Cultural Normativity Index: Study 1

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1 Data

1.1 Libraries

```
pacman::p_load(tidyverse, dplyr, rio, expss, scales, glue,
               rlang, kableExtra, stringr, tibble, psych, here, webshot2,
              lavaan,semTools,#Measurement Invariance
               haven, parallel, tictoc, papaja, #wrangling and setup
               patchwork,gridExtra, ggplot2, grid, ggtext, tools, ggcorrplot, #plots
               lme4, lmerTest, broom.mixed, tidyr, #modeling - mlm
```

```
               emmeans, marginaleffects, modelsummary,
               pbkrtest, car #model estimates
               )

options(modelsummary_get = "easystats")
```

1.2 Data import and set up

The data, originally in the .sav format, is identified by labels for each set of items. Scale scores for individual and community (here, country) level are computed for each measure.

```
#Study1 = data1
all_data1 <- import(here::here("data", "mcvs8_2839mv3ssvsrm2partlyreduced.sav"), setclass = "tibble")

#This ensures that the items are correctly classified within their respective  domains
all_vars_d <- tibble(all_vars = names(all_data1)) %>%
    mutate(
    domain = case_when(
      str_starts(all_vars, "ism") ~ "Isms",
      str_starts(all_vars, "f_") ~ "Fanaticism",
      str_detect(all_vars, "^ssvs\\d{1,2}$") ~ "Values",
      str_starts(all_vars, "sc_p") ~ "Personality_scale",
      str_starts(all_vars, "p_") ~ "Personality6",
      str_starts(all_vars, "d_") ~ "Personality7",
      str_starts(all_vars, "sacy") ~ "Social_Axioms",
      str_starts(all_vars, "swb") ~ "SWB",
      str_starts(all_vars, "g1|g2") ~ "Globe",
      str_starts(all_vars, "fsp") ~ "Failed_state_perception",
      TRUE ~ all_vars
    ))


#func for fanaticsim [naming of items was needed]
get_fntc_items <- function(item.code1, item.code2 = NULL) {

  all_fantc_items <- all_vars_d %>%
    filter(domain == "Fanaticism") %>%
    mutate(
      rev_scoring = case_when(
        all_vars %in% c("f_gc22", "f_gc24","f_gc32", "f_gk48",
                        "f_ls54",  "f_gc56", "f_gc57","f_ls60", "f_gk66", "f_ls66",
                        "f_gc69", "f_gc72", "f_gc80","f_gc81", "f_gk85", "f_gk92",
                        "f_gk93", "f_ls98", "f_ls100", "f_ls109") ~ "rev",
        TRUE ~ "pos"
      ),
      subscale = case_when(
        all_vars %in% c("f_gc89", "f_gc4", "f_gk111", "f_gc27",
                        "f_gk20", "f_gc68") ~ "vile_world",
        all_vars %in% c("f_gc69", "f_ls22", "f_gk48" ,"f_ls95",
                        "f_gk88", "f_gk44", "f_gk82", "f_ls125", "f_ls56",
                        "f_gc56") ~ "proviolence",
        all_vars %in% c("f_gc72", "f_gc47", "f_gk92", "f_ls107", "f_gk67", "f_gc57", "f_gc17") ~ "div
```

```
        TRUE ~ NA_character_
      ),
      theme = case_when(
        str_detect(all_vars, "ls") ~ "islam_extrm",
        str_detect(all_vars, "gk") ~ "yug_extrm",
        str_detect(all_vars, "gc") ~ "pan_extrm",
        TRUE ~ NA_character_
      )
    ) %>%
    mutate(code = paste0(theme,".", subscale, ".",rev_scoring)) %>%
    select(all_vars, code)

  # Filter based on one or two patterns
  if (is.null(item.code2)) {
    items <- all_fantc_items %>%
      filter(str_detect(code, item.code1)) %>%
      pull(all_vars)
  } else {
    items <- all_fantc_items %>%
      filter(str_detect(code, item.code1) & str_detect(code, item.code2)) %>%
      pull(all_vars)
  }

  return(items)
}

#get all item numbers for each domain
item_names <- \(domain_name){
  all_item_names <- all_vars_d %>%
  filter(domain == {{domain_name}}) %>%
  pull(all_vars)
  return(all_item_names)
}


compute_trait_score <- function(data, pos_items, rev_items = NULL) {
  if (is.null(rev_items)) {
    # If no reverse items are specified, just sum the positive items
    return(rowSums(data %>% select(all_of(pos_items)), na.rm = TRUE))
  } else {
    # If both positive and reverse items are specified
    rowSums(
      data %>%
        select(all_of(c(pos_items, rev_items))) %>%
      #here the items are assumed to be on the scale of 1 to 5;
      #this function is only applied after ensuring that all items are
      #are measured on or a rescaled to 1to5
        mutate(across(all_of(rev_items), ~ 6 - .x)),
      na.rm = TRUE
    )
  }
}
```

```r
data1 <- all_data1 %>%
  select(
    list_c(map(c("Isms","Globe", "Values", "Fanaticism", "Social_Axioms", "Failed_state_perception","
                 "Personality7", "SWB"),
               item_names)), NATION9, age, genderml) %>% # nrow() = 2839
  # Retain rows where data for all five SWB items is present
  filter(if_all(item_names("SWB"), ~!is.na(.)))%>% # nrow() = 2815; 24 rows dropped
 #Removed Belarus data = 4
  filter(!NATION9 == 4) %>%
  mutate(country = as.character(NATION9),
         genderml = as.character(genderml)) %>%
   mutate(country= fct_recode(as.character(country),
            "USA"= "1",
            "Slovakia"= "3",
            "Serbia" = "2",
            "Chile" = "5",
            "Guatemala" = "6",
            "Malaysia" = "7",
            "China" = "9",
            "Korea"= "8"),
          gender = fct_recode(genderml,
            "female" = "0", "male" = "1"))%>%
# Rescale all the Values and swb items to a range between 1 to 5
  mutate(across(c(all_of(item_names("Values")), all_of(item_names("SWB"))),
                ~scales::rescale(., to = c(1, 5)))) %>%
        select(-c(NATION9, genderml)) %>%

      #---PERSONALITY MODERATORs---#
       #scP = scale Personality scores
  mutate(
    # Moderators - based on raw data for individuals
         #--Subjective Well-being
             #compute_trait_score(data, pos_items, rev_items)         #sc - scale scores; scP = scale
         sc_swb.indv = compute_trait_score(., item_names("SWB")),
         #--Personality
         scP_Consc.indv = compute_trait_score(.,
            c("p_01c1", "p_19c4"),   c("p_07c2", "p_13c3")),
         scP_Res.indv = compute_trait_score(.,
            c("p_08r2", "p_14r3"),   c("p_02r1", "p_20r4")),
         scP_Hon.indv = compute_trait_score(.,
            c("p_03h1", "p_09h2",   "p_21h4"), c("p_15h3", "p_25h5")),
         scP_Vir.indv = compute_trait_score(.,
            c("p_10v2", "p_16v3"),   c("p_04v1", "p_22v4")),
         scP_Agree.indv = compute_trait_score(.,
            c("p_23a4", "p_05a1"),   c("p_17a3", "p_11a2")),
         scP_Extra.indv = compute_trait_score(.,
            c("p_12e2", "p_18e3"),   c("p_06e1", "p_24e4")),
         #--Personality + Psychopathology(pp)
         #(also argued to be a pty measure)
         scP_Dis.indv =  compute_trait_score(., paste0("d_", 1:10))#Disintegration
  ) %>%
```

```
 #---MINDSET MODERATOR---#
    #scM = scale Mindset scores
mutate(
          #compute_trait_score(data, pos_items, rev_items)
       #Isms
         #alpha = Tradition-oriented Religiousness
       scM_ism_alpha.indv = compute_trait_score(.,
          str_subset(item_names("Isms"),"^ism_a.*(?<!r)$"),
          str_subset(item_names("Isms"), "^ism_a.+r$")
         ),

        # beta = Unmitigated Self-Interest
       scM_ism_beta.indv = compute_trait_score(.,
          str_subset(item_names("Isms"),"^ism_b.*(?<!r)$"), #(e.g., "ism_b1")
          str_subset(item_names("Isms"), "^ism_b.+r$") #(e.g., "ism_b4r")
         ),
           #gamma = Communal Rationalism
       scM_ism_gamma.indv = compute_trait_score(.,
          str_subset(item_names("Isms"),"^ism_g.*(?<!r)$"),
          str_subset(item_names("Isms"), "^ism_g.+r$")
         ),
          #delta = Inequality-Aversion
       scM_ism_delta.indv = compute_trait_score(.,
          str_subset(item_names("Isms"),"^ism_d.*(?<!r)$"),
          str_subset(item_names("Isms"), "^ism_d.+r$")
         ),

      #Globe
        #traditional family structure/ingroup collectivism
      scM_globe_tr.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*tr.*$")),
       #uncertainty avoidance
      scM_globe_un.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*un.*$")),
       #achievement/performance orientation
      scM_globe_ac.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*ac.*$")),
       #assertiveness
      scM_globe_asrt.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*ag.*$")),
       #humane orientation
      scM_globe_hu.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*hu.*$")),
      #Gender Differentiation
      scM_globe_ma.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*ma.*$")[-3],
          str_subset(item_names("Globe"), "^g.*ma.*$")[3]),
       #Institutional collectivism
      scM_globe_gc.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*in.*$")),
       #power distance
      scM_globe_po.indv = compute_trait_score(.,
          str_subset(item_names("Globe"), "^g.*po.*$")),
```

```
        #future orientation
       scM_globe_fu.indv = compute_trait_score(.,
           str_subset(item_names("Globe"), "^g.*fu.*$")[-c(3,4)], str_subset(item_names("Globe"), "

      #Fanaticism
       scM_fntc.indv = compute_trait_score(.,
           get_fntc_items("pos"), get_fntc_items("rev")),
         # yugoslavian extremism
         scM_fntcYug.indv = compute_trait_score(.,
           get_fntc_items("yug_extrm", "pos"),
            get_fntc_items("yug_extrm", "rev")),
        # islamic extremism
         scM_fntcIslam.indv = compute_trait_score(.,
           get_fntc_items("islam_extrm", "pos"),
            get_fntc_items("islam_extrm", "rev")),
       # pan-cultural extremism
         scM_fntcPan.indv = compute_trait_score(.,
           get_fntc_items("pan_extrm", "pos"),
            get_fntc_items("pan_extrm", "rev")),

      # divine power
         scM_fntc_dp.indv = compute_trait_score(.,
           get_fntc_items("divine_power", "pos"),
            get_fntc_items("divine_power", "rev")),

      # proviolence
         scM_fntc_pv.indv = compute_trait_score(.,
           get_fntc_items("proviolence", "pos"),
            get_fntc_items("proviolence", "rev")),

      # vile world
         scM_fntc_vw.indv = compute_trait_score(.,
           get_fntc_items("vile_world", "pos"),
            get_fntc_items("vile_world", "rev")),

     #Failed State Perception
       scM_fsp.indv = compute_trait_score(.,
       paste0("fsp_", c(1, 2, 4, 5, 7, 8, 10, 11, "3b", "7c","9b", "11b")),
       paste0("fsp_", c(3,6,8,9,"1b", "7b","10b"))
       )
) %>%
mutate(pID = paste0("p", 1:nrow(.)))%>%

#compute community[here, country] scale scores
with_groups(country,
  mutate,
  across(
    # Select all pty and mindset scaled scores
    contains(c( "scP", "scM", "sc_swb")),
    # Compute mean by country
    ~mean(., na.rm = TRUE),
    # Create new name [scP_Hon.indv -> scP_Hon.comm]
    .names = "{str_remove(.col, '[.].*')}.comm"
```

