60NA58.4014.9020NANA1	1.00	CPSS-1	Burundi	Charak	6	9	NA	NA	NA	NA	NA	NA	NA	NA	1	12	21	9	9
6	102999648.53351.8313.731.50NANA0	12.00	PTSDSS	Gaza Str	El-Khodary	7	6	83.7	NA	88.3	88.4	NA	NA	NA	NA	2	11	17	7	6
7	22412053.610446.4115.5560.6451.00	120.00	PTSDSS	Iraq	Freh	7	7	NA	NA	NA	28.5	57.4	NA	NA	13.7	2	12	23	7	7
8	64 NA37.00NA63.0013.5013.90013.90	NA	CRIES-8	Gaza Str	Harb	1	3	NA	NA	NA	NA	NA	NA	NA	NA	3	12	16	3	3
9	1369NA52.80NANA16.5838.00NANA1	108.00	CRIES	Syria	Kaklaje	1	9	NA	NA	NA	NA	NA	NA	NA	NA	1	16	18	7	9
10	2314NA48.40NA51.6013.5515.00NANA1	10.00	CPTS-RI	Israel	Lavi	8	6	NA	NA	NA	NA	NA	NA	NA	NA	2	12	15	6	6
11	102NA39.22NA60.7818.6112.50NANA0	NA	PCL-C	Colombia	Marroquin	12	7	NA	NA	NA	NA	NA	NA	NA	NA	2	12	17	7	7
12	952NA54.70NA45.3015.5823.20NANA0	NA	IES-R	Congo	Mels	10	6	NA	NA	NA	NA	NA	NA	NA	NA	2	13	21	5	6
13	55128451.536748.5016.1219.5020.1028.75	48.00	IES-R	Uganda	Okello	10	7	NA	NA	NA	NA	NA	NA	NA	NA	2	13	21	7	7
14	1463NA47.40NA52.6013.5030NANA0	NA	HTQ	Ukraine	Osokina	11	9	60.2	NA	NA	13.9	NA	NA	NA	NA	1	11	17	8	9
15	482NA46.70NA47.7016.5290NANA1	2.00	UCLA PTS	Israel	Pat-Horenczyk,	2	3	NA	NA	NA	NA	NA	NA	NA	NA	3	12	18	3	3
16	2337030.0143369.6013.4019.00NANA0	NA	UCLA PTS	Israel	Shaheen	2	3	NA	NA	NA	NA	NA	NA	NA	NA	3	11	16	5	3

[illegible]
17 1078 536 49.70 542 50.30 13.78 33.60 NA NA 0 NA UCLA PTS Gaza Str Shoshani 2 7 7.1 NA NA 16.6 1.5 NA NA 1.0 2 13 15 7 7
18 358 NA 44.10 NA 55.90 16.79 29.80 NA NA 1 3.00 UCLA PTS Gaza Str Thabet 2 4 88.5 NA NA NA NA NA NA NA 3 15 18 4 4
19 430 NA 43.00 245 57.00 15.61 50.20 NA NA 1 57.00 CRIES Syria Uysal 1 9 NA NA NA NA NA NA NA NA 1 12 18 9 9
20 1194 3 36.70 76 63.90 13.50 70.70 71.77 0.90 0 46.32 DSM-5 Syria Yilmaz 9 3 NA NA NA NA NA NA NA NA 3 12 16 3 3
21 314 NA 53.80 NA 45.20 13.46 37.20 NA NA 0 NA UCLA PTS Israel Shehadeh 2 5 NA NA NA NA NA NA NA NA 2 11 18 5 5

