

# Trust and Threat Analysis

## Load the data

```
library(readxl)
library(broom)
library(effectsize)
data <- read_excel("/Users/daryani/Desktop/data.xlsx")
```

## Composites

```
# Foundations

binding_items <- c("loyalty_1", "loyalty_2", "authority_1", "authority_2",
                    "purity_1", "purity_2")
individualizing_items <- c("care_1", "care_2", "equality_1", "equality_2",
                            "proportionality_1", "proportionality_2")

# Outcomes

trust_items  <- paste0("trust_", 1:6)
threat_items <- paste0("threat_", 1:6)
```

## Trust towards Conservatives (Liberals - Binding)

```
# Subset groups

lib_meta <- subset(data, Group == 1 & Condition == 2) # Liberal Metaperception
con_out  <- subset(data, Group == 2 & Condition == 1) # Conservative Outgroup (their self-p
```

```

# Compute binding composites

lib_meta$binding <- rowMeans(lib_meta[, binding_items], na.rm = TRUE)
con_out$binding <- rowMeans(con_out[, binding_items], na.rm = TRUE)

# Means

binding_mean_con_out <- mean(con_out$binding, na.rm = TRUE)
binding_mean_lib_meta <- mean(lib_meta$binding, na.rm = TRUE)

cat("Mean Binding - Liberal Metaperception:", binding_mean_lib_meta, "\n")

```

Mean Binding - Liberal Metaperception: 1.935088

```
cat("Mean Binding - Conservative Outgroup (reality):", binding_mean_con_out, "\n")
```

Mean Binding - Conservative Outgroup (reality): 2.753546

```

# mismatch for LIBERALS (reality - metaperception)

# Positive = liberals underestimate conservatives' binding

lib_meta$binding_mismatch <- binding_mean_con_out - lib_meta$binding

# Outcome

lib_meta$trust <- rowMeans(lib_meta[, trust_items], na.rm = TRUE)

# Model with ideology control

model_trust_lib_binding <- lm(trust ~ binding_mismatch + ideology, data = lib_meta)

cat("\nN used (Liberals trust model):", nobs(model_trust_lib_binding), "\n")

```

N used (Liberals trust model): 95

```
summary(model_trust_lib_binding)
```

Call:

```
lm(formula = trust ~ binding_mismatch + ideology, data = lib_meta)
```

Residuals:

Min	1Q	Median	3Q	Max
-3.9003	-1.1597	0.0255	0.9954	2.9838

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	3.7060	0.3698	10.021	< 2e-16 ***
binding_mismatch	-0.9861	0.2030	-4.858	4.85e-06 ***
ideology	0.1875	0.1120	1.675	0.0974 .

---

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

Residual standard error: 1.343 on 92 degrees of freedom

Multiple R-squared: 0.2976, Adjusted R-squared: 0.2823

F-statistic: 19.49 on 2 and 92 DF, p-value: 8.776e-08

```
cat("\nEffect Size (eta^2):\n")
```

Effect Size (eta^2):

```
eta_squared(model_trust_lib_binding)
```

# Effect Size for ANOVA (Type I)

Parameter	Eta2 (partial)	95% CI
binding_mismatch	0.28	[0.16, 1.00]
ideology	0.03	[0.00, 1.00]

- One-sided CIs: upper bound fixed at [1.00].

```
cat("\nConfidence Intervals:\n")
```

Confidence Intervals:

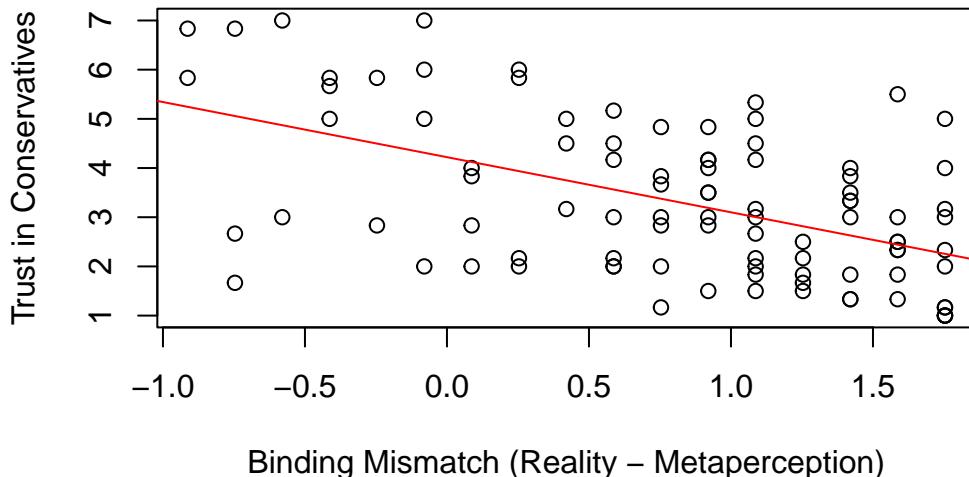
```
confint(model_trust_lib_binding)
```