Table 1: Sample statistics by Country

Country	Mean Age	% Male	n
China	17.92928	36.49222	707
Korea	21.79798	58.08081	396
USA	19.62338	31.68831	385
Malaysia	20.98765	33.47458	265
Slovakia	21.73750	47.56098	251
Serbia	21.72727	25.97403	231
Guatemala	22.90355	12.69036	197
Chile	20.31351	30.81081	186

```
    )
  )
#Mindset CNI-data [ips.Mindset items + sc_swb + sc_pty.indv + sc_pty.comm]
#Personality CNI-data [ips.Personality items + sc_swb + sc_pty.indv + sc_pty.comm]
```

Table 1 indicates the sample details for all eight countries in this dataset.

2 Analysis

2.1 RQ1: Computing CNI

Using the approach by Weston et, al (2024), CNI is estimated using a random slope multilevel model (fixed intercepts; as the self and country responses have been ipsatized or standardized, the mean or the b0 will be zero) wherein the items are nested within persons. The ipsatization allows for the resulting slope estimates to be interpreted as correlation estimates.

Computing three types of CNI: - mindsetCNI: mindset variables - pty6CNI: six personality variables - pty7CNI: six personality variables + disintegration(paychopathology also considered as personality)

For study 1, six CNI models are computed:

CNI Models

1. Mindset CNI: consisting of all mindset items
2. Isms CNI
3. Globe CNI: Original Globe items by House et al.
4. Fanaticism CNI
5. Personality 6 CNI: consisting of Big 6 items
6. Personality 7 CNI: Big 6 items + Disintegration items

**NOTE - write about ipsatization and controlling for overall mean when computing profile similarity analysis

To compute CNI's the data is processed in the following manner: 1. Generate `z_ctry_responses`(Ipsatized/standardized within country responses) 2. Generate `z_responses` (Ipsatized self rating responses; standardized within person) 3. To account for the normativity-desirability confound (NRC; Wood and Furr, 2016) we generate `Overall_M.responses` (Overall means of all items computed, uses Ipsatized self rating responses for all participants regardless of country). By adding this to the model we compute CNI estimates controlled for the overall mean profile that can confound the profile similarity between self-rating and country profiles.

The data is retained in the long format. Each row consists of an item for each participant, country average

response for each item and overall average for each item.

```
#FUNCTIONS for computing CNIs
 #Note: 1 here inidcates study 1

#item names for CNI type
get_item_names <- \(CNI_type, data) {

  domains <- switch(CNI_type,
    "Mindset" = c("Isms", "Fanaticism", "Social_Axioms", "Values", "Globe", "Failed_state_perception'
    "pty6" = c("Personality6"),
    "pty7" = c("Personality6", "Personality7"),
    "Fanaticism" = c("Fanaticism"),
    "Isms" = c("Isms"),
    "Globe" = c("Globe"),
    stop("CNI type not found")
  )

  item_names <- data %>%
    filter(domain %in% domains) %>%
    pull(all_vars)

  if (length(item_names) == 0) {
    warning("No items found for the specified domains")
  }

  return(item_names)
}

#ipsatize/standardize scores
ipsatize <- \(x){
  value <- (x-mean(x, na.rm=T))/(sd(x, na.rm=T))
  return(value)
}

#compute z_profiles for pID
compute_profiles <- \(var_names){
#compute mean country profiles
country_profiles <- data1 %>%
  group_by(country) %>%
  summarise(
    across(all_of(var_names), ~mean(.x, na.rm = TRUE), .names = "avg_{.col}"),#variables for mindset(
   n_p = n())%>% # number of participants)
  ungroup() %>%
  #retain participants who have responded to at least 30 items.- all the countries have n_p>30
  filter(n_p>=30) %>%
   pivot_longer(
    cols = starts_with("avg_"),
    #item names stored in item
    names_to = "item",
    values_to = "ctry_response"
  ) %>%
   mutate(item = str_remove(item, "avg_")) %>%
```

```
ungroup()

self.ctry_profiles <-  data1 %>%
  select(all_of(var_names), pID, country) %>%
  pivot_longer(names_to = "item",
               values_to = "response",
               cols = all_of(var_names)) %>%
  filter(!is.na(response)) %>%
  left_join(country_profiles, by = c("country", "item")) %>%
   filter(!is.na(ctry_response)) %>%
# ipsatize responses within profile
  with_groups(pID, mutate, across(
    # mutate self-rating and mean country profiles for each pID at once
  contains("response"),
  # with the ipsatize function ,
  ipsatize,
  # create new name
.names = "z_{.col}"))

overallM_profiles <- self.ctry_profiles %>%
  select(item, z_response) %>%
  filter(!is.na(z_response)) %>%
  group_by(item) %>%
  summarise(overall.M = mean(z_response)) %>%
  ungroup()


return(lst(self.ctry_profiles, overallM_profiles)) #set_names() to the input object names

}
```

```
#get all item names for CNI types
mindsetCNI_items <- get_item_names("Mindset", all_vars_d)
pty6CNI_items <- get_item_names("pty6", all_vars_d)
pty7CNI_items <- get_item_names("pty7", all_vars_d)
ismCNI_items <- get_item_names("Isms", all_vars_d)
fantcCNI_items <- get_item_names("Fanaticism", all_vars_d)
globeCNI_items <- get_item_names("Globe", all_vars_d)

#compute pofiles for each CNI type
mindsetCNI_profiles <- compute_profiles(mindsetCNI_items)
pty6CNI_profiles <- compute_profiles(pty6CNI_items)
pty7CNI_profiles <- compute_profiles(pty7CNI_items)
ismCNI_profiles <- compute_profiles(ismCNI_items)
fantcCNI_profiles <- compute_profiles(fantcCNI_items)
globeCNI_profiles <- compute_profiles(globeCNI_items)
globeCNI_profiles <- compute_profiles(globeCNI_items)
```

```
#computing CNI
add_CNIformula <- \(data){
  lmer(z_response ~ z_ctry_response + overall.M + (-1 + z_ctry_response|country/pID), data = data)
  }
```

```r
mindsetCNI_mod <- mindsetCNI_profiles$self.ctry_profiles %>%
  full_join(mindsetCNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)

pty6CNI_mod <- pty6CNI_profiles$self.ctry_profiles %>%
  full_join(pty6CNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)

pty7CNI_mod <- pty7CNI_profiles$self.ctry_profiles %>%
  full_join(pty7CNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)

ismCNI_mod <- ismCNI_profiles$self.ctry_profiles %>%
  full_join(ismCNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)

fantcCNI_mod <- fantcCNI_profiles$self.ctry_profiles %>%
  full_join(fantcCNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)

globeCNI_mod <- globeCNI_profiles$self.ctry_profiles %>%
  full_join(globeCNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)
```

2.1.1 Model Complexity

The six CNI models vary in the number of items and domains of psychological measures. 1. The Parallel Analysis computed here, identify the optimum number of dimensions that the data for every CNI type can be reduced to. The optimum number of dimensions are retained based on the comparison of eigenvalues of the actual data and those of randomly generated data sets. Dimensions are retained when their eigenvalues exceed those of the random data, ensuring that only factors accounting for more variance than would be expected by chance are retained. 2. Unrotated Principal Components that explain at least 50% of variance are identified. These metrics provide quantitative measures of the underlying dimensionality and structure of each CNI.

```r
# Function to calculate heterogeneity
compute_heterogeneity <- function(data) {
  # Compute correlation matrix once - memory efficient
  cor_matrix <- cor(data, use = "pairwise.complete.obs")

  pca_rotation <- function(rotation) {
    # Perform PCA using correlation matrix
    pca <- principal(cor_matrix, nfactors = ncol(data), rotate = rotation, covar = FALSE)

    # Calculate cumulative variance explained
    cumulative_var <- cumsum(pca$values) / sum(pca$values)

    # Find number of factors needed to explain at least 50% variance
    heterogeneity <- which(cumulative_var >= 0.5)[1]

    return(heterogeneity)
  }

  # Perform parallel analysis using correlation matrix
  pa_result <- fa.parallel(cor_matrix, n.obs = nrow(data), fa = "fa", fm = "minres", show.legend = FA

  tibble(
    n_items = ncol(data),
```

```
    pa = pa_result$nfact,
    pca_50 = pca_rotation("none")
  )
}

heterogeneity_stats <- map_dfr(
  list(
   Mindset = select(data1,
              get_item_names("Mindset",
                             all_vars_d)),
  Globe = select(data1,
                 get_item_names("Globe",
                             all_vars_d)),
   Isms = select(data1,
                 get_item_names("Isms",
                             all_vars_d)),
   Fanaticism = select(data1,
                 get_item_names("Fanaticism",
                             all_vars_d)),
   Personality6 = select(data1,
                 get_item_names("pty6",
                             all_vars_d)),
   Personality7 = select(data1,
                 get_item_names("pty7",
                             all_vars_d))

),
 compute_heterogeneity, .id = "cni_type"
)
```

```
heterogeneity_stats %>%
  kable(booktabs = T,
        escape = F,
        format = "latex",
        col.names = c("CNI type", "No. items", "Parallel analysis", "PCA")) %>%
  kable_styling() %>%
     group_rows("Mindset", 1, 4) %>%
     group_rows("Personality", 5, 6) %>%
   add_footnote("Note: Personality6 = Big 6 items; Personality7 = Big 6 items + Disintegration.", not
```

```
heterogeneity_stats %>%
  pivot_longer(cols = c(pa, pca_50), names_to = "metric", values_to = "value") %>%
  mutate(x_label = paste0(cni_type, "\n(", n_items, " items)"),
         x_label = reorder(x_label, n_items)) %>%
# Create the plot
ggplot(., aes(x = x_label, y = value, color = metric, group = metric)) +
  geom_line() +
  geom_point(size = 3) +
  scale_color_manual(values = c("pa" = "#e78f8e", "pca_50" = "#93bfa6"),
                     labels = c("pa" = "Parallel Analysis", "pca_50" = "PCA 50%"),
                     name = "Metric") +
```