Compute Additional Variables

Add missing count data using the extracted percentages

Reformatted percentages so they're from 0-1 and not 0-100

Created mean-centered age variable

Fixed error on the Harb study where males were not measured in their PTSD

```
# df$male_plus_female_percent = df$mpercent + df$fpercent

df$mpercent  = df$mpercent/100
df$fpercent  = df$fpercent/100
df$ptsd      = df$ptsd/100
df$mptsd      = df$mptsd/100
df$fptsd      = df$fptsd/100
df$authors = as.character(df$authors)

df$aftermath = df$aftermath/12

df$male[is.na(df$male)] = round(
  df$participants[is.na(df$male)]*df$mpercent[is.na(df$male)]
  )

df$female[is.na(df$female)] = round(
  df$participants[is.na(df$female)]*df$fpercent[is.na(df$female)]
  )

df$ptsd_n = round(df$ptsd*df$participants)
```

```r
df$authors[df$authors == "Marroquin"] = "Rivera"
df$authors[grep("^Pat",df$authors)] = "Pat-Horenczyk"


df$war[df$authors == "El-Khodary"] = 1

table(df$aftermath, df$war, useNA = "always")
```

```
                    0 1 <NA>
  0.0833333333333333 0 1    0
  0.166666666666667  0 1    0
  0.25               0 1    0
  0.75               0 1    0
  0.833333333333333  0 1    0
  1                  0 1    0
  3.86               0 1    0
  4                  0 1    0
  4.75               0 1    0
  9                  0 1    0
  10                 0 2    0
  <NA>               9 0    0
```

```r
df$measure[df$measure == "UCLA PTS"] =  "UCLA-PTS"

df$measure_factor = factor(paste0("M",df$measures1))

df$qualityassessment_factor = factor(paste0("Quality Rating: ",df$qualityassessment))

harb_row = which(df$authors=="Harb")

df$participants[harb_row] = 40
df$male[harb_row]         = 0
df$mpercent[harb_row]     = 0
df$female[harb_row]       = 40
df$fpercent[harb_row]     = 1
df$mptsd[harb_row]        = NA
df$ptsd[harb_row]         = .90


df = df %>%
```

```
    # filter(!exclude) %>%
    select("authors","participants","ptsd_n",everything()) %>%
    mutate(
      age_centered = scale(age, center = TRUE, scale = FALSE),
      aftermath_centered = scale(aftermath, center = TRUE, scale = FALSE),
      quality_centered   = scale(qualityassessment, center = TRUE, scale = TRUE)
    )
```

Cleaned Dataset

```
write.csv(df, file.path("data","cleaned_df.csv"))

df %>%
  rowid_to_column() %>%
  knitr::kable()
```

rowidauthorsparticipantsptsd_nptsd_prevalencefemaleagecentered_ptsdptsdaftermathmeasurecountryyearadversityexposurebiasadjustedqualityassessmentquality_centeredaftermath_centered												
1	Fayyad 2589 115	0.4530.5320.35NA 1	0.75CDHHS 1 Mation	7	75.542.368.36.35.29.16.15.2	12	18	7	7	M1	Quality Rating: 7	0.50478790 -0.42857143 -2.5714444
2	Abu-Kaf 1731 3765	0.3758.6250.8579.80.76910.00859	CDHHS 1 Tya 4	1	NANANANANANANANA	3	13	18	3	1 M4	Quality Rating: 1	0.66428557 -2.03934313
3	Al-Hadethe 4032 248	0.6150.38750.01508.0500 NA SPTSS Iraq 5	4	NANANANANANANANA	3	16	19	4	4 M5	Quality Rating: 4	2.35142857 -0.76727761
4	Bhat 79 7469	0.5389.4120.0458 NA 0 NA PCL-5 India 3	7	7.027.1 NA 0.016.226.51.3 NA	2	19	24	6	7 M3	Quality Rating: 7	4.75142857 0.50478790
5	Chasek 235 96	0.4130.5849.0220 NA 1	0.083BSS Israel 9		NANANANANANANANA	1	12	21	9	9 M6	Quality Rating: 9	1.35283158 -0.26571143 -2.6571111