	2.5 %	97.5 %
(Intercept)	2.9714592	4.4404586
binding_mismatch	-1.3892273	-0.5829088
ideology	-0.0348578	0.4098581

```
# Plot

plot(lib_meta$binding_mismatch, lib_meta$trust,
main = "Liberals' Trust in Conservatives vs. Binding Mismatch",
xlab = "Binding Mismatch (Reality - Metaperception)",
ylab = "Trust in Conservatives")
abline(lm(trust ~ binding_mismatch, data = lib_meta), col = "red")
```

## Liberals' Trust in Conservatives vs. Binding Mismatch



Trust towards Liberals (Conservatives - Individualizing)

```

# Subset groups

lib_out <- subset(data, Group == 1 & Condition == 1) # Liberal Outgroup (their self-perception)
con_meta <- subset(data, Group == 2 & Condition == 2) # Conservative Metaperception

# Compute individualizing composites

lib_out$individualizing <- rowMeans(lib_out[, individualizing_items], na.rm = TRUE)
con_meta$individualizing <- rowMeans(con_meta[, individualizing_items], na.rm = TRUE)

# Means

individualizing_mean_lib_out <- mean(lib_out$individualizing, na.rm = TRUE)
individualizing_mean_con_meta <- mean(con_meta$individualizing, na.rm = TRUE)

cat("Mean Individualizing - Liberal Outgroup (reality):", individualizing_mean_lib_out, "\n")

Mean Individualizing - Liberal Outgroup (reality): 2.57

cat("Mean Individualizing - Conservative Metaperception:", individualizing_mean_con_meta, "\n")

Mean Individualizing - Conservative Metaperception: 3.199612

# mismatch for CONSERVATIVES (metaperception - reality)

# Positive = conservatives overestimate liberals' individualizing

con_meta$individualizing_mismatch <- con_meta$individualizing - individualizing_mean_lib_out

# Outcome

con_meta$trust <- rowMeans(con_meta[, trust_items], na.rm = TRUE)

# Model with ideology control

model_trust_con_indiv <- lm(trust ~ individualizing_mismatch + ideology, data = con_meta)

cat("\nN used (Conservatives trust model):", nobs(model_trust_con_indiv), "\n")

N used (Conservatives trust model): 86

```

```
summary(model_trust_con_indiv)
```

Call:

```
lm(formula = trust ~ individualizing_mismatch + ideology, data = con_meta)
```

Residuals:

Min	1Q	Median	3Q	Max
-2.7906	-0.9361	0.0490	0.9360	3.5548

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	3.64933	0.56794	6.426	7.83e-09 ***
individualizing_mismatch	1.34157	0.24861	5.396	6.31e-07 ***
ideology	-0.11051	0.08933	-1.237	0.22

---

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

Residual standard error: 1.303 on 83 degrees of freedom

Multiple R-squared: 0.2857, Adjusted R-squared: 0.2685

F-statistic: 16.6 on 2 and 83 DF, p-value: 8.609e-07

```
cat("\nEffect Size (eta^2):\n")
```

Effect Size (eta^2):

```
eta_squared(model_trust_con_indiv)
```

# Effect Size for ANOVA (Type I)

Parameter	Eta2 (partial)	95% CI
individualizing_mismatch	0.28	[0.15, 1.00]
ideology	0.02	[0.00, 1.00]

- One-sided CIs: upper bound fixed at [1.00].

```
cat("\nConfidence Intervals:\n")
```

Confidence Intervals:

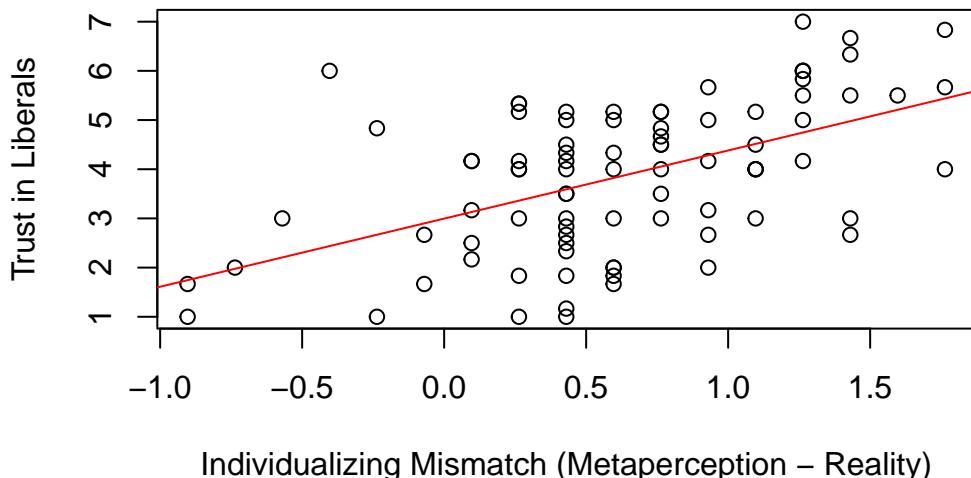
```
confint(model_trust_con_indiv)
```

	2.5 %	97.5 %
(Intercept)	2.5197237	4.7789364
individualizing_mismatch	0.8470979	1.8360447
ideology	-0.2881819	0.0671662

```
# Plot

plot(con_meta$individualizing_mismatch, con_meta$trust,
main = "Conservatives' Trust in Liberals vs. Individualizing Mismatch",
xlab = "Individualizing Mismatch (Metaperception - Reality)",
ylab = "Trust in Liberals")
abline(lm(trust ~ individualizing_mismatch, data = con_meta), col = "red")
```

## Conservatives' Trust in Liberals vs. Individualizing Mismat



## Threat towards Conservatives (Liberals - Binding)

```

# Reuse lib_meta and con_out computed above

lib_meta <- subset(data, Group == 1 & Condition == 2)
con_out <- subset(data, Group == 2 & Condition == 1)

lib_meta$binding <- rowMeans(lib_meta[, binding_items], na.rm = TRUE)
con_out$binding <- rowMeans(con_out[, binding_items], na.rm = TRUE)

binding_mean_con_out <- mean(con_out$binding, na.rm = TRUE)

# mismatch for liberals again

lib_meta$binding_mismatch <- binding_mean_con_out - lib_meta$binding

# Outcome

lib_meta$threat <- rowMeans(lib_meta[, threat_items], na.rm = TRUE)

# Model with ideology control

model_threat_lib_binding <- lm(threat ~ binding_mismatch + ideology, data = lib_meta)

cat("\nN used (Liberals threat model):", nobs(model_threat_lib_binding), "\n")

```

N used (Liberals threat model): 95

```
summary(model_threat_lib_binding)
```

Call:

```
lm(formula = threat ~ binding_mismatch + ideology, data = lib_meta)
```

Residuals:

Min	1Q	Median	3Q	Max
-5.0430	-0.7442	0.2868	0.9246	3.9037

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	4.8590	0.4081	11.906	< 2e-16 ***

```

binding_mismatch    0.9957      0.2240     4.445 2.45e-05 ***
ideology           -0.1977      0.1235   -1.600     0.113
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.482 on 92 degrees of freedom
Multiple R-squared:  0.265, Adjusted R-squared:  0.249
F-statistic: 16.59 on 2 and 92 DF,  p-value: 7.064e-07

```

```
cat("\nEffect Size (eta^2):\n")
```

Effect Size (eta<sup>2</sup>):

```
eta_squared(model_threat_lib_binding)
```

```
# Effect Size for ANOVA (Type I)
```

Parameter	Eta2 (partial)	95% CI
binding_mismatch	0.25	[0.13, 1.00]
ideology	0.03	[0.00, 1.00]

- One-sided CIs: upper bound fixed at [1.00].

```
cat("\nConfidence Intervals:\n")
```

Confidence Intervals:

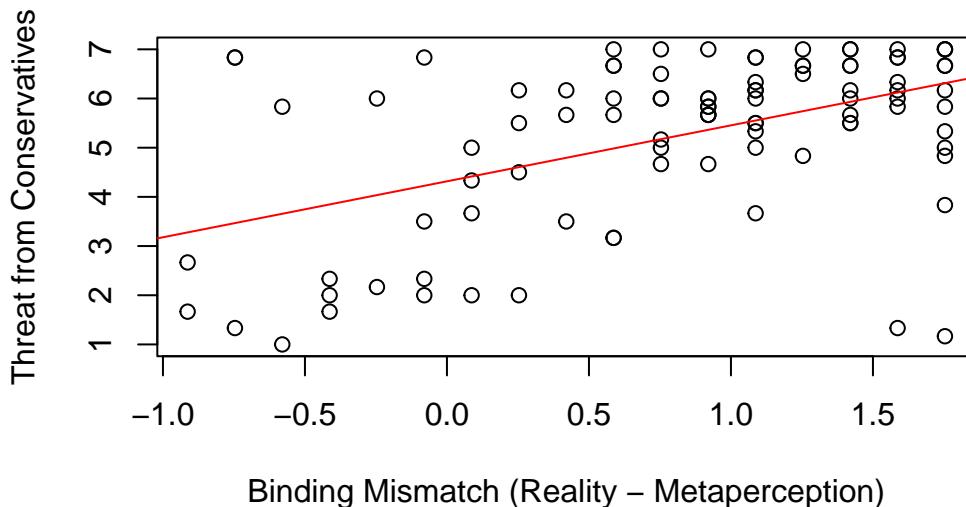
```
confint(model_threat_lib_binding)
```

	2.5 %	97.5 %
(Intercept)	4.0484548	5.6694975
binding_mismatch	0.5508348	1.4406082
ideology	-0.4430484	0.0476961

```
# Plot

plot(lib_meta$binding_mismatch, lib_meta$threat,
main = "Liberals' Threat from Conservatives vs. Binding Mismatch",
xlab = "Binding Mismatch (Reality - Metaperception)",
ylab = "Threat from Conservatives")
abline(lm(threat ~ binding_mismatch, data = lib_meta), col = "red")
```

## Liberals' Threat from Conservatives vs. Binding Mismat



## Threat towards Liberals (Conservatives - Individualizing)

```
# Reuse lib_out and con_meta

lib_out <- subset(data, Group == 1 & Condition == 1)
con_meta <- subset(data, Group == 2 & Condition == 2)

lib_out$individualizing <- rowMeans(lib_out[, individualizing_items], na.rm = TRUE)
con_meta$individualizing <- rowMeans(con_meta[, individualizing_items], na.rm = TRUE)

individualizing_mean_lib_out <- mean(lib_out$individualizing, na.rm = TRUE)

# mismatch for conservatives again

con_meta$individualizing_mismatch <- con_meta$individualizing - individualizing_mean_lib_out
```

```

# Outcome

con_meta$threat <- rowMeans(con_meta[, threat_items], na.rm = TRUE)

# Model with ideology control

model_threat_con_indiv <- lm(threat ~ individualizing_mismatch + ideology, data = con_meta)

cat("\nN used (Conservatives threat model):", nobs(model_threat_con_indiv), "\n")

```

N used (Conservatives threat model): 86

```
summary(model_threat_con_indiv)
```

Call:

```
lm(formula = threat ~ individualizing_mismatch + ideology, data = con_meta)
```

Residuals:

Min	1Q	Median	3Q	Max
-4.3538	-1.0207	0.3777	1.1601	2.2179

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	5.24972	0.65417	8.025	5.8e-12 ***
individualizing_mismatch	-0.67413	0.28636	-2.354	0.0209 *
ideology	0.04694	0.10289	0.456	0.6495
---				
Signif. codes:	0 '***'	0.001 '**'	0.01 '*'	0.05 '.'
	0.1	' '	1	

Residual standard error: 1.501 on 83 degrees of freedom

Multiple R-squared: 0.06927, Adjusted R-squared: 0.04685

F-statistic: 3.089 on 2 and 83 DF, p-value: 0.05083

```
cat("\nEffect Size (eta^2):\n")
```

Effect Size (eta^2):

```

eta_squared(model_threat_con_indiv)

# Effect Size for ANOVA (Type I)

Parameter | Eta2 (partial) | 95% CI
-----
individualizing_mismatch | 0.07 | [0.01, 1.00]
ideology | 2.50e-03 | [0.00, 1.00]

- One-sided CIs: upper bound fixed at [1.00].

```

```
cat("\nConfidence Intervals:\n")
```

Confidence Intervals:

```

confint(model_threat_con_indiv)

              2.5 %    97.5 %
(Intercept) 3.9485968 6.5508498
individualizing_mismatch -1.2436841 -0.1045749
ideology     -0.1577138  0.2515906

# Plot

plot(con_meta$individualizing_mismatch, con_meta$threat,
main = "Conservatives' Threat from Liberals vs. Individualizing Mismatch",
xlab = "Individualizing Mismatch (Metaperception - Reality)",
ylab = "Threat from Liberals")
abline(lm(threat ~ individualizing_mismatch, data = con_meta), col = "red")

```

## Conservatives' Threat from Liberals vs. Individualizing Mism