Table 2: Model complexity

CNI type	No. items	Parallel analysis	PCA
Mindset			
Mindset	146	19	28
Globe	33	8	9
Isms	24	7	7
Fanaticism	56	11	13
Personality			
Personality6	25	8	8
Personality7	35	11	10

Note: Personality6 = Big 6 items; Personality7 = Big 6 items + Disintegration.

```
labs(x = "CNI Type",
     y = "No. of Components") +
theme_bw() +
theme(axis.text.x = element_text(angle = 45, hjust = 1),
      legend.position = "bottom",
      text = element_text(family="serif", size = 13))
```

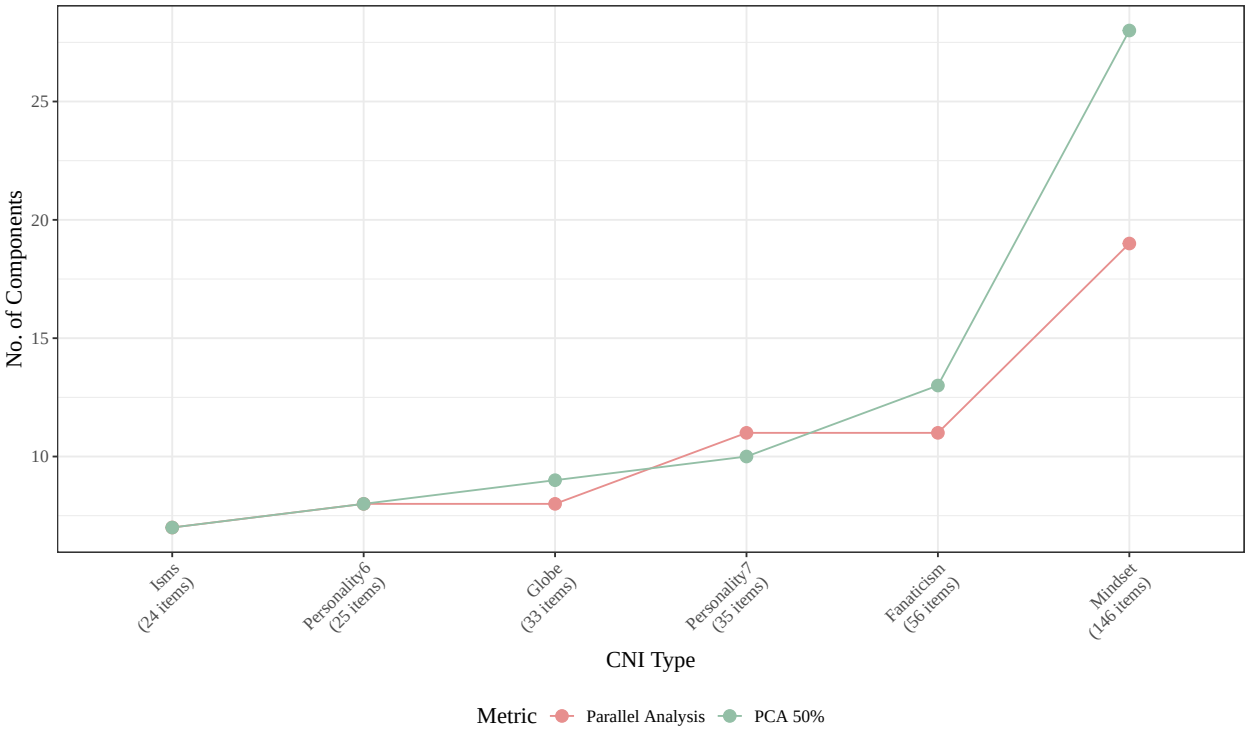

Figure 1: Model Complexity Measures Across CNI Models

An increase in CNI complexity is observed with an increase in the number of items (Figure 1).

2.1.2 CNI plots

```
#Functions
#model1_est = tidy(model1, conf.int = T)

#this function does not work with map for some reason, the color mapping does not work!!
plot_CNI <- function(model_obj) {
  # Get the name of the object passed to the function
  obj_name <- deparse(substitute(model_obj))

  # Extract the title (everything before the underscore)
  title <- str_extract(obj_name, "^[^_]+")

  # Define color mapping
  color_map <- tibble(
    mod_name = c("mindsetCNI", "ismCNI", "globeCNI", "fantcCNI", "pty6CNI", "pty7CNI"),
    color = c("#1e81b0", "#70d6ff", "#a7bed3", "#a0c4ff", "#ff7477", "#ff70a6")
  )

  # Determine the color based on the title
  plot_color <- color_map %>%
    filter(str_detect(mod_name, title)) %>%
    pull(color)

  # Calculate slopes
  mod_slopes <- slopes(model_obj, variables = "z_ctry_response", by = "pID")

  coefficient_plot <- mod_slopes %>%
      ggplot(aes(x = reorder(pID, estimate), y = estimate)) +
      geom_segment(aes(xend = pID,
y = conf.low,yend = conf.high),
                   alpha = .08 , color = plot_color) +
      geom_point(size = .22, color = plot_color) +
      scale_x_discrete(breaks = NULL) +
      #coord_cartesian(ylim = c(-0.2, .92)) +
      labs(x = "Participant", y = "CNI coefficient", title = title) +
      theme_bw() +
    theme(text = element_text(family = "serif"))

   hist_plot <- mod_slopes %>%
    as.data.frame() %>%
    ggplot(aes(x = estimate)) +
    geom_histogram(binwidth = .03, color = "white", fill = plot_color) +
    labs(x = "CNI coefficient", y = "Frequency", title = title) +
    scale_x_continuous(limits = c(-0.3, 0.92))+
    theme_bw() +
    theme(text = element_text(family = "serif"))

  return(lst(mod_slopes, coefficient_plot,hist_plot ))
}
```

```
mindsetCNI_plot <- plot_CNI(mindsetCNI_mod)
ismCNI_plot <- plot_CNI(ismCNI_mod)
globeCNI_plot <- plot_CNI(globeCNI_mod)
fantcCNI_plot <- plot_CNI(fantcCNI_mod)
pty6CNI_plot <- plot_CNI(pty6CNI_mod)
pty7CNI_plot <- plot_CNI(pty7CNI_mod)
```

