Analysis 8: Mediation Analysis (Matched with Lambda = 350km)

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January 26, 2020

Preparation

```r
## Clean Up Space
rm(list=ls())

## Set Working Directory (Automatically) ##
require(rstudioapi); require(rprojroot)
if (rstudioapi::isAvailable()==TRUE) {
  setwd(dirname(rstudioapi::getActiveDocumentContext()$path));
}
projdir <- find_root(has_file("thisishome.txt"))
cat(paste("Working Directory Set to:\n",projdir))
```

```
## Working Directory Set to:
##  /home/gentok/GoogleDrive/Projects/Fan-Gento-Lab/ForeignerJapan
```

```r
setwd(projdir)

## Matched/Unmatched Data Locations
datadir0 <- paste0(projdir, "/data/sifcct_unmatched_v5.rds")
datadir1 <- paste0(projdir, "/data/sifcct_matched_1_all_v5.rds")
datadir2 <- paste0(projdir, "/data/sifcct_matched_2_all_v5.rds")
datadir3 <- paste0(projdir, "/data/sifcct_matched_3_all_v5.rds")
datadir4 <- paste0(projdir, "/data/sifcct_matched_4_all_v5.rds")
datadir5 <- paste0(projdir, "/data/sifcct_matched_5_all_v5.rds")
```

```r
## packages
require(sandwich)
require(lmtest)
require(MASS)
require(ggplot2)
require(texreg)
require(mediation)

##
vnmap <- list("edu2" = "University education",
              "female" = "Gender (female)",
              "male" = "Gender (male)",
              "age2" = "Age 50s or older",
              "agex" = "Age (by 10 years)",
              "knowledge" = "Political Knowledge",
              "ideology" = "Ideology",
```

```
"ldpdpjft" = "LDP -DPJ Feeling Thermometer",
"familiarityFT_KOR" = "South Korea Feeling Thermometer",
"familiarityFT_CHN" = "China Feeling Thermometer",
"familiarityFT_USA" = "United States Feeling Thermometer",
"income" = "Income",
"edu2:female" = "University * Female",
"edu2:male" = "University * Male",
"edu2:age2" = "University * >=50s",
"edu2:agex" = "University * Age",
"edu2:female:age2" = "University * Female * >=50s",
"edu2:male:age2" = "University * Male * >=50s",
"edu2:female:agex" = "University * Female * Age",
"edu2:male:agex" = "University * Male * Age",
"female:knowledge" = "Knowledge * Female",
"male:knowledge" = "Knowledge * Male",
"age2:knowledge" = "Knowledge * >=50s",
"agex:knowledge" = "Knowledge * Age",
"female:age2:knowledge" = "Knowledge * Female * >=50s",
"male:age2:knowledge" = "Knowledge * Male * >=50s",
"female:agex:knowledge" = "Knowledge * Female * Age",
"male:agex:knowledge" = "Knowledge * Male * Age",
"female:ideology" = "Ideology * Female",
"male:ideology" = "Ideology * Male",
"age2:ideology" = "Ideology * >=50s",
"agex:ideology" = "Ideology * Age",
"female:age2:ideology" = "Ideology * Female * >=50s",
"male:age2:ideology" = "Ideology * Male * >=50s",
"female:agex:ideology" = "Ideology * Female * Age",
"male:agex:ideology" = "Ideology * Male * Age",
"female:ldpdpjft" = "LDP - DPJ FT * Female",
"male:ldpdpjft" = "LDP - DPJ FT * Male",
"age2:ldpdpjft" = "LDP - DPJ FT * >=50s",
"agex:ldpdpjft" = "LDP - DPJ FT * Age",
"female:age2:ldpdpjft" = "LDP - DPJ FT * Female * >=50s",
"male:age2:ldpdpjft" = "LDP - DPJ FT * Male * >=50s",
"female:agex:ldpdpjft" = "LDP - DPJ FT * Female * Age",
"male:agex:ldpdpjft" = "LDP - DPJ FT * Male * Age",
"female:familiarityFT_KOR" = "South Korea FT * Female",
"male:familiarityFT_KOR" = "South Korea FT * Male",
"age2:familiarityFT_KOR" = "South Korea FT * >=50s",
"agex:familiarityFT_KOR" = "South Korea FT * Age",
"female:age2:familiarityFT_KOR" = "South Korea FT * Female * >=50s",
"male:age2:familiarityFT_KOR" = "South Korea FT * Male * >=50s",
"female:agex:familiarityFT_KOR" = "South Korea FT * Female * Age",
"male:agex:familiarityFT_KOR" = "South Korea FT * Male * Age",
"female:familiarityFT_CHN" = "China FT * Female",
"male:familiarityFT_CHN" = "China FT * Male",
"age2:familiarityFT_CHN" = "China FT * >=50s",
"agex:familiarityFT_CHN" = "China FT * Age",
"female:age2:familiarityFT_CHN" = "China FT * Female * >=50s",
"male:age2:familiarityFT_CHN" = "China FT * Male * >=50s",
"female:agex:familiarityFT_CHN" = "China FT * Female * Age",
"male:agex:familiarityFT_CHN" = "China FT * Male * Age",
```

```
                "female:familiarityFT_USA" = "United States FT * Female",
                "male:familiarityFT_USA" = "United States FT * Male",
                "age2:familiarityFT_USA" = "United States FT * >=50s",
                "agex:familiarityFT_USA" = "United States FT * Age",
                "female:age2:familiarityFT_USA" = "United States FT * Female * >=50s",
                "male:age2:familiarityFT_USA" = "United States FT * Male * >=50s",
                "female:agex:familiarityFT_USA" = "United States FT * Female * Age",
                "male:agex:familiarityFT_USA" = "United States FT * Male * Age",
                "female:income" = "Income * Female",
                "male:income" = "Income * Male",
                "age2:income" = "Income * >=50s",
                "age:income" = "Income * Age",
                "female:age2:income" = "Income * Female * >=50s",
                "male:age2:income" = "Income * Male * >=50s",
                "female:agex:income" = "Income * Female * Age",
                "male:agex:income" = "Income * Male * Age",
                "female:age2" = "Female * >=50s",
                "male:age2" = "Male * >=50s",
                "female:agex" = "Female * Age",
                "male:agex" = "Male * Age",
                "agecatMiddle Aged (40-50s)" = "Middle Aged (40-50s)",
                "agecatElder (>=60s)" = "Elder (>=60s)",
                "lvpr" = "% of Life Residing Locally (zip)",
                "zip_did" = "DID residence (zip)",
                "sqrt(c10_sreg_fper)" = "Foreigner % sqrt. (zip)",
                "c10_sreg_edu_ugsP" = "University % (zip)",
                "I(c10_sreg_edu_ugsP/10)" = "University % by 10% (zip)",
                "didper" = "DID proportion (mun.)",
                "sqrt(c10_mun_fper)" = "Foreigner % sqrt. (mun.)",
                "I(c10_mun_edu_ugsP/10)" = "University % by 10% (mun.)",
                "c10_mun_edu_ugsP" = "University % (mun.)")
```

Models

SIFCCT (Matched with Lambda = 350km)

```
sifcct <- readRDS(datadir5)
sifcct$agex <- sifcct$age/10 - 4.5
sifcct$ldpdpjft <- original$ldpdpjft[match(paste(sifcct$id,sifcct$wave),paste(original$id,original$wave
summary(sifcct$ldpdpjft)
sifcct$income <- original$income[match(paste(sifcct$id,sifcct$wave),paste(original$id,original$wave))]
summary(sifcct$income)
```

Knowledge

```
## Outcome Model
s5mout01_1C <- lm(foreignsuff  ~ edu2*male*agex + knowledge*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)

## Mediator Model
```

```r
s5mm01_1C <- lm(knowledge  ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)

## Table
screenreg(list(s5mm01_1C,s5mout01_1C), digits = 4, single.row = T,
          override.se = list(coeftest(s5mm01_1C,vcov.=vcovHC(s5mm01_1C))[,2],
                             coeftest(s5mout01_1C,vcov.=vcovHC(s5mout01_1C))[,2]),
          override.pvalues = list(coeftest(s5mm01_1C,vcov.=vcovHC(s5mm01_1C))[,4],
                             coeftest(s5mout01_1C,vcov.=vcovHC(s5mout01_1C))[,4]),
          omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
          custom.coef.map = vnmap,
          custom.model.names = c("Mediator","Outcome"))
```

Ideology

```r
## Outcome Model
s5mout02_1C <- lm(foreignsuff  ~ edu2*male*agex + ideology*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)

## Mediator Model
s5mm02_1C <- lm(ideology  ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)

## Table
screenreg(list(s5mm02_1C,s5mout02_1C), digits = 4, single.row = T,
          override.se = list(coeftest(s5mm02_1C,vcov.=vcovHC(s5mm02_1C))[,2],
                             coeftest(s5mout02_1C,vcov.=vcovHC(s5mout02_1C))[,2]),
          override.pvalues = list(coeftest(s5mm02_1C,vcov.=vcovHC(s5mm02_1C))[,4],
                             coeftest(s5mout02_1C,vcov.=vcovHC(s5mout02_1C))[,4]),
          omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
          custom.coef.map = vnmap,
          custom.model.names = c("Mediator","Outcome"))
```