6	El-Khodary	[illegible]	1.0[illegible]	[illegible] Str	6	83.7 NA 88.8 [illegible]	NA NA NA NA	2	11	17	7	6	M7	Quality Rating: 6	-	0.08076606	[illegible]	[illegible]
7	Fre[illegible]	[illegible]	[illegible]	[illegible]	7	NA NA NA 28.5 7.1 NA NA 13.2		7	12	23	7	7	M7	Quality Rating: 7	[illegible]	[illegible]8790		
8	Ha[illegible]	9	0	0.0[illegible]	[illegible] Str	3	NA NA NA NA NA NA NA NA		3	12	16	3	3	M1	Quality Rating: 3	-	NA	[illegible]29945
9	Ka[illegible]	[illegible]	[illegible]	9.00[illegible]	[illegible]1	9	NA NA NA NA NA NA NA NA		1	16	18	7	9	M1	Quality Rating: 9	[illegible]	[illegible]3158	
10	La[illegible]	[illegible]	0.83[illegible]	[illegible] RI	6	NA NA NA NA NA NA NA NA		2	12	15	6	6	M8	Quality Rating: 6	-	0.08076606	[illegible]111	
11	Rivera	[illegible]	NA	PCC Colombia	[illegible]	NA NA NA NA NA NA NA NA		2	12	17	7	7	M1	Quality Rating: 7	-	NA	0.50478790	0.5557143
12	Me[illegible]	[illegible]	NA	IES-R Congo	[illegible]6	NA NA NA NA NA NA NA NA		2	13	21	5	6	M1	Quality Rating: 6	[illegible]	[illegible]076606	
13	Ok[illegible]	[illegible]	[illegible]	IES-R Uganda	[illegible]7	NA NA NA NA NA NA NA NA		2	13	21	7	7	M1	Quality Rating: 7	[illegible]	[illegible]8790	
14	Os[illegible]	[illegible]	NA	HTQ Ukraine	[illegible]9	60.2 NA NA 13.3 NA NA NA NA		1	11	17	8	9	M1	Quality Rating: 9	-	NA	1.35283158	2.1657143
15	Pat-Horenczyk	[illegible]	0.1[illegible]	[illegible] PTS	3	NA NA NA NA NA NA NA NA		3	12	18	3	3	M2	Quality Rating: 3	[illegible]2857	3.5[illegible]9945	

row	widpartiscipantsmalefemaleagemeanptsd_nptsdaftermeasurecountryqualityassessmentdesigninclusioncriteriaobjectiveetc. (overprinted headers)																											quality_centered
16	Shal3en 28370 0.30660.69604NA	NA	0	NA	UCLA-PTS	Israel	2	3	NA	NA	NA	NA	NA	NA	NA	NA	3	11	16	5	3	M2	Quality Rating: 3	-	NA		-1.6757143	0.129945
17	Shoshani8536 0.4940.5100.2860 NA	NA	0	NA	UCLA-PTS	Gaza Str	2	7	7.1	NA	NA	16	6.5	NA	NA	1.0	2	13	15	7	7	M2	Quality Rating: 7	-	NA	0.50478790	1.4357143	
18	Thabet 35107 158 0.4210.5590.2980 NA	NA	1	0.25000	CPSS	Gaza Str	2	4	88.5	NA	NA	NA	NA	NA	NA	NA	3	15	18	4	4	M2	Quality Rating: 4	-	1.5342857		3.40	0.7464247761
19	Uysal 432 63 185 0.4240.5750.0612 NA	NA	1	4.75000	CPSS	Turkey	1	9	NA	NA	NA	NA	NA	NA	NA	NA	1	12	18	9	9	M1	Quality Rating: 9		0.33	0.2857	0.33	0.3158
20	Yilmaz 118 43 0.3610.6390.0670	0.0479	3.86	CPSS-5	Turkey	9	3	NA	NA	NA	NA	NA	NA	NA	NA	3	12	16	3	3	M9	Quality Rating: 3	-	0.1355556		-1.6657143	0.129945
21	Shelleh 31445 169 0.5380.4520.3746 NA	NA	0	NA	UCLA-PTS	Israel	2	5	NA	NA	NA	NA	NA	NA	NA	NA	2	11	18	5	5	M2	Quality Rating: 5	-	NA		-1.7957143	0.325578

Calculate Effect Sizes

```
df =
metafor::escalc(
  xi = ptsd_n,
  ni = participants,
  data = df,
   measure = "PLO",
  var.names = c("prev_plo", "prev_plo_var")
  )

df =
metafor::escalc(
  xi = ptsd_n,
```

```r
  ni = participants,
  data = df,
   measure = "PR",
  var.names = c("prev_pr", "prev_pr_var")
  )
```