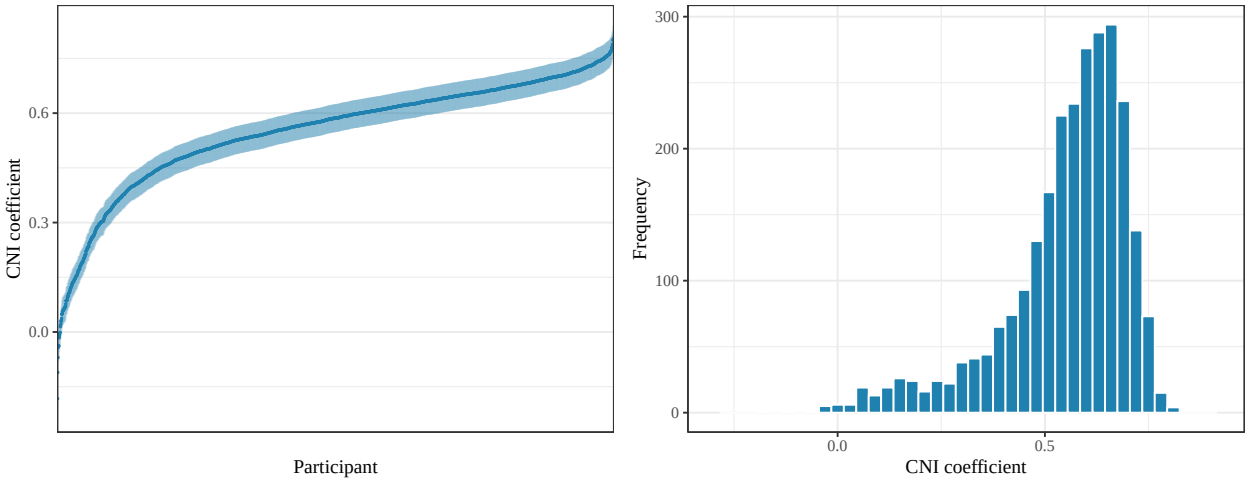

Figure 2: Mindset CNI

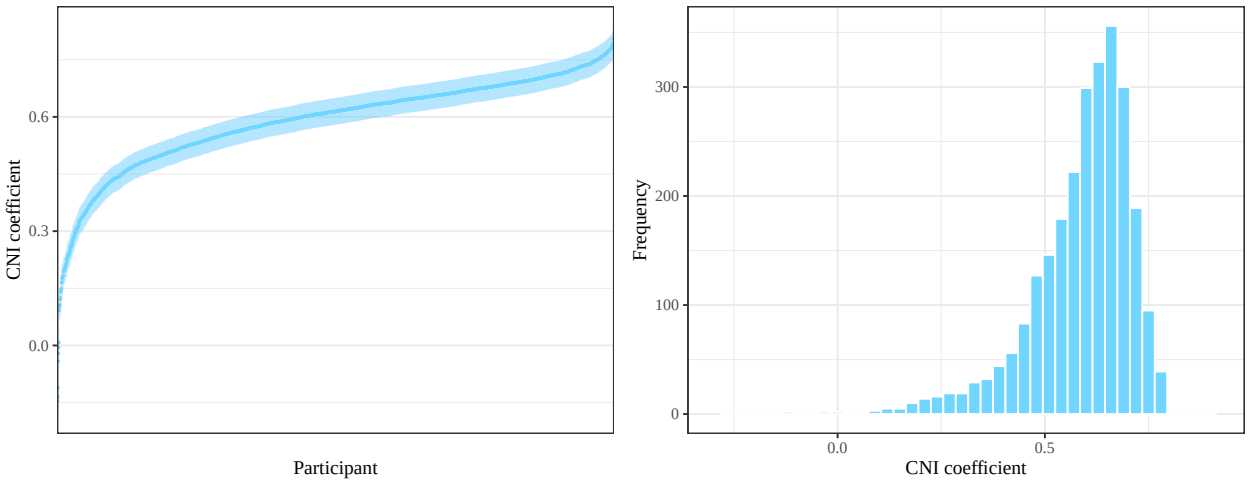

Figure 3: Isms-Mindset CNI

```
# Function to calculate average number of observations per participant
#avg.obs_per_participant <- \(model) {
  s <- summary(model)
  tibble(
    total_obs = s$devcomp$dims["N"], # Total number of observations
    total_participants = s$ngrps["pID:country"] # Total number of participants (pID:country)
  ) %>%
    mutate(avg_obs_per_participant = total_obs / total_participants) %>%
    select(avg_obs_per_participant) %>%
```