LDP - DPJ FT

```r
## Outcome Model
s5mout03_1C <- lm(foreignsuff  ~ edu2*male*agex + ldpdpjft*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)

## Mediator Model
s5mm03_1C <- lm(ldpdpjft ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)
```

```
## Table
screenreg(list(s5mm03_1C,s5mout03_1C), digits = 4, single.row = T,
          override.se = list(coeftest(s5mm03_1C,vcov.=vcovHC(s5mm03_1C))[,2],
                              coeftest(s5mout03_1C,vcov.=vcovHC(s5mout03_1C))[,2]),
          override.pvalues = list(coeftest(s5mm03_1C,vcov.=vcovHC(s5mm03_1C))[,4],
                                  coeftest(s5mout03_1C,vcov.=vcovHC(s5mout03_1C))[,4]),
          omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
          custom.coef.map = vnmap,
          custom.model.names = c("Mediator","Outcome"))
```

Favorability of South Korea

```
## Outcome Model
s5mout04_1C <- lm(foreignsuff  ~ edu2*male*agex + familiarityFT_KOR*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)


## Mediator Model
s5mm04_1C <- lm(familiarityFT_KOR  ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)


## Table
screenreg(list(s5mm04_1C,s5mout04_1C), digits = 4, single.row = T,
          override.se = list(coeftest(s5mm04_1C,vcov.=vcovHC(s5mm04_1C))[,2],
                              coeftest(s5mout04_1C,vcov.=vcovHC(s5mout04_1C))[,2]),
          override.pvalues = list(coeftest(s5mm04_1C,vcov.=vcovHC(s5mm04_1C))[,4],
                                  coeftest(s5mout04_1C,vcov.=vcovHC(s5mout04_1C))[,4]),
          omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
          custom.coef.map = vnmap,
          custom.model.names = c("Mediator","Outcome"))
```

Favorability of China

```
## Outcome Model
s5mout05_1C <- lm(foreignsuff  ~ edu2*male*agex + familiarityFT_CHN*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)


## Mediator Model
s5mm05_1C <- lm(familiarityFT_CHN  ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)


## Table
screenreg(list(s5mm05_1C,s5mout05_1C), digits = 4, single.row = T,
          override.se = list(coeftest(s5mm05_1C,vcov.=vcovHC(s5mm05_1C))[,2],
                              coeftest(s5mout05_1C,vcov.=vcovHC(s5mout05_1C))[,2]),
          override.pvalues = list(coeftest(s5mm05_1C,vcov.=vcovHC(s5mm05_1C))[,4],
```

```
                      coeftest(s5mout05_1C,vcov.=vcovHC(s5mout05_1C))[,4]),
        omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
        custom.coef.map = vnmap,
        custom.model.names = c("Mediator","Outcome"))
```

Favorability of United States

```
## Outcome Model
s5mout06_1C <- lm(foreignsuff  ~ edu2*male*agex + familiarityFT_USA*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)

## Mediator Model
s5mm06_1C <- lm(familiarityFT_USA  ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)

## Table
screenreg(list(s5mm06_1C,s5mout06_1C), digits = 4, single.row = T,
        override.se = list(coeftest(s5mm06_1C,vcov.=vcovHC(s5mm06_1C))[,2],
                           coeftest(s5mout06_1C,vcov.=vcovHC(s5mout06_1C))[,2]),
        override.pvalues = list(coeftest(s5mm06_1C,vcov.=vcovHC(s5mm06_1C))[,4],
                           coeftest(s5mout06_1C,vcov.=vcovHC(s5mout06_1C))[,4]),
        omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
        custom.coef.map = vnmap,
        custom.model.names = c("Mediator","Outcome"))
```

Income

```
## Outcome Model
s5mout07_1C <- lm(foreignsuff  ~ edu2*male*agex + income*male*agex + lvpr +
                  zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                  didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                  as.factor(wave), data=sifcct)

## Mediator Model
s5mm07_1C <- lm(income  ~ edu2*male*agex + lvpr +
                zip_did + sqrt(c10_sreg_fper) + I(c10_sreg_edu_ugsP/10) +
                didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                as.factor(wave), data=sifcct)

## Table
screenreg(list(s5mm07_1C,s5mout07_1C), digits = 4, single.row = T,
        override.se = list(coeftest(s5mm07_1C,vcov.=vcovHC(s5mm07_1C))[,2],
                           coeftest(s5mout07_1C,vcov.=vcovHC(s5mout07_1C))[,2]),
        override.pvalues = list(coeftest(s5mm07_1C,vcov.=vcovHC(s5mm07_1C))[,4],
                           coeftest(s5mout07_1C,vcov.=vcovHC(s5mout07_1C))[,4]),
        omit.coef = "(wave)", stars = c(0.1,0.05,0.01,0.001), symbol = "+",
        custom.coef.map = vnmap,
        custom.model.names = c("Mediator","Outcome"))
```

```
save.image(paste0(projdir,"/out/heavy/analysis_8_mediation_matchedL350_v5.RData"))
load(paste0(projdir,"/out/heavy/analysis_8_mediation_matchedL350_v5.RData"))
```