R1) Overall Prevalance (No moderations)

```r
results_glmm = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  # mods = ~ 0 + gender_male + gender_female,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

summary(results_glmm)
```

```
Random-Effects Model (k = 21; tau^2 estimator: ML)

  logLik  deviance       AIC       BIC      AICc
-62.9218    0.7512  129.8436  131.9326  130.5102

tau^2 (estimated amount of total heterogeneity): 1.6743
tau (square root of estimated tau^2 value):      1.2939
I^2 (total heterogeneity / total variability):   99.44%
H^2 (total variability / sampling variability):  178.00

Tests for Heterogeneity:
Wld(df = 20) = 1919.8617, p-val < .0001
LRT(df = 20) = 2737.3702, p-val < .0001

Model Results:
```

```
estimate      se     tval  df    pval    ci.lb    ci.ub
 -0.8778  0.2853  -3.0764  20  0.0060  -1.4730  -0.2826  **

---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Prediction intervals on logit scale

These results are not helpful as they're on the logit scale, so we need to transform using the logit function below!

```
predict(results_glmm,
        level = .95
        )
```

```
    pred     se   ci.lb   ci.ub   pi.lb  pi.ub
 -0.8778 0.2853 -1.4730 -0.2826 -3.6418 1.8862
```

Prediction intervals on percentage scale

These results show that the AVERAGE prevalence is 26% 95%CI [.17, 37]

However the prediction intervals are very wide 95% CI [.02, .84].

```
predict(results_glmm,
        level = .95,
        transf=transf.ilogit)
```

```
   pred  ci.lb  ci.ub  pi.lb  pi.ub
 0.2936 0.1865 0.4298 0.0255 0.8683
```

Forest Plot

R2) Within-Study Comparison of Men and Women

Prepare Dataset

```r
# df_gender = df %>%
#   metafor::escalc(
#     data = .,
#     ai = `male_ptsd`,
#     n1i = `male_n`,
#     ci = `female_ptsd`,
#     n2i = `female_n`,
#     measure = "PLO"
# )

df_gender = df %>%
  filter(!is.na(mptsd) & !is.na(fptsd)) %>%
  mutate(
    male_n = male,
    male_ptsd = round(male*mptsd),
    female_n = female,
    female_ptsd = round(female*fptsd)
  ) %>%
  select(authors, male_n, male_ptsd, female_n, female_ptsd)

df_gender = df_gender %>%
  metafor::escalc(
    data = .,
    ai = `male_ptsd`,
    n1i = `male_n`,
    ci = `female_ptsd`,
    n2i = `female_n`,
    measure = "OR",
    var.names = c("log.odds", "log.odds.se")
  )


df_gender %>%
   knitr::kable()
```

authors	male_n	male_ptsd	female_n	female_ptsd	log.odds	log.odds.se
Abu-Kaf	65	53	108	83	0.2854205	0.1542495
Al-Hadethe	248	144	155	101	-0.3007141	0.0449793
Freh	120	77	104	50	0.6595663	0.0747613
Okello	284	57	267	50	0.0859756	0.0465574
Yilmaz	43	2	76	6	-0.5636891	0.7053426

Meta-Analysis

```r
results_glmm = rma.glmm(
  ai = `male_ptsd`,
  n1i = `male_n`,
  ci = `female_ptsd`,
  n2i = `female_n`,

  data = df_gender,
  measure="OR",
  model = "CM.EL",
  verbose = FALSE,
  # method = "ML",
  # intercept = FALSE,
  # mods = ~ 0 + gender_male + gender_female,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
  # nAGQ = 1
)


summary(results_glmm)
```

```
Random-Effects Model (k = 5; tau^2 estimator: ML)
Model Type: Conditional Model with Exact Likelihood

  logLik  deviance       AIC       BIC      AICc
-13.8148    7.3367   31.6297   30.8485   37.6297

tau^2 (estimated amount of total heterogeneity): 0.0639 (SE = 0.0887)
tau (square root of estimated tau^2 value):      0.2529
I^2 (total heterogeneity / total variability):   43.26%
H^2 (total variability / sampling variability):  1.76

Tests for Heterogeneity:
Wld(df = 4) = 8.5114, p-val = 0.0745
LRT(df = 4) = 8.6796, p-val = 0.0696