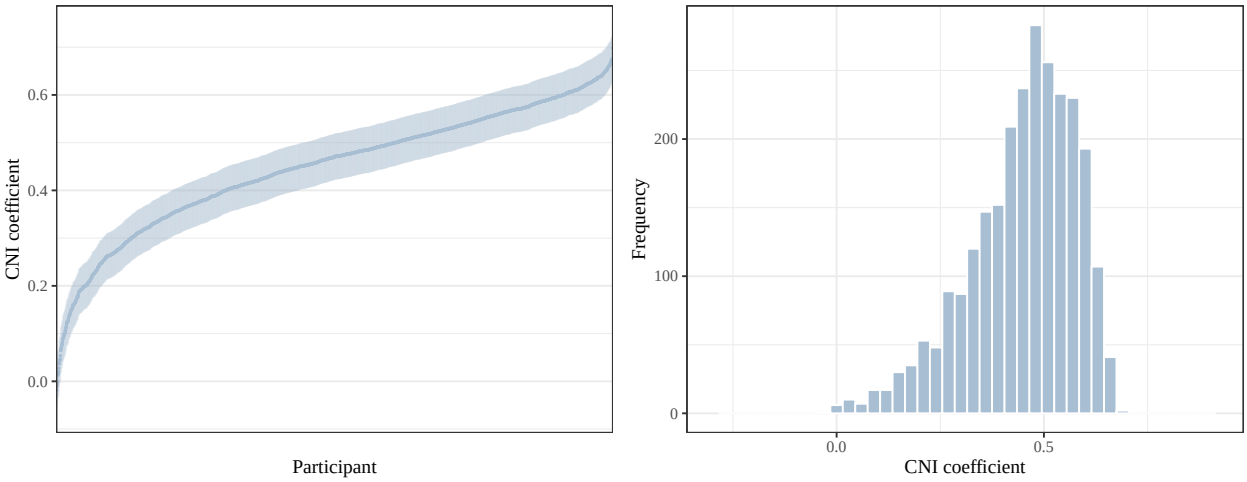

Figure 4: Globe-Mindset CNI

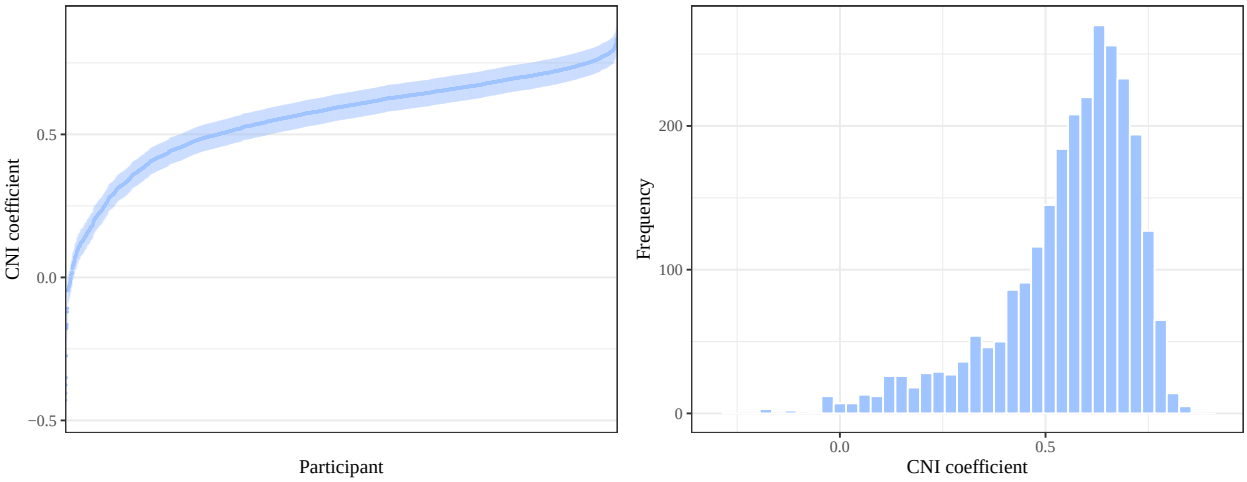

Figure 5: Fanaticism-Mindset CNI

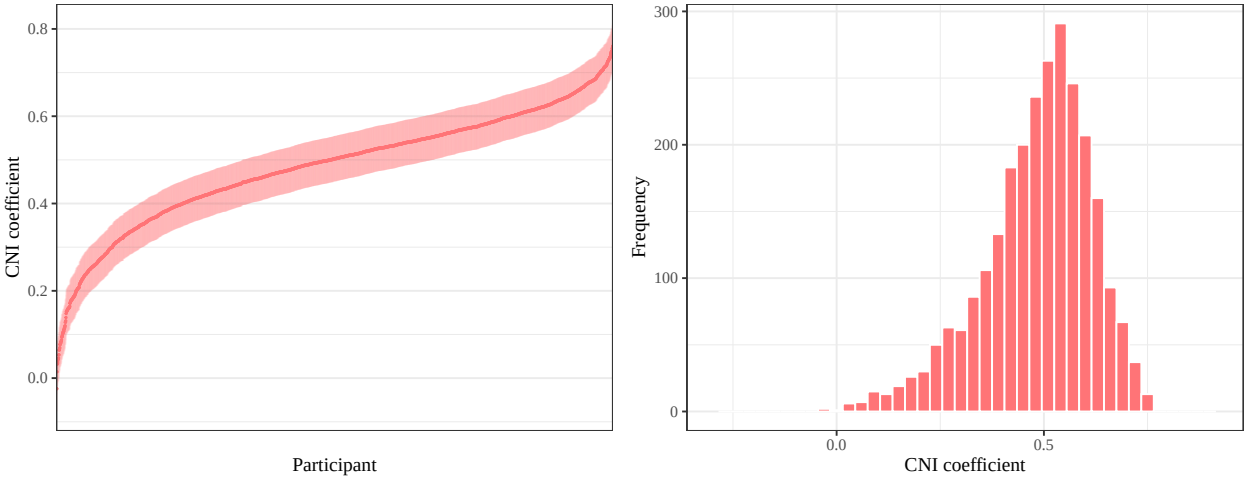

Figure 6: Personality6 CNI

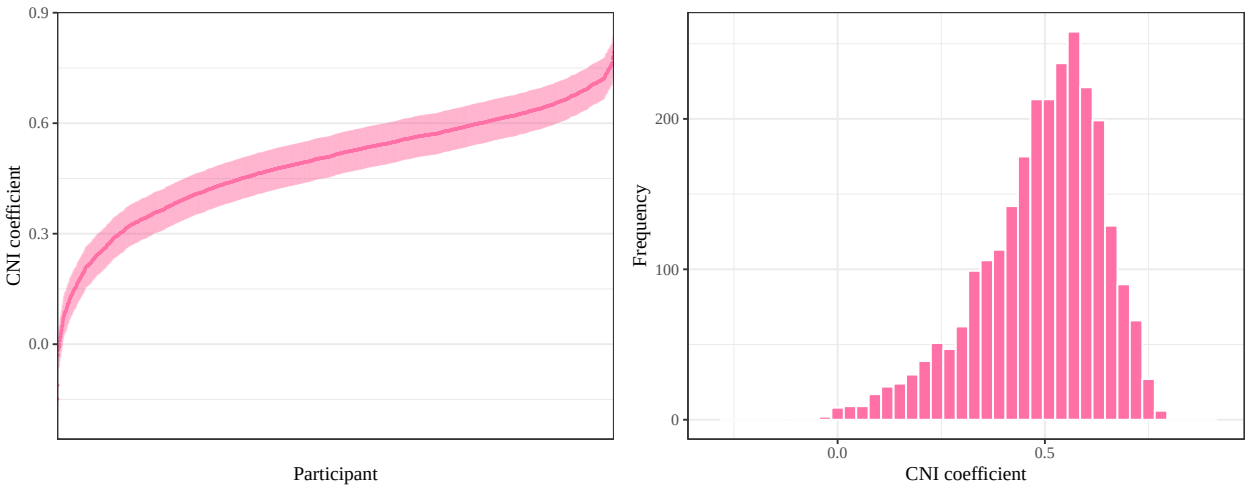

Figure 7: Personality7 CNI

```
    pull(avg_obs_per_participant)
}

options(modelsummary_get = "easystats")
CNImods_table1 <- modelsummary(
  list("Mindset" = mindsetCNI_mod,
       "Ism" = ismCNI_mod,
       "Globe" = globeCNI_mod,
       "Fanaticism" = fantcCNI_mod,
       "Pty6" = pty6CNI_mod,
       "Pty7" = pty7CNI_mod),
            estimate = "{estimate}{stars}",
            statistic = "[{conf.low}, {conf.high}]",
           # group = group + term ~ model,
            coef_omit = "Intercept|^status",
            coef_rename = c(
             "z_ctry_response" = "CNI",
              "overall.M" = "Overall Mean Profile",
              "SD (z_ctry_response pIDcountry)" = "SD of CNI (across people)",
              "SD (z_ctry_response country)" = "SD of CNI (across country)",
              "SD (Observations)" = ""),
            gof_map = c("nobs"),
            fmt = "%.2f",
            output = "kableExtra",
  escape = TRUE) %>%
 # latex_options = "HOLD_position") %>%
 # kable(format = "latex") %>%
  add_header_above(c(" ", "Mindset" = 4, "Personality" = 2)) %>%
  column_spec(6, extra_css = "position: relative;") %>%
  column_spec(7, extra_css = "position: relative;")
```

Table 3: Mindset and Personality Cultural Normativity Index (CNI) Models

	Mindset				Personality	
	Mindset	Ism	Globe	Fanaticism	Pty6	Pty7
CNI	0.57***	0.60***	0.46***	0.58***	0.50***	0.51***
	[0.53, 0.61]	[0.57, 0.64]	[0.41, 0.51]	[0.53, 0.63]	[0.44, 0.55]	[0.45, 0.56]
Overall Mean Profile	0.01	0.01	0.02	0.01	0.00	0.00
	[0.00, 0.02]	[0.01, 0.04]	[0.01, 0.05]	[0.01, 0.03]	[0.03, 0.04]	[0.03, 0.03]
SD of CNI (across people)	0.15	0.16	0.16	0.19	0.17	0.17
SD of CNI (across country)	0.05	0.05	0.07	0.06	0.07	0.08
	0.81	0.77	0.86	0.80	0.84	0.84
Num.Obs.	382228	62832	86130	146496	65350	91560

2.1.3 CNI Country trends

Across countries the CNI types could potentially indicate varying trends. This was assessed by studying the country level CNI's (random slopes, "z_ctry_response").

```
#CNI country estimates from `slopes` (also can get CI's here) and `coef` (no CI's) are very close, bo
#mindsetCNI_mod_ctry.slopes <- slopes(mindsetCNI_mod , variables = "z_ctry_response", by = "country")

all_mods_ctry.trends <- map_dfr(lst(
  mindsetCNI_mod, ismCNI_mod, globeCNI_mod,fantcCNI_mod,
  pty6CNI_mod, pty7CNI_mod),
                ~slopes(., variables = "z_ctry_response", by = "country"), .id = "model")
```

Table 4: Country estimates across CNI types

Country	Estimate	95% CI	p
Mindset CNI			
USA	0.567	[0.529, 0.605]	< .001
Serbia	0.629	[0.59, 0.667]	< .001
Slovakia	0.59	[0.552, 0.628]	< .001
Chile	0.654	[0.616, 0.693]	< .001
Guatemala	0.55	[0.511, 0.588]	< .001
Malaysia	0.559	[0.52, 0.597]	< .001
Korea	0.544	[0.505, 0.582]	< .001
China	0.476	[0.438, 0.515]	< .001
Isms-Mindset CNI			
USA	0.548	[0.513, 0.583]	< .001
Serbia	0.624	[0.589, 0.659]	< .001
Slovakia	0.593	[0.558, 0.628]	< .001
Chile	0.688	[0.653, 0.723]	< .001
Guatemala	0.587	[0.552, 0.622]	< .001
Malaysia	0.639	[0.605, 0.674]	< .001
Korea	0.569	[0.534, 0.604]	< .001

(continued)

Country	Estimate	95% CI	p
China	0.564	[0.529, 0.599]	< .001
Globe-Mindset CNI			
USA	0.499	[0.451, 0.547]	< .001
Serbia	0.505	[0.457, 0.553]	< .001
Slovakia	0.466	[0.418, 0.514]	< .001
Chile	0.548	[0.5, 0.596]	< .001
Guatemala	0.416	[0.367, 0.464]	< .001
Malaysia	0.351	[0.303, 0.4]	< .001
Korea	0.5	[0.452, 0.549]	< .001
China	0.384	[0.336, 0.432]	< .001
Fanaticism-Mindset CNI			
USA	0.56	[0.514, 0.606]	< .001
Serbia	0.657	[0.611, 0.703]	< .001
Slovakia	0.591	[0.545, 0.637]	< .001
Chile	0.674	[0.628, 0.721]	< .001
Guatemala	0.603	[0.557, 0.649]	< .001
Malaysia	0.544	[0.498, 0.59]	< .001
Korea	0.525	[0.478, 0.571]	< .001
China	0.483	[0.437, 0.529]	< .001
Personality6 CNI			
USA	0.515	[0.463, 0.567]	< .001
Serbia	0.594	[0.542, 0.646]	< .001
Slovakia	0.483	[0.431, 0.535]	< .001
Chile	0.602	[0.55, 0.654]	< .001
Guatemala	0.48	[0.428, 0.533]	< .001
Malaysia	0.398	[0.346, 0.45]	< .001
Korea	0.448	[0.396, 0.5]	< .001
China	0.451	[0.399, 0.504]	< .001
Personality7			
USA	0.544	[0.488, 0.599]	< .001
Serbia	0.608	[0.552, 0.664]	< .001
Slovakia	0.523	[0.467, 0.579]	< .001
Chile	0.595	[0.539, 0.65]	< .001
Guatemala	0.515	[0.459, 0.571]	< .001
Malaysia	0.383	[0.327, 0.439]	< .001
Korea	0.461	[0.405, 0.517]	< .001
China	0.432	[0.377, 0.488]	< .001

Table 5: Confidence Interval Range across CNI types

Model	CI Range
Personality 7 CNI	0.1117
Personality 6 CNI	0.1041
Globe-Mindset CNI	0.0968
Fanaticism-Mindset CNI	0.0923
Mindset CNI	0.0769
Isms-Mindset CNI	0.0699