Coefficient Plot

Prepare Data

```
## Treatment to Mediator

extmed <- function(med,gender,ageset) {

  sifcct$med <- sifcct[,med]
  if (gender=="Male") sifcct$gender <- sifcct$female
  if (gender=="Female") sifcct$gender <- sifcct$male
  sifcct$ageset <- (sifcct$age - ageset)/10

  modset <- lm(med ~ edu2 * gender * ageset + lvpr + zip_did + sqrt(c10_sreg_fper) +
                 I(c10_sreg_edu_ugsP/10) + didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
                 as.factor(wave), data=sifcct)

  res <- c(med,gender,ageset,coef(modset)[2],
           coefci(modset, vcov.=vcovHC(modset), level = 0.95)[2,],
           coefci(modset, vcov.=vcovHC(modset), level = 0.90)[2,],
           coeftest(modset, vcov.=vcovHC(modset))[2,c(2,4)],
           "Treatment => Mediator")
  names(res) <- c("med","gender","age","est","lci95","uci95","lci90","uci90","se","p","mod")

  return(res)

}

meddt <- rbind(extmed("knowledge","Female",25),
               extmed("knowledge","Female",35),
               extmed("knowledge","Female",45),
               extmed("knowledge","Female",55),
               extmed("knowledge","Female",65),
               extmed("knowledge","Male",25),
               extmed("knowledge","Male",35),
               extmed("knowledge","Male",45),
               extmed("knowledge","Male",55),
               extmed("knowledge","Male",65),
               extmed("ideology","Female",25),
               extmed("ideology","Female",35),
               extmed("ideology","Female",45),
               extmed("ideology","Female",55),
               extmed("ideology","Female",65),
               extmed("ideology","Male",25),
               extmed("ideology","Male",35),
               extmed("ideology","Male",45),
               extmed("ideology","Male",55),
               extmed("ideology","Male",65),
               extmed("ldpdpjft","Female",25),
```

```r
            extmed("ldpdpjft","Female",35),
            extmed("ldpdpjft","Female",45),
            extmed("ldpdpjft","Female",55),
            extmed("ldpdpjft","Female",65),
            extmed("ldpdpjft","Male",25),
            extmed("ldpdpjft","Male",35),
            extmed("ldpdpjft","Male",45),
            extmed("ldpdpjft","Male",55),
            extmed("ldpdpjft","Male",65),
            extmed("familiarityFT_KOR","Female",25),
            extmed("familiarityFT_KOR","Female",35),
            extmed("familiarityFT_KOR","Female",45),
            extmed("familiarityFT_KOR","Female",55),
            extmed("familiarityFT_KOR","Female",65),
            extmed("familiarityFT_KOR","Male",25),
            extmed("familiarityFT_KOR","Male",35),
            extmed("familiarityFT_KOR","Male",45),
            extmed("familiarityFT_KOR","Male",55),
            extmed("familiarityFT_KOR","Male",65),
            extmed("familiarityFT_CHN","Female",25),
            extmed("familiarityFT_CHN","Female",35),
            extmed("familiarityFT_CHN","Female",45),
            extmed("familiarityFT_CHN","Female",55),
            extmed("familiarityFT_CHN","Female",65),
            extmed("familiarityFT_CHN","Male",25),
            extmed("familiarityFT_CHN","Male",35),
            extmed("familiarityFT_CHN","Male",45),
            extmed("familiarityFT_CHN","Male",55),
            extmed("familiarityFT_CHN","Male",65),
            extmed("familiarityFT_USA","Female",25),
            extmed("familiarityFT_USA","Female",35),
            extmed("familiarityFT_USA","Female",45),
            extmed("familiarityFT_USA","Female",55),
            extmed("familiarityFT_USA","Female",65),
            extmed("familiarityFT_USA","Male",25),
            extmed("familiarityFT_USA","Male",35),
            extmed("familiarityFT_USA","Male",45),
            extmed("familiarityFT_USA","Male",55),
            extmed("familiarityFT_USA","Male",65),
            extmed("income","Female",25),
            extmed("income","Female",35),
            extmed("income","Female",45),
            extmed("income","Female",55),
            extmed("income","Female",65),
            extmed("income","Male",25),
            extmed("income","Male",35),
            extmed("income","Male",45),
            extmed("income","Male",55),
            extmed("income","Male",65))
meddt <- as.data.frame(meddt)
for(i in 3:10) meddt[,i] <- as.numeric(meddt[,i])
meddt$med <- factor(meddt$med, levels=unique(meddt$med))
meddt$gender <- factor(meddt$gender, levels=unique(meddt$gender))
```

```r
summary(meddt)

## Mediator to Outcome

extout <- function(med,gender,ageset) {

  sifcct$med <- sifcct[,med]
  if (gender=="Male") sifcct$gender <- sifcct$female
  if (gender=="Female") sifcct$gender <- sifcct$male
  sifcct$ageset <- (sifcct$age - ageset)/10

  modset <- lm(foreignsuff ~ med * gender * ageset + edu2 * gender * ageset + lvpr + zip_did + sqrt(c10_
               I(c10_sreg_edu_ugsP/10) + didper + sqrt(c10_mun_fper) + I(c10_mun_edu_ugsP/10) +
               as.factor(wave), data=sifcct)

  res <- c(med,gender,ageset,coef(modset)[2],
           coefci(modset, vcov.=vcovHC(modset), level = 0.95)[2,],
           coefci(modset, vcov.=vcovHC(modset), level = 0.90)[2,],
           coeftest(modset, vcov.=vcovHC(modset))[2,c(2,4)],
           "Mediator => Outcome")
  names(res) <- c("med","gender","age","est","lci95","uci95","lci90","uci90","se","p","mod")

  return(res)

}

outdt <- rbind(extout("knowledge","Female",25),
               extout("knowledge","Female",35),
               extout("knowledge","Female",45),
               extout("knowledge","Female",55),
               extout("knowledge","Female",65),
               extout("knowledge","Male",25),
               extout("knowledge","Male",35),
               extout("knowledge","Male",45),
               extout("knowledge","Male",55),
               extout("knowledge","Male",65),
               extout("ideology","Female",25),
               extout("ideology","Female",35),
               extout("ideology","Female",45),
               extout("ideology","Female",55),
               extout("ideology","Female",65),
               extout("ideology","Male",25),
               extout("ideology","Male",35),
               extout("ideology","Male",45),
               extout("ideology","Male",55),
               extout("ideology","Male",65),
               extout("ldpdpjft","Female",25),
               extout("ldpdpjft","Female",35),
               extout("ldpdpjft","Female",45),
               extout("ldpdpjft","Female",55),
               extout("ldpdpjft","Female",65),
               extout("ldpdpjft","Male",25),
               extout("ldpdpjft","Male",35),
```

```r
            extout("ldpdpjft","Male",45),
            extout("ldpdpjft","Male",55),
            extout("ldpdpjft","Male",65),
            extout("familiarityFT_KOR","Female",25),
            extout("familiarityFT_KOR","Female",35),
            extout("familiarityFT_KOR","Female",45),
            extout("familiarityFT_KOR","Female",55),
            extout("familiarityFT_KOR","Female",65),
            extout("familiarityFT_KOR","Male",25),
            extout("familiarityFT_KOR","Male",35),
            extout("familiarityFT_KOR","Male",45),
            extout("familiarityFT_KOR","Male",55),
            extout("familiarityFT_KOR","Male",65),
            extout("familiarityFT_CHN","Female",25),
            extout("familiarityFT_CHN","Female",35),
            extout("familiarityFT_CHN","Female",45),
            extout("familiarityFT_CHN","Female",55),
            extout("familiarityFT_CHN","Female",65),
            extout("familiarityFT_CHN","Male",25),
            extout("familiarityFT_CHN","Male",35),
            extout("familiarityFT_CHN","Male",45),
            extout("familiarityFT_CHN","Male",55),
            extout("familiarityFT_CHN","Male",65),
            extout("familiarityFT_USA","Female",25),
            extout("familiarityFT_USA","Female",35),
            extout("familiarityFT_USA","Female",45),
            extout("familiarityFT_USA","Female",55),
            extout("familiarityFT_USA","Female",65),
            extout("familiarityFT_USA","Male",25),
            extout("familiarityFT_USA","Male",35),
            extout("familiarityFT_USA","Male",45),
            extout("familiarityFT_USA","Male",55),
            extout("familiarityFT_USA","Male",65),
            extout("income","Female",25),
            extout("income","Female",35),
            extout("income","Female",45),
            extout("income","Female",55),
            extout("income","Female",65),
            extout("income","Male",25),
            extout("income","Male",35),
            extout("income","Male",45),
            extout("income","Male",55),
            extout("income","Male",65))
outdt <- as.data.frame(outdt)
for(i in 3:10) outdt[,i] <- as.numeric(outdt[,i])
outdt$med <- factor(outdt$med, levels=unique(outdt$med))
outdt$gender <- factor(outdt$gender, levels=unique(outdt$gender))
summary(outdt)

## Mediation

extmedout <- function(med,gender,ageset,medout) {
```

```r
    res1 <- c(med,gender,ageset,
              medout$d0,
              quantile(medout$d0.sims,probs=c(0.025,0.975,0.05,0.95)),
              NA,
              medout01_f25$d0.p,
              "Treat. => Med. => Out.\n(ACME)")
    names(res1) <- c("med","gender","age","est","lci95","uci95","lci90","uci90","se","p","mod")

    res2 <- c(med,gender,ageset,
              medout$z0,
              quantile(medout$z0.sims,probs=c(0.025,0.975,0.05,0.95)),
              NA,
              medout01_f25$z0.p,
              "Treatment => Outcome\n(ADE)")
    names(res1) <- c("med","gender","age","est","lci95","uci95","lci90","uci90","se","p","mod")

    return(rbind(res1,res2))

}

medoutdt <- rbind(extmedout("knowledge","Female",25,medout01_f25),
                  extmedout("knowledge","Female",35,medout01_f35),
                  extmedout("knowledge","Female",45,medout01_f45),
                  extmedout("knowledge","Female",55,medout01_f55),
                  extmedout("knowledge","Female",65,medout01_f65),
                  extmedout("knowledge","Male",25,medout01_m25),
                  extmedout("knowledge","Male",35,medout01_m35),
                  extmedout("knowledge","Male",45,medout01_m45),
                  extmedout("knowledge","Male",55,medout01_m55),
                  extmedout("knowledge","Male",65,medout01_m65),
                  extmedout("ideology","Female",25,medout02_f25),
                  extmedout("ideology","Female",35,medout02_f35),
                  extmedout("ideology","Female",45,medout02_f45),
                  extmedout("ideology","Female",55,medout02_f55),
                  extmedout("ideology","Female",65,medout02_f65),
                  extmedout("ideology","Male",25,medout02_m25),
                  extmedout("ideology","Male",35,medout02_m35),
                  extmedout("ideology","Male",45,medout02_m45),
                  extmedout("ideology","Male",55,medout02_m55),
                  extmedout("ideology","Male",65,medout02_m65),
                  extmedout("ldpdpjft","Female",25,medout03_f25),
                  extmedout("ldpdpjft","Female",35,medout03_f35),
                  extmedout("ldpdpjft","Female",45,medout03_f45),
                  extmedout("ldpdpjft","Female",55,medout03_f55),
                  extmedout("ldpdpjft","Female",65,medout03_f65),
                  extmedout("ldpdpjft","Male",25,medout03_m25),
                  extmedout("ldpdpjft","Male",35,medout03_m35),
                  extmedout("ldpdpjft","Male",45,medout03_m45),
                  extmedout("ldpdpjft","Male",55,medout03_m55),
                  extmedout("ldpdpjft","Male",65,medout03_m65),
                  extmedout("familiarityFT_KOR","Female",25,medout04_f25),
                  extmedout("familiarityFT_KOR","Female",35,medout04_f35),
                  extmedout("familiarityFT_KOR","Female",45,medout04_f45),
```

```r
                extmedout("familiarityFT_KOR","Female",55,medout04_f55),
                extmedout("familiarityFT_KOR","Female",65,medout04_f65),
                extmedout("familiarityFT_KOR","Male",25,medout04_m25),
                extmedout("familiarityFT_KOR","Male",35,medout04_m35),
                extmedout("familiarityFT_KOR","Male",45,medout04_m45),
                extmedout("familiarityFT_KOR","Male",55,medout04_m55),
                extmedout("familiarityFT_KOR","Male",65,medout04_m65),
                extmedout("familiarityFT_CHN","Female",25,medout05_f25),
                extmedout("familiarityFT_CHN","Female",35,medout05_f35),
                extmedout("familiarityFT_CHN","Female",45,medout05_f45),
                extmedout("familiarityFT_CHN","Female",55,medout05_f55),
                extmedout("familiarityFT_CHN","Female",65,medout05_f65),
                extmedout("familiarityFT_CHN","Male",25,medout05_m25),
                extmedout("familiarityFT_CHN","Male",35,medout05_m35),
                extmedout("familiarityFT_CHN","Male",45,medout05_m45),
                extmedout("familiarityFT_CHN","Male",55,medout05_m55),
                extmedout("familiarityFT_CHN","Male",65,medout05_m65),
                extmedout("familiarityFT_USA","Female",25,medout06_f25),
                extmedout("familiarityFT_USA","Female",35,medout06_f35),
                extmedout("familiarityFT_USA","Female",45,medout06_f45),
                extmedout("familiarityFT_USA","Female",55,medout06_f55),
                extmedout("familiarityFT_USA","Female",65,medout06_f65),
                extmedout("familiarityFT_USA","Male",25,medout06_m25),
                extmedout("familiarityFT_USA","Male",35,medout06_m35),
                extmedout("familiarityFT_USA","Male",45,medout06_m45),
                extmedout("familiarityFT_USA","Male",55,medout06_m55),
                extmedout("familiarityFT_USA","Male",65,medout06_m65),
                extmedout("income","Female",25,medout07_f25),
                extmedout("income","Female",35,medout07_f35),
                extmedout("income","Female",45,medout07_f45),
                extmedout("income","Female",55,medout07_f55),
                extmedout("income","Female",65,medout07_f65),
                extmedout("income","Male",25,medout07_m25),
                extmedout("income","Male",35,medout07_m35),
                extmedout("income","Male",45,medout07_m45),
                extmedout("income","Male",55,medout07_m55),
                extmedout("income","Male",65,medout07_m65))
medoutdt <- as.data.frame(medoutdt)
for(i in 3:10) medoutdt[,i] <- as.numeric(medoutdt[,i])
medoutdt$med <- factor(medoutdt$med, levels=unique(medoutdt$med))
medoutdt$gender <- factor(medoutdt$gender, levels=unique(medoutdt$gender))
summary(medoutdt)

## Combine All Data

coefdt <- rbind(meddt,outdt,medoutdt)
coefdt$mod <- factor(coefdt$mod, levels=unique(coefdt$mod))

coefdt$lambda <- "Matched with Lambda = 350km"
# coefdt$lambda <- rep(c("Unmatched",
#                        "Matched without Distance Adj.",
#                        "Matched with Lambda = 350km",
#                        "Matched with Lambda = 200km",
```

```r
#                                 "Matched with Lambda = 100km",
#                                 "Matched with Lambda = 50km"), each=8)
# coefdt$lambda <- factor(coefdt$lambda, levels=unique(coefdt$lambda))
#

coefdt$pstar <- factor(ifelse(coefdt$lci95>0|coefdt$uci95<0,"p<.05",
                              ifelse(coefdt$lci90>0|coefdt$uci90<0,"p<.1","n.s.")),
                       levels = c("p<.05","p<.1","n.s."))

## Save Data Temporarily
saveRDS(coefdt, paste0(projdir,"/out/medoutcoefdt_matchedL350_v5.rds"))
```