Model Results:

estimate      se     tval   df     pval    ci.lb    ci.ub
```

```
  0.1042  0.1778  0.5862   4  0.5892  -0.3893  0.5977

---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
predict(results_glmm, transf=exp, digits=3)
```

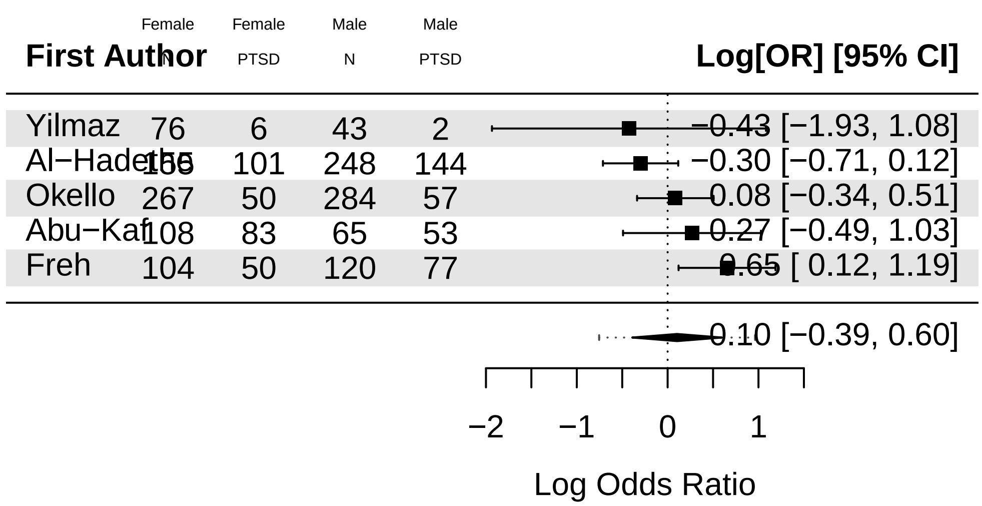
```
  pred ci.lb ci.ub pi.lb pi.ub
 1.110 0.678 1.818 0.470 2.618
```

Forest Plot

```
pdf(file.path("plots","gender_forest.pdf"), width = 10, height = 5)  # Adjust the size as ne

res = results_glmm
# forestplot =
forest(
  results_glmm,
  # transf = transf.ilogit,
  slab = authors,
  addpred = TRUE,
  steps = 10,
  order = "obs",
  ilab = cbind(female_n, female_ptsd, male_n, male_ptsd),
  header="First Author",
  ilab.xpos=(-9:-6)+3.5,
  mlab="",
  shade = TRUE
)

text((-9:-6)+3.5, results_glmm$k+3, c("Female", "Female", "Male", "Male"))
text((-9:-6)+3.5,     results_glmm$k+2, c("N", "PTSD"))

text(-5.6, -0, pos=1, cex=1, bquote(paste(
  "RE Model (K = ", .(fmtx(res$k, digits=0)),
  ", df = ", .(res$k - res$p), ", ",
  .(fmtp(res$QEp, digits=3, pname="p", add0=TRUE, sep=TRUE, equal=TRUE)), "",
  I^2, " = ", .(fmtx(res$I2, digits=1)), "%)")))

dev.off()
```

```
pdf
  2
```

```
forest(
  results_glmm,
  # transf = transf.ilogit,
  slab = authors,
  addpred = TRUE,
  steps = 10,
  order = "obs",
  ilab = cbind(female_n, female_ptsd, male_n, male_ptsd),
  header="First Author",
  ilab.xpos=(-9:-6)+3.5,
  mlab="",
  shade = TRUE
)
text((-9:-6)+3.5, cex = .5,results_glmm$k+3, c("Female", "Female", "Male", "Male"))
text((-9:-6)+3.5, cex = .5, results_glmm$k+2, c("N", "PTSD"))
```



The above effect is negative, which here indicates that PTSD rates are slightly here in women across the studies, but the effect is not significant.

R3) Meta-Regressions - age, ongoing war, method of measurement, country income level (IN PROGRESS)

```
#| echo: true
#| output: false
#| warning: false
#|
moderation_models = list()

moderation_models[["Age"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + age_centered,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models[["War"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + war,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models[["Aftermath"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
```

```
  # intercept = FALSE,
  mods = ~ 1 + aftermath_centered,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)
```

```
Warning: 9 studies with NAs omitted from model fitting.
```

```
Warning: Some yi/vi values are NA.
```

```
moderation_models[["Measure"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + measure,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models[["Economic"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + factor(econindex),
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models[["Quality"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
```

```r
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + qualityassessment_factor,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models_nointercept = list()

moderation_models_nointercept[["Age"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + age_centered,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models_nointercept[["War"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 0 + factor(war),
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models_nointercept[["Aftermath"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
```

```
  method = "ML",
  # intercept = FALSE,
  mods = ~ 1 + aftermath_centered,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)
```

```
Warning: 9 studies with NAs omitted from model fitting.