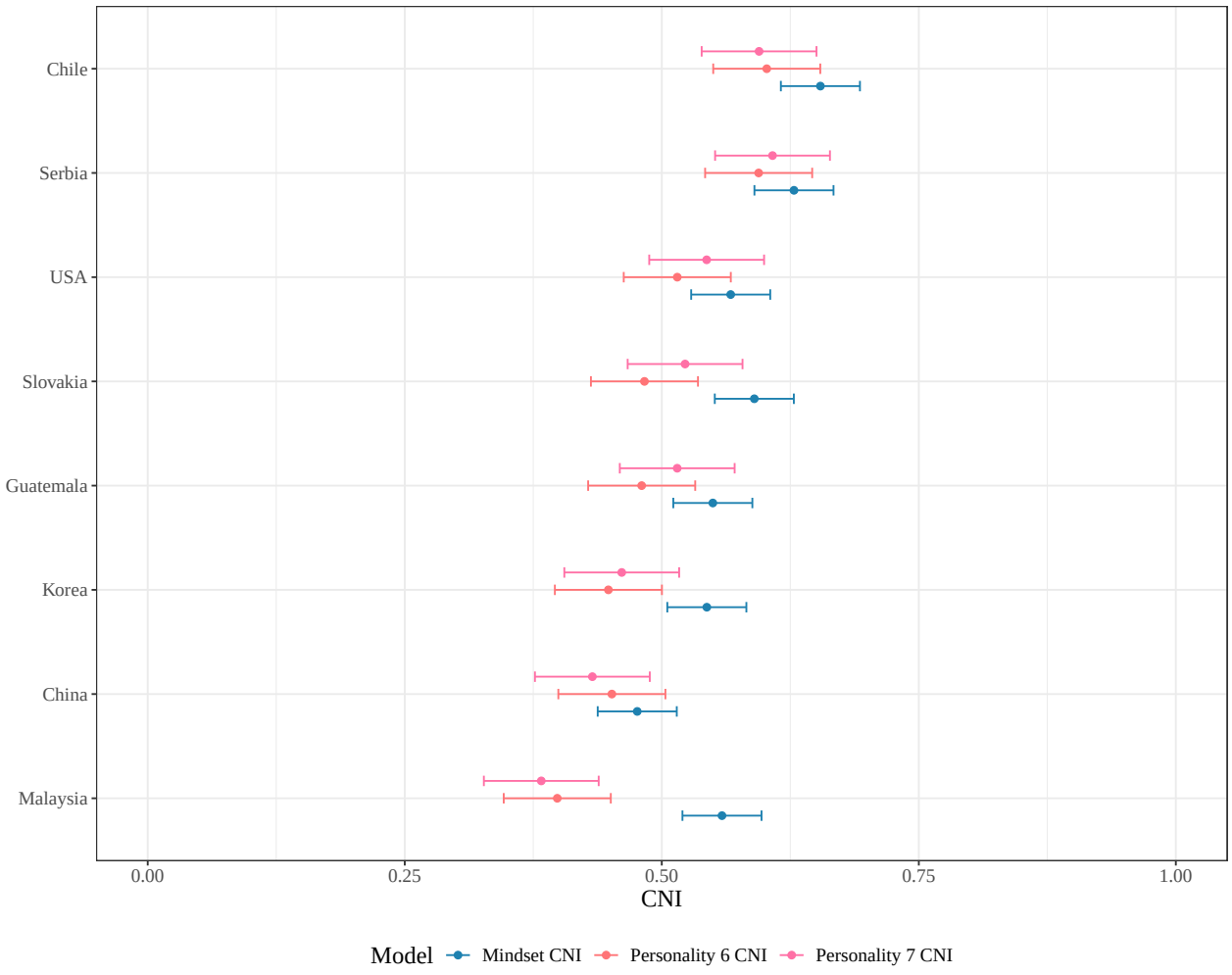

Figure 8: CNI estimates across countries: Three CNIs

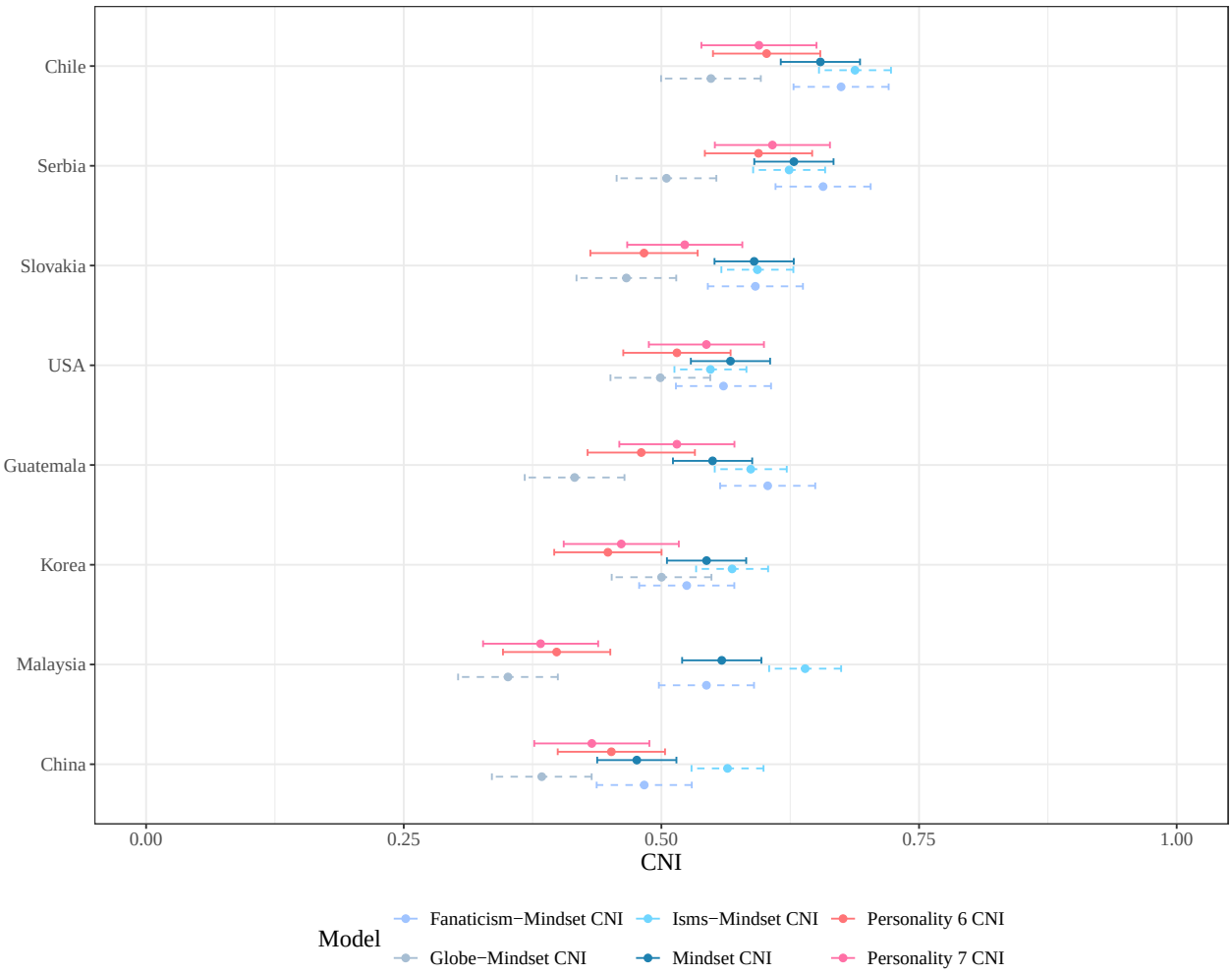

Figure 9: CNI estimates across countries: Six CNIs

3 RQ 2: Associations between CNI and personality and mindset variables

CNI ~ Continuous moderators

```
# Moderators here have to continuous, this won't work for categorical moderators
#Explanation for function below
      #[which CNI-type]:
  #cni_profiles_data <- mindsetCNI_profiles1$self.ctry_profiles
      #[which moderator]:
  #modtr_pattern <- "^scP.*indv$" (scP = pty; scM = mindset)
      #[causal relationship]:
  #CNI <- Continuous moderator
cni.ContMod_effects <- \(cni_profiles_data, modtr_pattern){

#right data format
cni.modtr_data <- data1 %>%
  #select moderator scales individual level (pID) scores
  #---$select moderators$ - specify regex
  select(pID, matches(modtr_pattern)) %>%
  #mean centering the moderator score cols
  #since this standardization is col-wise, running pty7 is not an issue
   mutate_if(is.numeric,
             ~. - mean(., na.rm = T)) %>%
  pivot_longer(-pID,
               names_to = "modtr", #moderator name
               values_to = "modtr_score") %>% # moderator score
  full_join(cni_profiles_data, by = c("pID"), relationship = "many-to-many")

#CNI <- moderator
cni.modtr_models <- cni.modtr_data %>%
  tidyr::nest(data = -modtr) %>%
  mutate(
    #cni ~ mod
    mod.linear = map(data, ~lmer(z_response ~ z_ctry_response * modtr_score + (-1 + z_ctry_response |
    #cni ~ mod + mod^2
    mod.quadratic = map(data, ~lmer(z_response ~ z_ctry_response * modtr_score + z_ctry_response * I(

    #save results
    tidy_mod.linear = map(mod.linear, tidy, conf.int = T),
    tidy_mod.quadratic = map(mod.quadratic, tidy, conf.int = T))

results_linear <- cni.modtr_models %>%
  select(modtr, tidy_mod.linear) %>%
  unnest(cols = c(tidy_mod.linear)) %>%
  filter(term == "z_ctry_response:modtr_score") %>%
  select(modtr, term, estimate, conf.low, conf.high, p.value)

results_quadratic <- cni.modtr_models %>%
  select(modtr, tidy_mod.quadratic) %>%
  unnest(cols = c(tidy_mod.quadratic)) %>%
  filter(term == "z_ctry_response:I(modtr_score^2)") %>%
  select(modtr, term, estimate, conf.low, conf.high, p.value)
```

```
return(lst(cni.modtr_models, results_linear, results_quadratic))

}

# cCNI.pty7_indv_try <- cni.ContMod_effects(
#   mindsetCNI_profiles$self.ctry_profiles, #cni profile
#   "^scP.*indv$") #moderators
```

```
cni.ContMod_effects_tblData <- function(CNIprofile_data, variable_type) {
  if (variable_type == "personality") {
    var_pattern_indv <- "^scP.*indv$"
    var_pattern_comm <- "^scP.*comm$"
  } else if (variable_type == "mindset") {
    var_pattern_indv <- "^scM.*indv$"
    var_pattern_comm <- "^scM.*comm$"
  } else if (variable_type == "swb") {
    var_pattern_indv <- "^sc_swb.*indv$"
    var_pattern_comm <- "^sc_swb.*comm$"
  } else {
    stop("Invalid variable_type. Must be 'personality', 'mindset', or 'swb'.")
  }

  indv <- cni.ContMod_effects(
    CNIprofile_data$self.ctry_profiles, # cni profile
    var_pattern_indv # moderators
  )

  comm <- cni.ContMod_effects(
    CNIprofile_data$self.ctry_profiles, # cni profile
    var_pattern_comm # moderators
  )

  table <- bind_rows(
    Individual = indv$results_linear,
    Individual = indv$results_quadratic,
    Community = comm$results_linear,
    Community = comm$results_quadratic,
    .id = "level"
  )

  message(paste("Table ready for", deparse(substitute(CNIprofile_data)), "with variable type", variab

  return(table)
}
```

```
#function to specify the correct variable names for all moderators [Pty + Mindset + swb]
specify_var_names <- \(data){
  data %>%
    mutate(
    modtr = case_when(
```

```
      #Personality
      str_detect(modtr, "Con") ~ "Conscientiousness",
      str_detect(modtr, "Hon") ~ "Honesty",
      str_detect(modtr, "Agr") ~ "Agreeableness",
      str_detect(modtr, "Res") ~ "Resilience",
      str_detect(modtr, "Ext") ~ "Extraversion",
      str_detect(modtr, "Vir") ~ "Originality/Virtuosity",
      str_detect(modtr, "Dis") ~ "Disintegration",

      #Mindset
      str_detect(modtr, "ism_alpha") ~ "Alpha",
      str_detect(modtr, "ism_beta") ~ "Beta",
      str_detect(modtr, "ism_gamma") ~ "Gamma",
      str_detect(modtr, "ism_delta") ~ "Delta",
      str_detect(modtr, "globe_tr") ~ "Ingroup Collectivism",
      str_detect(modtr, "globe_un") ~ "Uncertainty avoidance",
      str_detect(modtr, "globe_ac") ~ "Achievement orientation",
      str_detect(modtr, "globe_ag") ~ "Assertiveness",
      str_detect(modtr, "globe_hu") ~ "Humane",
      str_detect(modtr, "globe_ma") ~ "Gender Differentiation",
      str_detect(modtr, "globe_in") ~ "Institutional Collectivism",
      str_detect(modtr, "globe_po") ~ "Power distance",
      str_detect(modtr, "globe_fu") ~ "Future orientation",
      str_detect(modtr, "fntc\\.") ~ "Fanaticism",
      str_detect(modtr, "fntcYug") ~ "Balkan-based Extrm",
      str_detect(modtr, "fntcIslam") ~ "Islam-based Extrm",
      str_detect(modtr, "fntcPan") ~ "Extremism - pan-cultural",
      str_detect(modtr, "fntc_dp") ~ "Divine Power",
      str_detect(modtr, "fntc_pv") ~ "Proviolence",
      str_detect(modtr, "fntc_vw") ~ "Vile world",
      str_detect(modtr, "fsp") ~ "Failed state perception",

      #Subjective well-being
      str_detect(modtr, "swb") ~ "Subjective Well-being",
      TRUE ~ modtr
    )
  )
}
```

```
#generate inputs for cni.ContMod_effects_tblData
#ismCNI.mindset <- cni.ContMod_effects_tblData(ismCNI_profiles, "mindset")
#lot of models call for such measures!
cni.ContMod_tblNames <- tibble(table_name = c(
                        "mindsetCNI.pty7", "mindsetCNI.mindset" ,
                       "ismCNI.pty7", "ismCNI.mindset",
                        "globeCNI.pty7", "globeCNI.mindset",
                        "fantcCNI.pty7", "fantcCNI.mindset",
                        "pty6CNI.pty7", "pty6CNI.mindset",
                        "pty7CNI.pty7", "pty7CNI.mindset")
                       ) %>%
  mutate(
    cni_type = paste0(str_extract(table_name, "^[^.]+"), "_profiles"),
```

```
    variable_type = case_when(
      str_extract(table_name, "[^.]+$") == "pty7" ~ "personality",
      str_extract(table_name, "[^.]+$") == "mindset" ~ "mindset",
      TRUE ~ NA_character_
    )
  )
```