Plotting for knowledge

```r
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="knowledge",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
  scale_shape_discrete(name="Age") +
  scale_color_manual(name="Age",values=rep("black", 5)) +
  ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
  xlab(NULL) +
  labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: Political kn
  coord_flip() + theme_bw() +
  theme(legend.position = "bottom",
        strip.text.x = element_text(size=9),
        strip.text.y = element_text(angle=0,size=11),
        strip.background = element_rect(fill=NA,color=NA),
        plot.caption = element_text(hjust=0),
        plot.subtitle = element_text(hjust=0.5),
        axis.text.y = element_blank(),
        axis.ticks.y = element_blank())
p
```
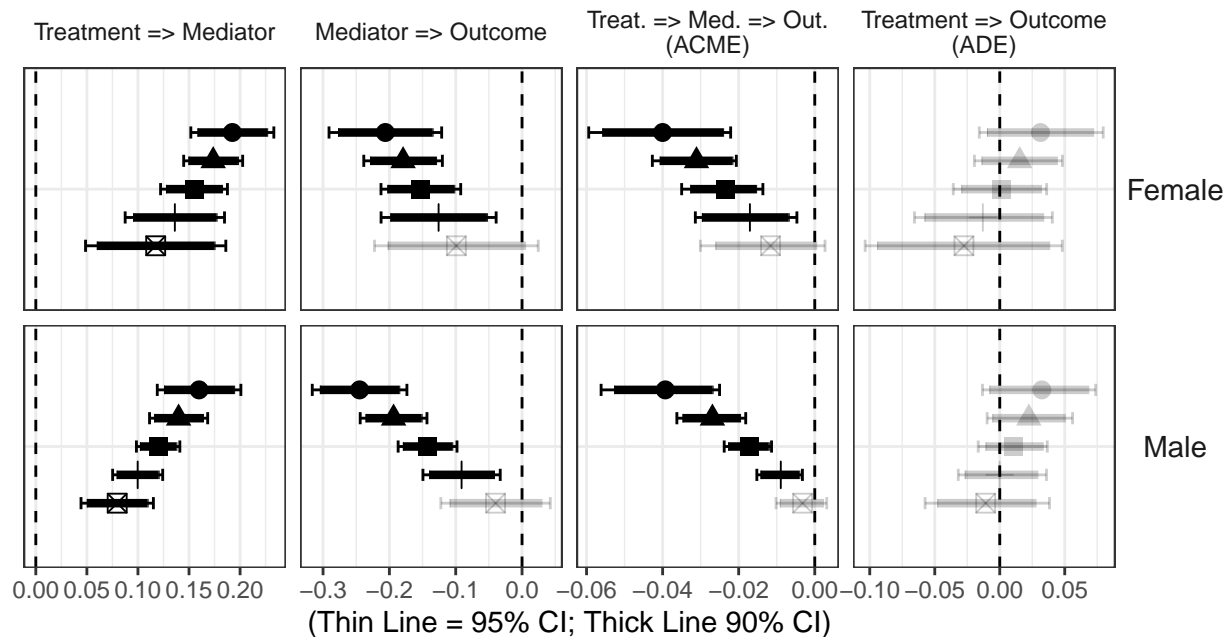
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```


(Thin Line = 95% CI; Thick Line 90% CI)

Treatment: University education (1:attained, 0:not attained).
Mediatior: Political knowledge (rescaled to 0–1 with 1 being the most knowledgeable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot_knowledge_matchedL350_v5.png"),p,width=8,height=5)

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```
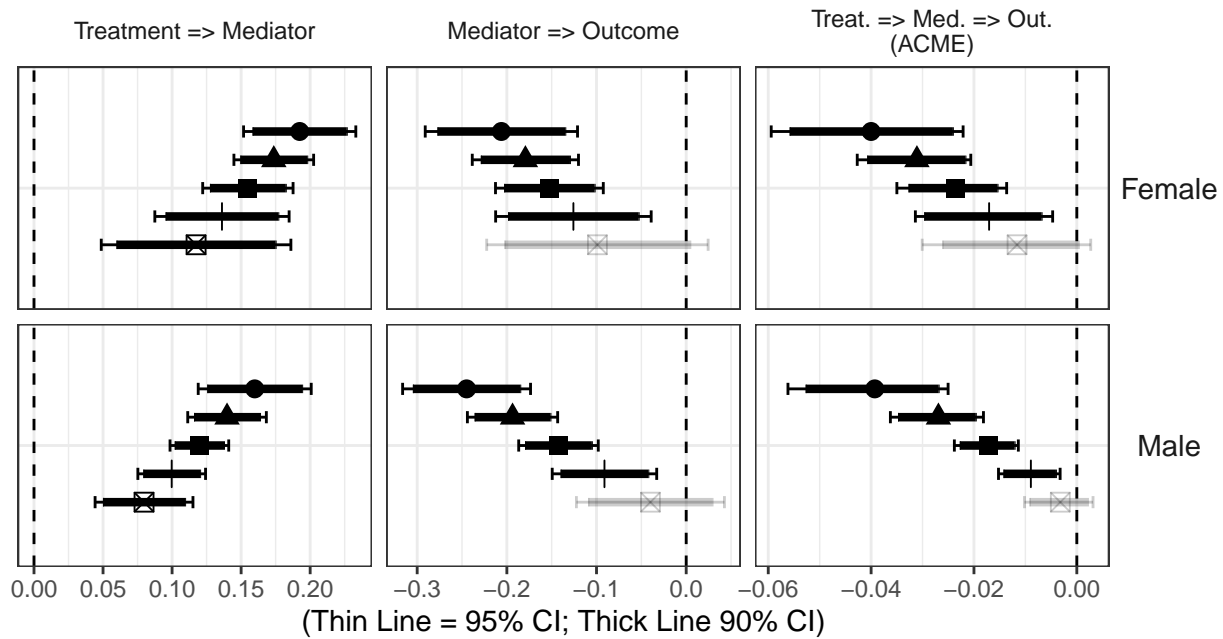
```r
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="knowledge" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=gender,
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
```

```
            position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
            position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
  scale_shape_discrete(name="Age") +
  scale_color_manual(name="Age",values=rep("black", 5)) +
  ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
  xlab(NULL) +
  labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: Political kno
  coord_flip() + theme_bw() +
  theme(legend.position = "bottom",
        strip.text.x = element_text(size=9),
        strip.text.y = element_text(angle=0,size=11),
        strip.background = element_rect(fill=NA,color=NA),
        plot.caption = element_text(hjust=0),
        plot.subtitle = element_text(hjust=0.5),
        axis.text.y = element_blank(),
        axis.ticks.y = element_blank())
p
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator   Mediator => Outcome   Treat. => Med. => Out. (ACME)

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ✚ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: Political knowledge (rescaled to 0–1 with 1 being the most knowledgeable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```r
ggsave(paste0(projdir,"/out/mediationplot2_knowledge_matchedL350_v5.png"),p,width=8,height=5)
```
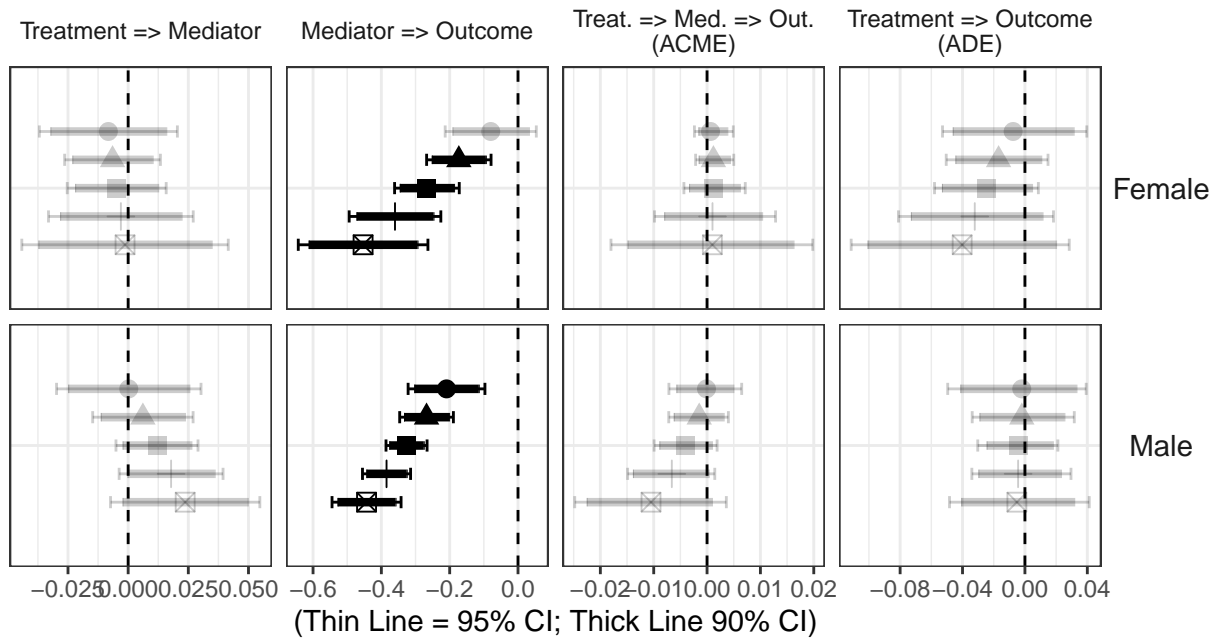
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Plotting for ideology

```r
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="ideology",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
```

```
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: Political id
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ✚ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: Political ideology (rescaled to 0–1 with 1 being the most conservative).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```r
ggsave(paste0(projdir,"/out/mediationplot_ideology_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```
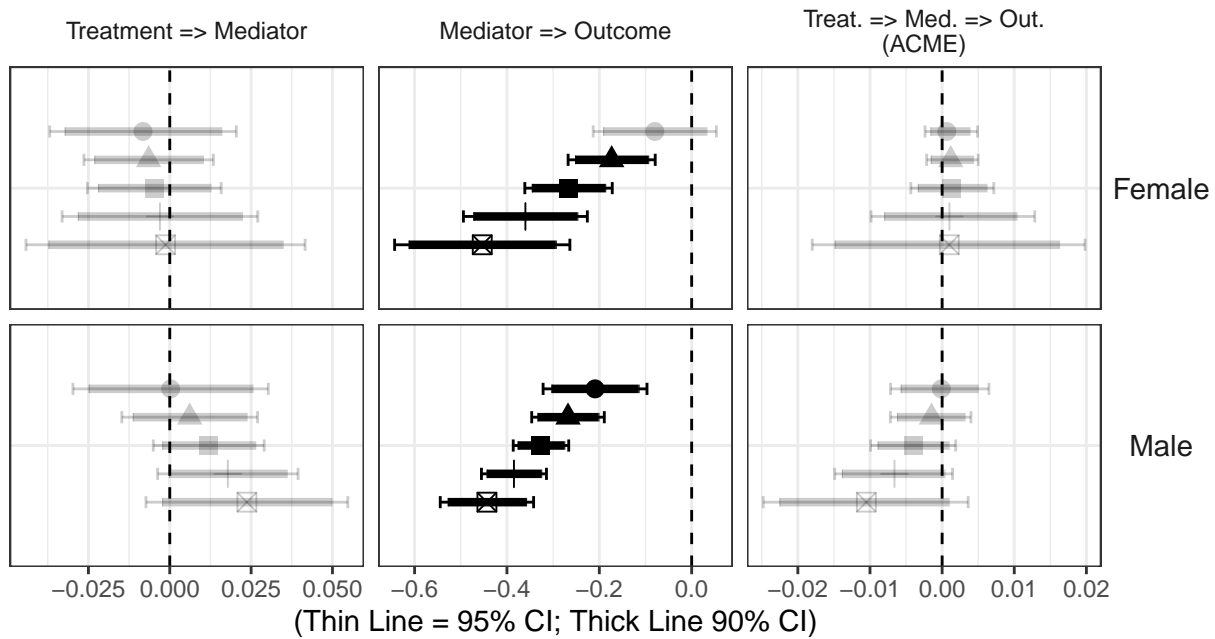
```r
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="ideology" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=gender,
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
```