Warning: Some yi/vi values are NA.
```

```
moderation_models_nointercept[["Measure"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 0 + measure,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models_nointercept[["Economic"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 0 + factor(econindex),
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)

moderation_models_nointercept[["Quality"]] = rma.glmm(
  xi = `ptsd_n`,
  ni = `participants`,
  data = df,
  measure="PLO",
```

```
  verbose = FALSE,
  method = "ML",
  # intercept = FALSE,
  mods = ~ 0 + qualityassessment_factor,
  to = "all",
  test = "t" # This is recommended here metafor/html/misc-recs.html
)
```

Create Table

```
# moderation_models[[2]]

moderation_results = list()

for (i in 1:length(moderation_models)){
  moderation_results[[i]] = list()
  moderation_results[[i]][["QM"]]     = moderation_models[[i]]$QM
  moderation_results[[i]][["QMdf_1"]]  = moderation_models[[i]]$QMdf[1]
  moderation_results[[i]][["QMdf_2"]]  = moderation_models[[i]]$QMdf[2]
  moderation_results[[i]][["QMp"]]    = moderation_models[[i]]$QMp
  moderation_results[[i]][["N Studies"]] =  length(moderation_models[[i]]$ni)
  moderation_results[[i]][["N Participants"]] = sum(moderation_models[[i]]$ni)
}

moderation_df <- do.call(rbind, lapply(moderation_results, function(x) as.data.frame(t(unlis

rownames(moderation_df) = names(moderation_models)

moderation_df %>%
  gt(rowname_col = "Moderation Test",
     rownames_to_stub = TRUE) %>%
  gt::tab_header(title = "Moderation Tests") %>%
  fmt_number(columns = c(QM,QMp), decimals = 3)
```

Moderation Tests

	QM	QMdf_1	QMdf_2	QMp	N Studies	N Participants
Age	2.654	1	19	0.120	21	12914
War	0.100	1	19	0.755	21	12914

Aftermath	8.749	1	10	0.014	12	7532
Measure	6.499	11	9	0.005	21	12914
Economic	0.173	3	17	0.913	21	12914
Quality	1.695	6	14	0.195	21	12914

```
moderation_coef = list()

for (i in 1:length(moderation_models_nointercept)){
  moderation_coef[[i]]          = list()
  moderation_coef[[i]][["QM"]]  = moderation_models_nointercept[[i]]

  moderation_coef[[i]] = data.frame(
    model = names(moderation_models_nointercept)[i],
    group = rownames(moderation_models_nointercept[[i]]$beta),
    b     = moderation_models_nointercept[[i]][c("b")],
    ci.lb = moderation_models_nointercept[[i]][c("ci.lb")],
    ci.ub = moderation_models_nointercept[[i]][c("ci.ub")],
    se    = moderation_models_nointercept[[i]][c("se")],
    p     = moderation_models_nointercept[[i]][c("pval")]
  )

   # moderation_coef[[i]] = moderation_coef[[i]] %>%
   #   mutate(across(c(b, ci.lb, ci.ub), ~plogis(.x)))

}

moderation_coef[[match("War", names(moderation_models))]]$group = c("Ongoing War","Aftermath"

moderation_coef %>%
  do.call("bind_rows",.) %>%
  `rownames<-`((NULL)) %>%
  select(-pval) %>%
  select(-se) %>%
  mutate(group = gsub("measure","", group)) %>%
  mutate(group = gsub("factor\\(econindex\\)","", group)) %>%
  mutate(group = gsub("qualityassessment_factor","", group)) %>%
  mutate(group = gsub("intrcpt","Intercept", group)) %>%
  gt() %>%
  cols_hide("model") %>%
  tab_row_group(
    label = "Ongoing / Aftermath War, F(df1 = 1, df2 = 19) = .43, p = .84",
    rows = which(model=="War")
```