3.1 Descriptives - Effect size estimates

```
library(e1071)

list_rbind(cni.ContMod_tables, names_to = "model") %>%
    mutate(level = case_when(
      level == "Community" ~ "Country",
      TRUE ~ level
    ),
    term = case_when(
      term == "z_ctry_response:modtr_score" ~ "Linear",
      term == "z_ctry_response:I(modtr_score^2)" ~ "Quadratic",
      TRUE ~ term
    )) %>%
  group_by(term, level) %>%
  summarise(
    min = min(estimate),
    max = max(estimate),
    range = max - min,
    kurtosis = e1071::kurtosis(estimate),
    skew = e1071::skewness(estimate),
    n = n(),
    mean = mean(estimate),
    sd = sd(estimate),
    .groups = "drop"
  ) %>%
  mutate(across(where(is.numeric), ~round(., 2))) %>%
  select(-term) %>%
  kable(booktabs = T,
        escape = F,
        format = "latex",
        col.names = c(" ", "min", "max", "range", "kurtosis", "skew", "n", "mean", "sd")) %>%
   group_rows("Linear effects", 1, 2) %>%
  group_rows("Quadratic effects", 3, 4)
```

3.2 Tables

3.2.1 Linear and Quadratic effects

```
cni.ContMod_effects_table <- \(data, title){

df1 <- data %>%
    specify_var_names()%>%
    mutate(
```

Table 6: Descriptive Statistics for Continuos Moderator Effect size Estimates

	min	max	range	kurtosis	skew	n	mean	sd
Linear effects								
Country	-0.10	0.08	0.18	0.85	0.23	168	0	0.03
Individual	-0.03	0.05	0.09	1.12	0.75	168	0	0.01
Quadratic effects								
Country	-0.55	0.29	0.83	18.43	-3.01	168	0	0.09
Individual	-0.01	0.00	0.01	10.42	-2.64	168	0	0.00

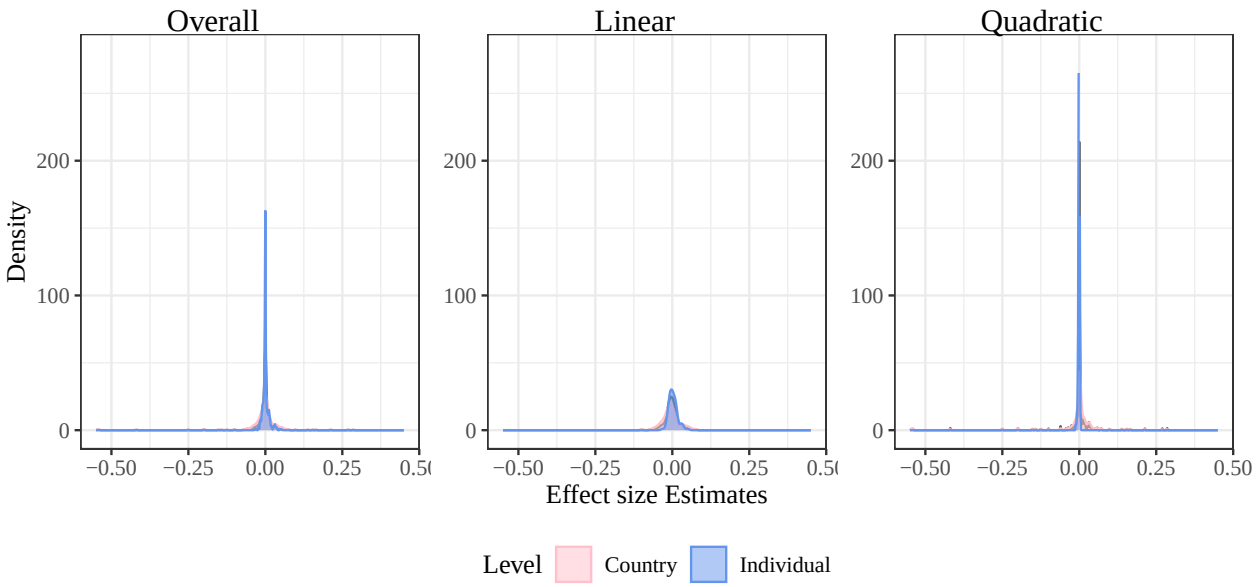

Figure 10: Distribution of Continuos Moderator Effect size Estimates

```
    p.value = map_chr(p.value, papaja::printp),
    across(where(is.numeric), ~ round(., 3)),
  ci = paste0("[", conf.low, ", ", conf.high,"]"),
        term = ifelse(str_detect(term, "2"), "Quadratic", "Linear"),
    estimate = as.character(estimate)
  ) %>%
  select(level, modtr, term, estimate, ci, p.value) %>%
  pivot_longer(cols = c(estimate, ci, p.value),  names_to = "stat", values_to = "stat_value") %>%
  unite(term, term, stat) %>%
  pivot_wider(names_from = term, values_from = stat_value) %>%
  arrange(desc(level)) %>%
  select(-level) %>%
  select(modtr, contains("Linear"), contains("Quadratic"))

 # Calculate the number of rows for each level
no.modtrs <- df1 %>%
  distinct(modtr) %>%
  nrow()

df1 %>%
  kable(booktabs = T,
        escape = F,
        format = "latex",
        col.names = c(" ", "Est", "95\\% CI", "$\\textit{p}$", "Est", "95\\% CI", "$\\textit{p}$"),
        caption = title) %>%
  kable_styling() %>%
  add_header_above(c(" ", "Linear (b)" = 3, "Quadratic (b^2)" = 3)) %>%
     group_rows("Individual level", 1, no.modtrs) %>%
  group_rows("Country level", no.modtrs+1, no.modtrs*2)

}
```

```
cni.ContMod_tbl_details <-  cni.ContMod_tblNames %>%
  mutate(caption_part = rep(pull(cni_plot_details, caption), each = 2),
         caption = paste0("Associations between ",caption_part, " and ", variable_type, " traits"),
         title = str_replace_all(table_name , "\\.", "~")) %>%
  select(table_name, title, caption, variable_type)
```

3.2.2 Strongest and Weakest effects (CNI)

```
strong.weak_effects_table <- function(data, title) {

  base_data <- data %>%
    specify_var_names() %>%
    filter(round(p.value, 3) < 0.05) %>%
    arrange(desc(abs(estimate))) %>%
    mutate(
      term_type = case_when(
        term == "z_ctry_response:modtr_score" ~ "Linear",
        term == "z_ctry_response:I(modtr_score^2)" ~ "Quadratic",
        TRUE ~ NA_character_
```

Table 7: Associations between Mindset CNI and personality traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Conscientiousness	0.008	[0.005, 0.01]	< .001	0	[0, 0.001]	.304
Resilience	0.006	[0.003, 0.009]	< .001	0	[0, 0.001]	.230
Honesty	0.012	[0.01, 0.014]	< .001	0	[0, 0.001]	.050
Originality/Virtuosity	0.011	[0.008, 0.014]	< .001	0	[-0.001, 0.001]	.553
Agreeableness	0.011	[0.009, 0.013]	< .001	0	[-0.001, 0.001]	.749
Extraversion	0.017	[0.015, 0.019]	< .001	-0.001	[-0.001, 0]	.039
Disintegration	-0.008	[-0.009, -0.007]	< .001	0	[0, 0]	< .001
Country level						
Conscientiousness	0.028	[0.016, 0.039]	< .001	0.053	[0.028, 0.077]	< .001
Resilience	-0.002	[-0.016, 0.013]	.797	0.072	[0.051, 0.094]	< .001
Honesty	0.021	[0.015, 0.027]	< .001	0.019	[0.015, 0.023]	< .001
Originality/Virtuosity	0.042	[0.035, 0.048]	< .001	-0.026	[-0.041, -0.01]	.001
Agreeableness	-0.044	[-0.065, -0.024]	< .001	-0.545	[-0.671, -0.419]	< .001
Extraversion	0.039	[0.032, 0.046]	< .001	0.032	[0.024, 0.04]	< .001
Disintegration	-0.011	[-0.013, -0.008]	< .001	0.003	[0.003, 0.004]	< .001

```
    )
  )

# Select 15 highest and 15 lowest estimates
highest_15 <- base_data %>% head(15)
lowest_15 <- base_data %>% tail(15) %>%
arrange(abs(estimate))

# Combine the data using bind_rows with .id argument
all_data <- bind_rows(list("Highest 15 Estimates" = highest_15,
                           "Lowest 15 Estimates" = lowest_15),
                      .id = "group")

# Prepare data for table
df2 <- all_data %>%
  #select(-relation) %>%
  mutate(
    p.value = map_chr(p.value, papaja::printp),
    across(where(is.numeric), ~ round(., 3)),
    ci = paste0("[", conf.low, ", ", conf.high,"]"),
    term = ifelse(str_detect(term, "2"), "(b\\textsuperscript{2})", "(b)"),
    estimate = as.character(estimate),
  modtr = ifelse(level == "Country",
                 paste0(modtr, footnote_marker_symbol(1, "latex")),
                 paste0(modtr, footnote_marker_symbol(2, "latex")))) %>%
  select(group, modtr, term, estimate, ci, p.value)%>%
  arrange(group) %>%
  select(-group)

# Create and return the table
```