```r
    scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: Political ide
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```
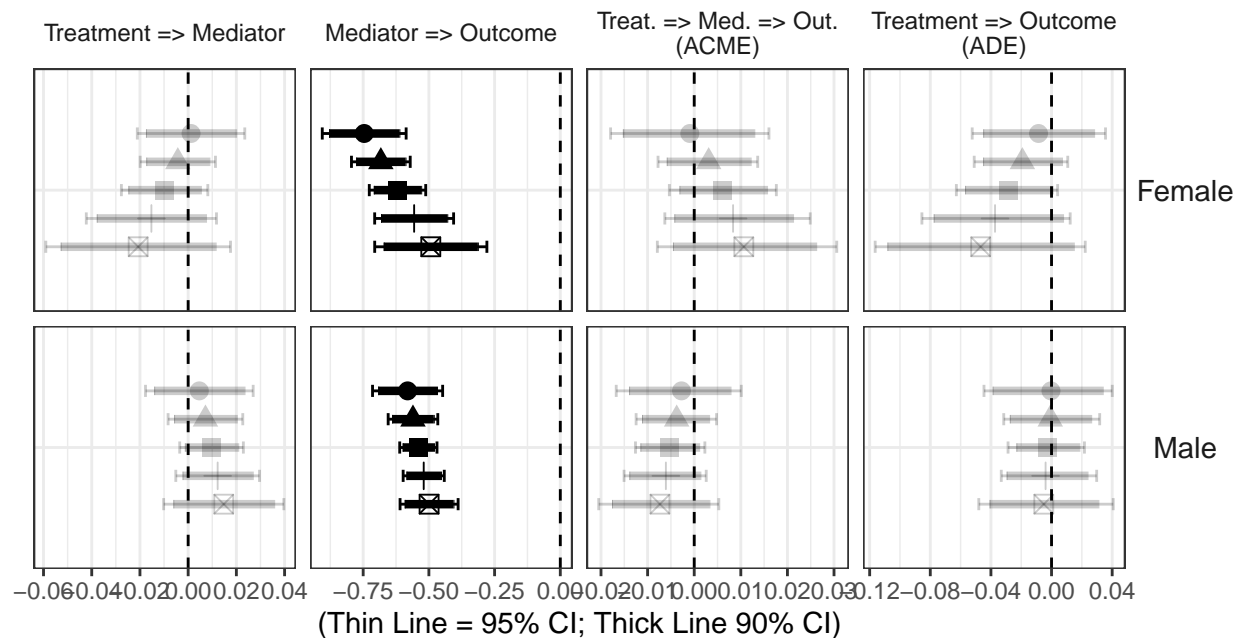
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator | Mediator => Outcome | Treat. => Med. => Out. (ACME)

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ╂ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: Political ideology (rescaled to 0–1 with 1 being the most conservative).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot2_ideology_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

Plotting for ldpdpjft

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="ldpdpjft",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
```

```r
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: LDP - DPJ Fe
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

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## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ✚ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: LDP – DPJ Feeling Thermometer (rescaled to 0–1).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot_ldpdpjft_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```
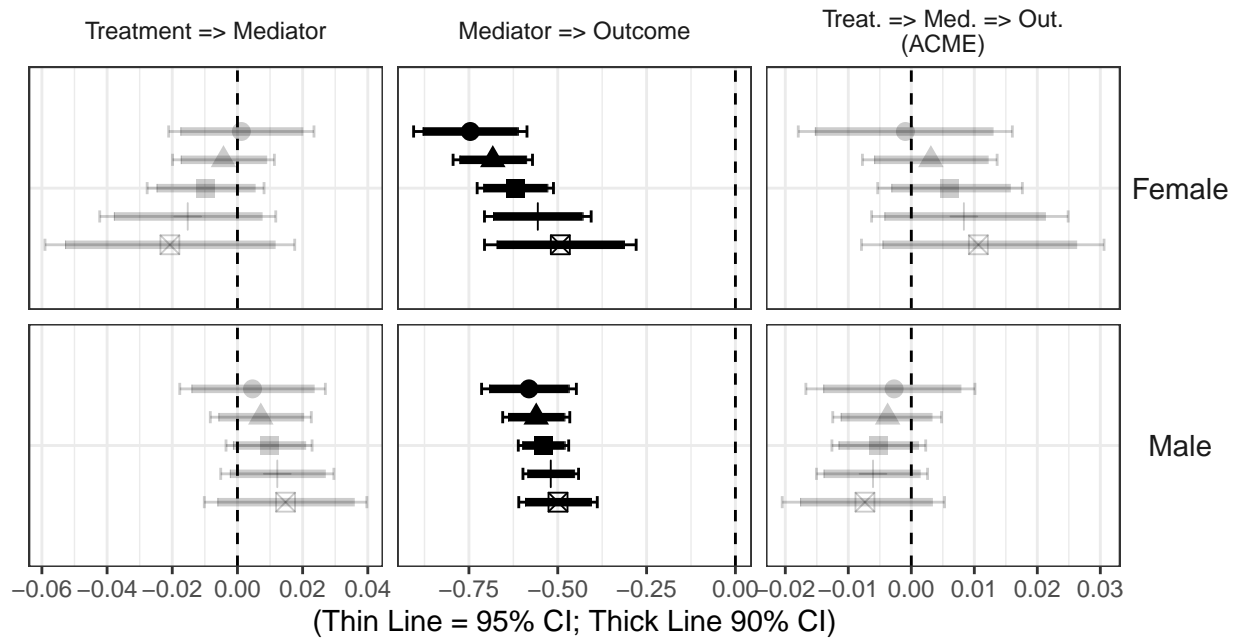
```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="ldpdpjft" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=gender, 
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
               position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
               position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
            position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
```

```r
    scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: LDP - DPJ Fe
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator	Mediator => Outcome	Treat. => Med. => Out. (ACME)

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ┼ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: LDP – DPJ Feeling Thermometer (rescaled to 0–1).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot2_ldpdpjft_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```
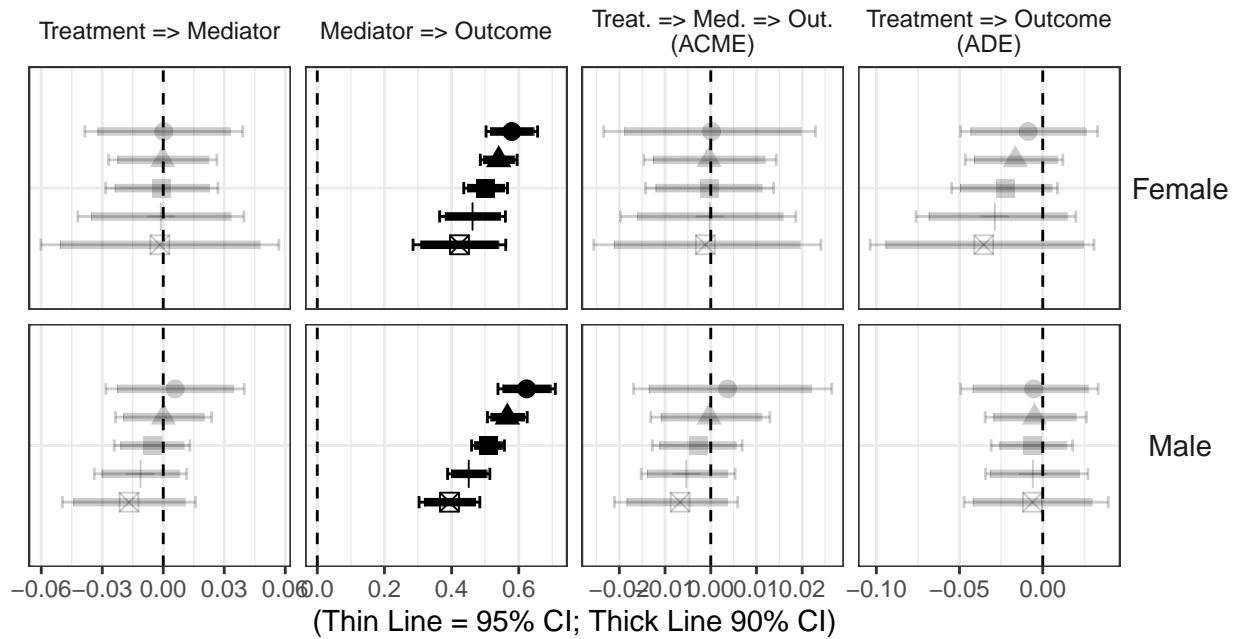
Plotting for South Korea Feeling Thermometer

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="familiarityFT_KOR",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
```

```r
  scale_shape_discrete(name="Age") +
  scale_color_manual(name="Age",values=rep("black", 5)) +
  ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
  xlab(NULL) +
  labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: South Korea 
  coord_flip() + theme_bw() +
  theme(legend.position = "bottom",
        strip.text.x = element_text(size=9),
        strip.text.y = element_text(angle=0,size=11),
        strip.background = element_rect(fill=NA,color=NA),
        plot.caption = element_text(hjust=0),
        plot.subtitle = element_text(hjust=0.5),
        axis.text.y = element_blank(),
        axis.ticks.y = element_blank())
p
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator | Mediator => Outcome | Treat. => Med. => Out. (ACME) | Treatment => Outcome (ADE)

Female

Male

−0.06 −0.03 0.00 0.03 0.06   0.0 0.2 0.4 0.6   −0.02 −0.01 0.00 0.01 0.02   −0.10 −0.05 0.00

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ╋ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: South Korea Feeling Thermometer (rescaled to 0–1 with 1 being the most favorable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot_familiarityFT_KOR_matchedL350_v5.png"),p,width=8,height=5)
```
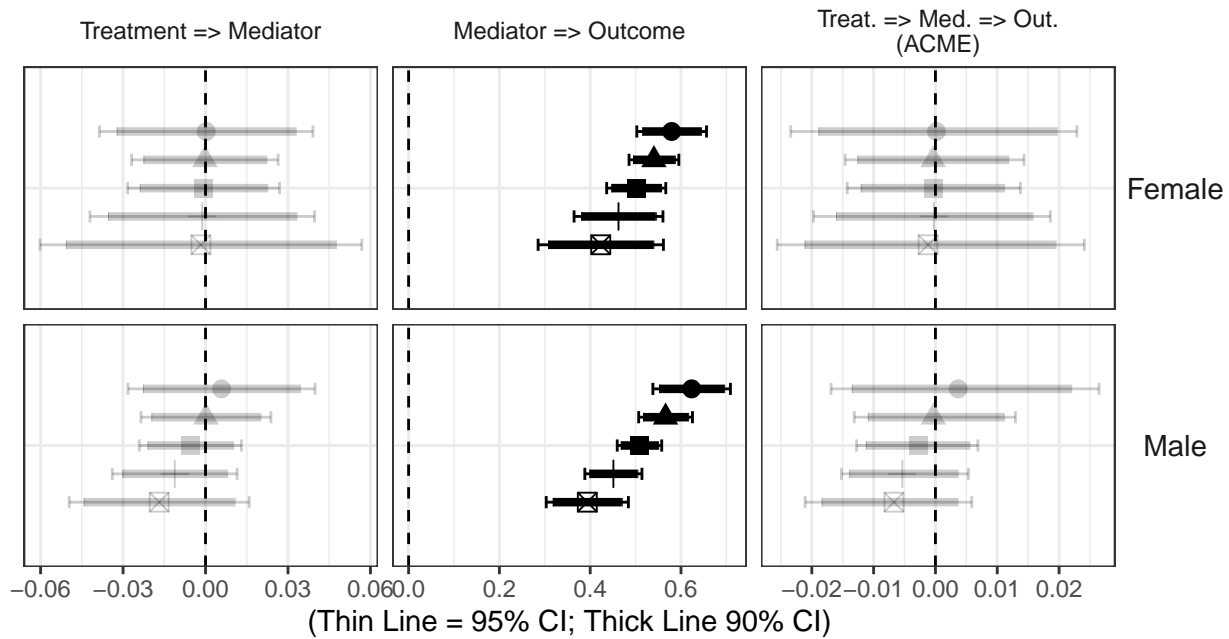
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="familiarityFT_KOR" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
```

```r
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
  scale_shape_discrete(name="Age") +
  scale_color_manual(name="Age",values=rep("black", 5)) +
  ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
  xlab(NULL) +
  labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: South Korea
  coord_flip() + theme_bw() +
  theme(legend.position = "bottom",
        strip.text.x = element_text(size=9),
        strip.text.y = element_text(angle=0,size=11),
        strip.background = element_rect(fill=NA,color=NA),
        plot.caption = element_text(hjust=0),
        plot.subtitle = element_text(hjust=0.5),
        axis.text.y = element_blank(),
        axis.ticks.y = element_blank())
p
```
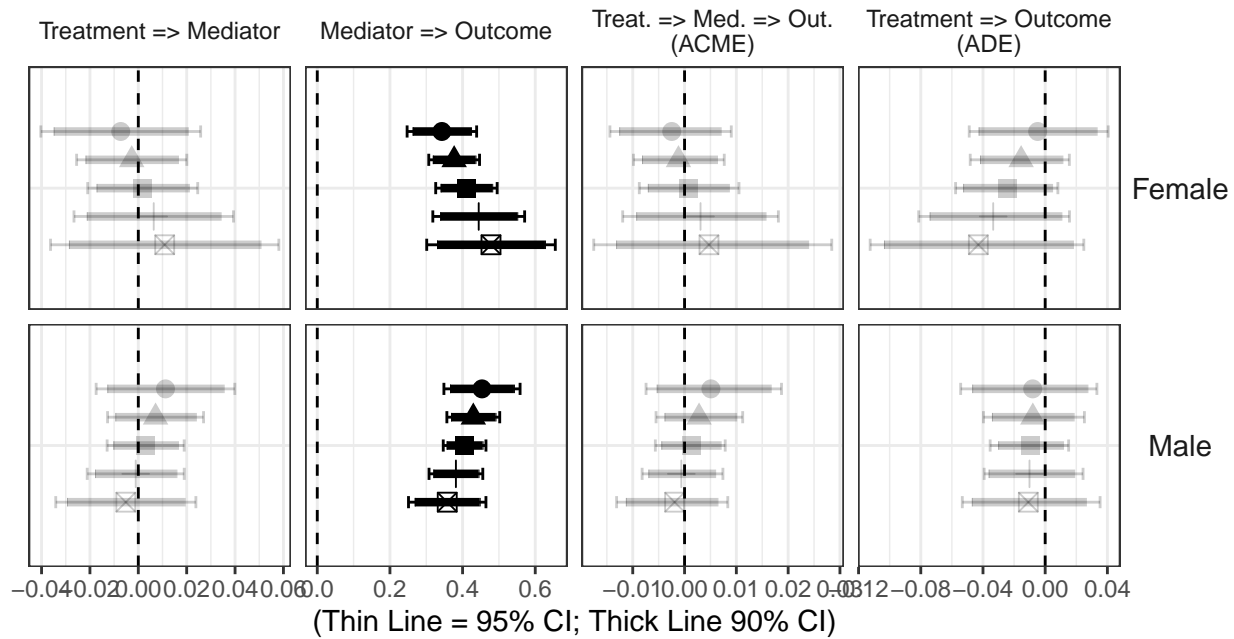
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator   Mediator => Outcome   Treat. => Med. => Out.
(ACME)

(Thin Line = 95% CI; Thick Line 90% CI)

Age   ● 25   ▲ 35   ■ 45   ✚ 55   ⊠ 65   Significance   ● p<.05   ● p<.1   ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: South Korea Feeling Thermometer (rescaled to 0–1 with 1 being the most favorable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot2_familiarityFT_KOR_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
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```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

Plotting for China Feeling Thermometer

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="familiarityFT_CHN",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
```

```
  scale_shape_discrete(name="Age") +
  scale_color_manual(name="Age",values=rep("black", 5)) +
  ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
  xlab(NULL) +
  labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: China Feelin
  coord_flip() + theme_bw() +
  theme(legend.position = "bottom",
        strip.text.x = element_text(size=9),
        strip.text.y = element_text(angle=0,size=11),
        strip.background = element_rect(fill=NA,color=NA),
        plot.caption = element_text(hjust=0),
        plot.subtitle = element_text(hjust=0.5),
        axis.text.y = element_blank(),
        axis.ticks.y = element_blank())
p
```

Warning: position_dodge requires non-overlapping x intervals

Warning: position_dodge requires non-overlapping x intervals

Warning: position_dodge requires non-overlapping x intervals

Warning: position_dodge requires non-overlapping x intervals

Warning: position_dodge requires non-overlapping x intervals

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Warning: position_dodge requires non-overlapping x intervals

Warning: position_dodge requires non-overlapping x intervals

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ✛ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: China Feeling Thermometer (rescaled to 0–1 with 1 being the most favorable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot_familiarityFT_CHN_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="familiarityFT_CHN" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
               position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
               position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
            position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
```

```r
    scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: China Feelin
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```
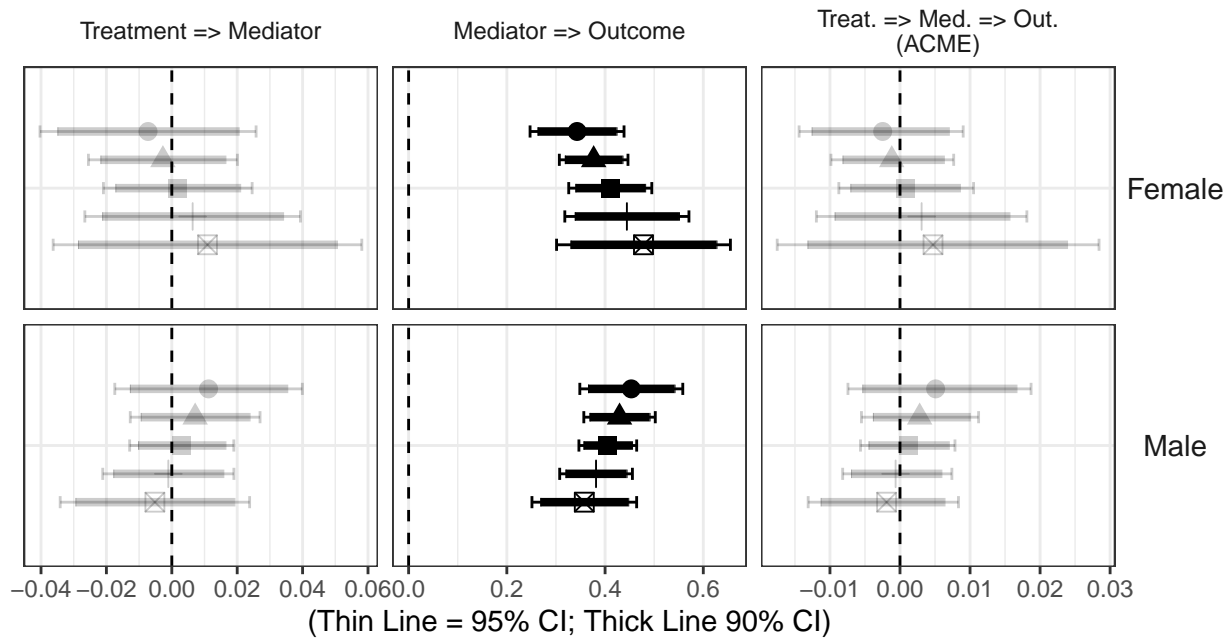
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator	Mediator => Outcome	Treat. => Med. => Out. (ACME)

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ┿ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: China Feeling Thermometer (rescaled to 0–1 with 1 being the most favorable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot2_familiarityFT_CHN_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Plotting for United States Feeling Thermometer

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="familiarityFT_USA",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
```

```r
  scale_shape_discrete(name="Age") +
  scale_color_manual(name="Age",values=rep("black", 5)) +
  ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
  xlab(NULL) +
  labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: United States
  coord_flip() + theme_bw() +
  theme(legend.position = "bottom",
        strip.text.x = element_text(size=9),
        strip.text.y = element_text(angle=0,size=11),
        strip.background = element_rect(fill=NA,color=NA),
        plot.caption = element_text(hjust=0),
        plot.subtitle = element_text(hjust=0.5),
        axis.text.y = element_blank(),
        axis.ticks.y = element_blank())
p
```
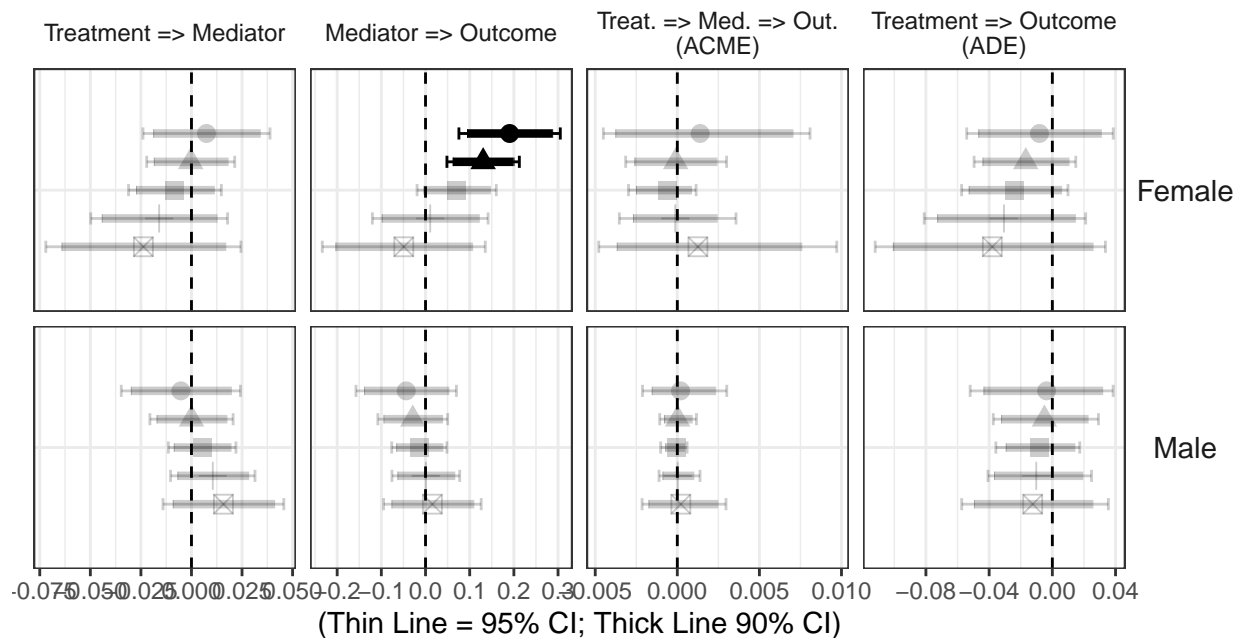
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Treatment => Mediator   Mediator => Outcome   Treat. => Med. => Out. (ACME)   Treatment => Outcome (ADE)

(Thin Line = 95% CI; Thick Line 90% CI)

Age   25   35   45   55   65   Significance   p<.05   p<.1   n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: United States Feeling Thermometer (rescaled to 0–1 with 1 being the most favorable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot_familiarityFT_USA_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="familiarityFT_USA" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
```

```
    scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: United State
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```
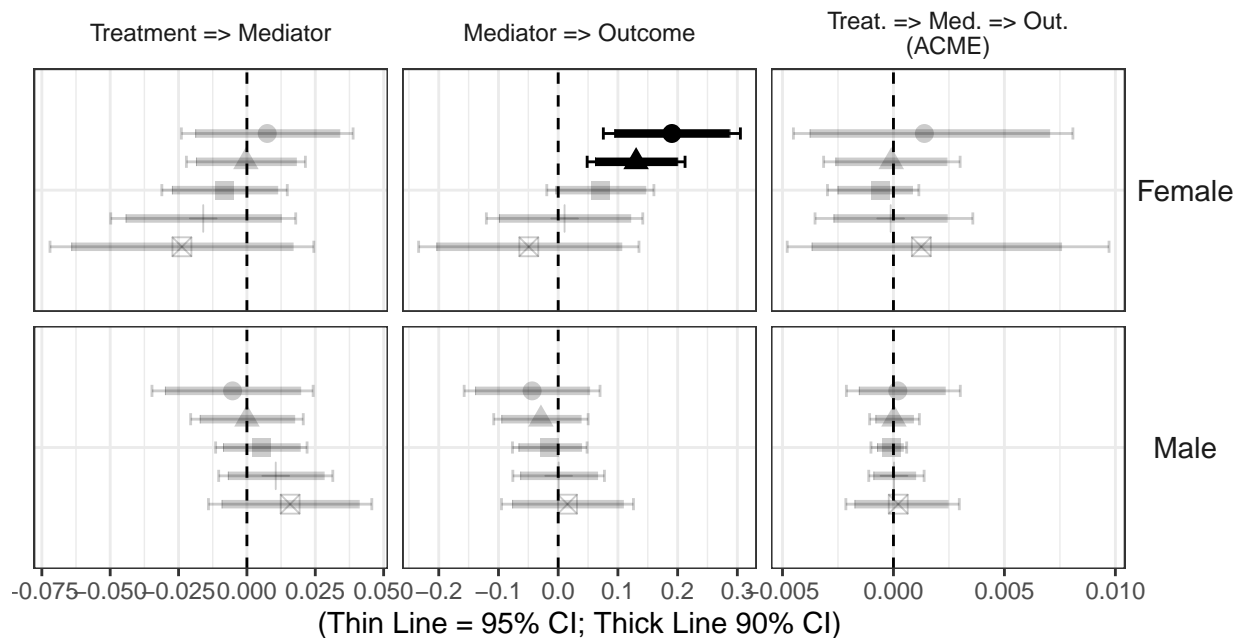
```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

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## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

| Treatment => Mediator | Mediator => Outcome | Treat. => Med. => Out. (ACME) |

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ✛ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: United States Feeling Thermometer (rescaled to 0–1 with 1 being the most favorable).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot2_familiarityFT_USA_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

Plotting for Income

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="income",], aes(x=gender, y=est)) +
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
  scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
```

```r
scale_shape_discrete(name="Age") +
scale_color_manual(name="Age",values=rep("black", 5)) +
ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
xlab(NULL) +
labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: Income (resca
coord_flip() + theme_bw() +
theme(legend.position = "bottom",
      strip.text.x = element_text(size=9),
      strip.text.y = element_text(angle=0,size=11),
      strip.background = element_rect(fill=NA,color=NA),
      plot.caption = element_text(hjust=0),
      plot.subtitle = element_text(hjust=0.5),
      axis.text.y = element_blank(),
      axis.ticks.y = element_blank())
p
```
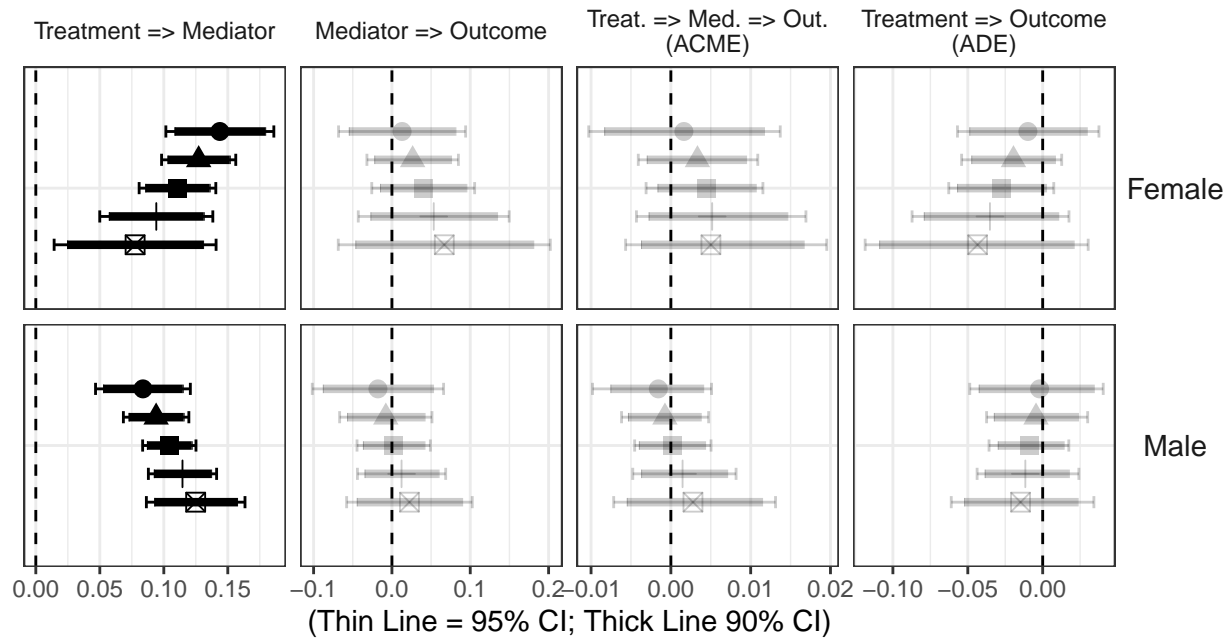
```
## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ◼ 45 ✚ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: Income (rescaled to 0–1 with 1 being the richest).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot_income_matchedL350_v5.png"),p,width=8,height=5)
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
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## Warning: position_dodge requires non-overlapping x intervals
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## Warning: position_dodge requires non-overlapping x intervals
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## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
## Warning: position_dodge requires non-overlapping x intervals
```

```
require(ggplot2)
p <- ggplot(coefdt[coefdt$med=="income" & coefdt$mod!="Treatment => Outcome\n(ADE)",], aes(x=gender, y=
  geom_hline(aes(yintercept=0), linetype=2) +
  geom_errorbar(aes(ymin=lci95,ymax=uci95,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=0.5, width=0.3) +
  geom_errorbar(aes(ymin=lci90,ymax=uci90,colour=as.factor(age), alpha=pstar),
                position=position_dodge(width=-0.7), size=1.5, width=0.0) +
  geom_point(aes(shape=as.factor(age), colour=as.factor(age), alpha=pstar),
             position=position_dodge(width=-0.7), size=3) +
  facet_grid(gender ~ mod, scales = "free") +
```

```r
    scale_alpha_manual(name="Significance",values=c(1,0.5,0.2), drop=FALSE) +
    scale_shape_discrete(name="Age") +
    scale_color_manual(name="Age",values=rep("black", 5)) +
    ylab("(Thin Line = 95% CI; Thick Line 90% CI)") +
    xlab(NULL) +
    labs(caption="Treatment: University education (1:attained, 0:not attained). \nMediatior: Income (resca
    coord_flip() + theme_bw() +
    theme(legend.position = "bottom",
          strip.text.x = element_text(size=9),
          strip.text.y = element_text(angle=0,size=11),
          strip.background = element_rect(fill=NA,color=NA),
          plot.caption = element_text(hjust=0),
          plot.subtitle = element_text(hjust=0.5),
          axis.text.y = element_blank(),
          axis.ticks.y = element_blank())
p
```
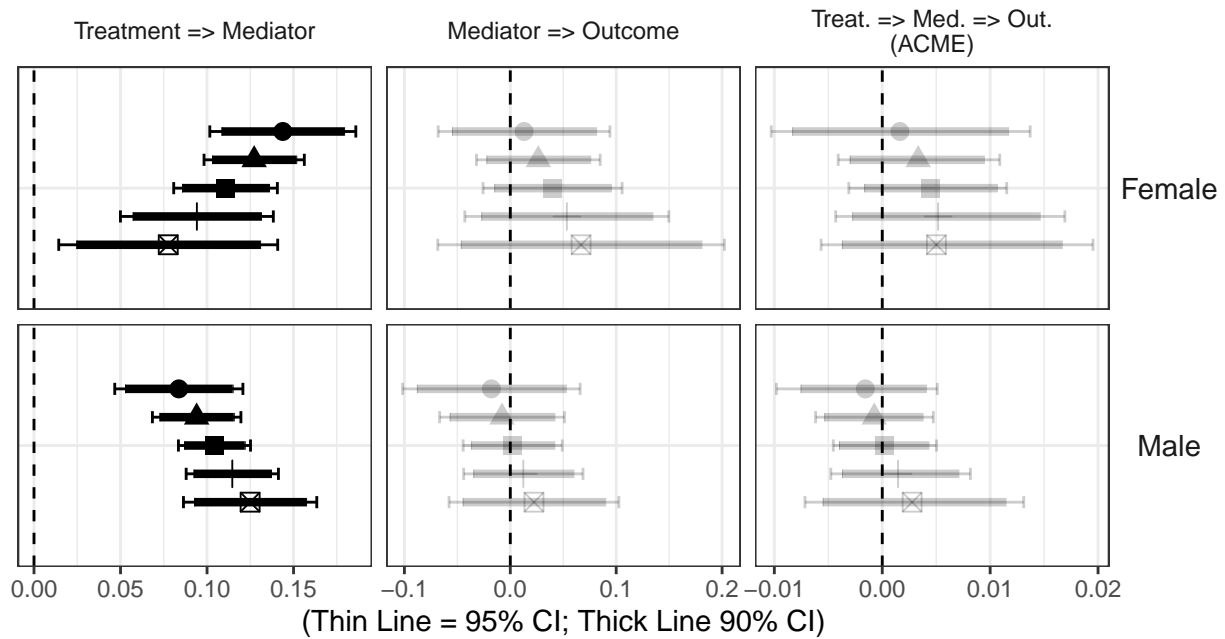
```
## Warning: position_dodge requires non-overlapping x intervals

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## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

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## Warning: position_dodge requires non-overlapping x intervals
```

(Thin Line = 95% CI; Thick Line 90% CI)

Age ● 25 ▲ 35 ■ 45 ✚ 55 ⊠ 65   Significance ● p<.05 ● p<.1 ● n.s.

Treatment: University education (1:attained, 0:not attained).
Mediatior: Income (rescaled to 0–1 with 1 being the richest).
Outcome: Agreement with granting suffrage to permanent residents (rescaled to 0–1).

```
ggsave(paste0(projdir,"/out/mediationplot2_income_matchedL350_v5.png"),p,width=8,height=5)

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals

## Warning: position_dodge requires non-overlapping x intervals
```