Table 8: Associations between Mindset CNI and mindset traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Alpha	0.001	[-0.001, 0.002]	.518	0.001	[0.001, 0.001]	< .001
Beta	-0.015	[-0.016, -0.013]	< .001	0	[-0.001, 0]	.013
Gamma	0.014	[0.013, 0.016]	< .001	-0.001	[-0.002, -0.001]	< .001
Delta	0.009	[0.007, 0.011]	< .001	-0.001	[-0.001, 0]	.002
Ingroup Collectivism	0.013	[0.011, 0.016]	< .001	-0.002	[-0.003, -0.001]	< .001
Uncertainty avoidance	-0.001	[-0.003, 0.001]	.463	0.001	[0, 0.002]	< .001
Achievement orientation	0.005	[0.002, 0.008]	< .001	0.001	[0, 0.002]	.014
Assertiveness	-0.001	[-0.006, 0.004]	.727	-0.005	[-0.007, -0.002]	< .001
Humane	0	[-0.002, 0.002]	.813	0	[-0.001, 0]	.037
Gender Differentiation	-0.013	[-0.016, -0.01]	< .001	-0.001	[-0.002, 0]	.041
Institutional Collectivism	0.02	[0.016, 0.025]	< .001	-0.008	[-0.01, -0.006]	< .001
Power distance	0.006	[0.004, 0.009]	< .001	-0.001	[-0.001, 0]	.007
Future orientation	0.012	[0.009, 0.015]	< .001	-0.002	[-0.002, -0.001]	< .001
Fanaticism	-0.005	[-0.005, -0.005]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.01	[-0.011, -0.009]	< .001	0	[0, 0]	< .001
Islam-based Extrm	-0.011	[-0.012, -0.01]	< .001	0	[0, 0]	< .001
Extremism - pan-cultural	-0.008	[-0.009, -0.007]	< .001	0	[0, 0]	.310
Divine Power	0.002	[0.001, 0.003]	< .001	0.001	[0, 0.001]	< .001
Proviolence	-0.021	[-0.022, -0.021]	< .001	-0.001	[-0.001, -0.001]	< .001
Vile world	-0.005	[-0.006, -0.003]	< .001	0	[0, 0.001]	.009
Failed state perception	-0.003	[-0.004, -0.002]	< .001	0	[0, 0]	< .001
Country level						
Alpha	0.008	[0.004, 0.011]	< .001	-0.01	[-0.012, -0.008]	< .001
Beta	-0.013	[-0.016, -0.01]	< .001	0.004	[0.003, 0.005]	< .001
Gamma	-0.013	[-0.019, -0.007]	< .001	0	[-0.005, 0.005]	.984
Delta	0	[-0.011, 0.011]	.945	0.044	[0.03, 0.058]	< .001
Ingroup Collectivism	0.01	[0.004, 0.017]	.001	0.014	[0.009, 0.019]	< .001
Uncertainty avoidance	-0.006	[-0.01, -0.002]	.008	0.007	[0.004, 0.009]	< .001
Achievement orientation	-0.028	[-0.035, -0.022]	< .001	0.011	[0.006, 0.016]	< .001
Assertiveness	0.001	[-0.014, 0.016]	.911	0.269	[0.23, 0.309]	< .001
Humane	-0.017	[-0.023, -0.011]	< .001	0.015	[0.012, 0.019]	< .001
Gender Differentiation	-0.021	[-0.03, -0.013]	< .001	0.026	[0.017, 0.036]	< .001
Institutional Collectivism	-0.048	[-0.061, -0.034]	< .001	-0.152	[-0.18, -0.124]	< .001
Power distance	0.028	[0.021, 0.035]	< .001	0.021	[0.012, 0.03]	< .001
Future orientation	-0.016	[-0.027, -0.005]	.003	0.051	[0.039, 0.062]	< .001
Fanaticism	-0.003	[-0.004, -0.002]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.002	[-0.004, 0]	.030	0.002	[0.001, 0.002]	< .001
Islam-based Extrm	-0.012	[-0.013, -0.01]	< .001	0	[0, 0.001]	.696
Extremism - pan-cultural	-0.002	[-0.004, 0]	.090	0.002	[0.001, 0.003]	< .001
Divine Power	0.006	[0.004, 0.008]	< .001	-0.002	[-0.003, -0.001]	< .001
Proviolence	-0.017	[-0.02, -0.015]	< .001	0	[-0.001, 0]	.414
Vile world	0.013	[0.01, 0.017]	< .001	-0.007	[-0.01, -0.005]	< .001
Failed state perception	0.002	[0, 0.004]	.016	0.003	[0.003, 0.004]	< .001

Table 9: Associations between Isms-Mindset CNI and personality traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Conscientiousness	0.01	[0.007, 0.013]	< .001	0	[-0.001, 0.001]	.750
Resilience	0.005	[0.002, 0.009]	.001	0	[-0.001, 0.001]	.978
Honesty	0.012	[0.009, 0.015]	< .001	0	[0, 0.001]	.255
Originality/Virtuosity	0.008	[0.004, 0.011]	< .001	0	[-0.001, 0.001]	.606
Agreeableness	0.011	[0.008, 0.014]	< .001	0	[-0.001, 0.001]	.791
Extraversion	0.014	[0.011, 0.017]	< .001	-0.001	[-0.002, 0]	.079
Disintegration	-0.006	[-0.008, -0.005]	< .001	0	[0, 0]	.004
Country level						
Conscientiousness	0.046	[0.031, 0.061]	< .001	0.002	[-0.03, 0.034]	.895
Resilience	-0.038	[-0.057, -0.02]	< .001	0.07	[0.042, 0.098]	< .001
Honesty	0.02	[0.012, 0.028]	< .001	0.011	[0.006, 0.017]	< .001
Originality/Virtuosity	0.013	[0.004, 0.023]	.004	0.03	[0.009, 0.051]	.004
Agreeableness	-0.033	[-0.059, -0.006]	.016	-0.54	[-0.707, -0.374]	< .001
Extraversion	0.007	[-0.003, 0.016]	.172	0.037	[0.026, 0.047]	< .001
Disintegration	0	[-0.003, 0.003]	.858	0.003	[0.002, 0.004]	< .001

```
  df2 %>%
    kable(booktabs = T,
          escape = F,
          format = "latex",
          longtable = TRUE,
          col.names = c("Moderator", "Term", "Est", "95\\% CI", "$\\textit{p}$" ),
          caption = title) %>%
    group_rows("Strongest 15 Estimates", 1, 15, underline = T, escape = F) %>%
    group_rows("Weakest 15 Estimates", 16, 30, escape = F, underline = T) %>%
    kable_styling(latex_options = c("repeat_header", "longtable")) %>%
    column_spec(1, width = "6.4cm") %>%
      footnote(symbol = c("Country level", "Individual level"),
           symbol_title = "",
           general = "(b) = Linear model, ($b\\textsuperscript{2}$) = Quadratic",
           general_title = "Note:",
           title_format = "italic",
           fixed_small_size = TRUE,
           footnote_as_chunk = FALSE,
           threeparttable = TRUE,
           escape = FALSE)
}

cni.contMod_tbl_details <- cni.ContMod_tbl_details%>%
    mutate(caption2 = paste0("Strongest and Weakest ", caption))
```

```
cni.contMod_tbl_details %>%
  select(-caption) %>%
  pwalk(function(table_name, caption2, ...) {
    cat("\n\n")
```

Table 10: Associations between Isms-Mindset CNI and mindset traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Alpha	0.001	[-0.002, 0.003]	.583	0.001	[0, 0.001]	< .001
Beta	-0.018	[-0.02, -0.016]	< .001	-0.001	[-0.001, 0]	< .001
Gamma	0.032	[0.03, 0.034]	< .001	-0.002	[-0.003, -0.002]	< .001
Delta	0.017	[0.014, 0.019]	< .001	-0.001	[-0.002, -0.001]	< .001
Ingroup Collectivism	0.011	[0.008, 0.014]	< .001	-0.001	[-0.002, 0]	.021
Uncertainty avoidance	0	[-0.004, 0.003]	.759	0	[0, 0.001]	.203
Achievement orientation	0.007	[0.003, 0.011]	< .001	0.001	[-0.001, 0.002]	.243
Assertiveness	-0.003	[-0.009, 0.003]	.336	-0.004	[-0.007, -0.001]	.013
Humane	0.002	[0, 0.005]	.078	0	[-0.001, 0]	.274
Gender Differentiation	-0.01	[-0.014, -0.006]	< .001	-0.002	[-0.003, -0.001]	.006
Institutional Collectivism	0.021	[0.015, 0.027]	< .001	-0.004	[-0.007, -0.001]	.013
Power distance	0.004	[0.001, 0.007]	.004	0	[-0.001, 0.001]	.957
Future orientation	0.009	[0.005, 0.012]	< .001	-0.001	[-0.002, 0]	.042
Fanaticism	-0.003	[-0.004, -0.003]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.008	[-0.009, -0.007]	< .001	0	[0, 0]	< .001
Islam-based Extrm	-0.006	[-0.008, -0.005]	< .001	0	[0, 0]	.023
Extremism - pan-cultural	-0.006	[-0.007, -0.004]	< .001	0	[0, 0]	.560
Divine Power	0.003	[0.002, 0.004]	< .001	0	[0, 0.001]	< .001
Proviolence	-0.017	[-0.018, -0.015]	< .001	-0.001	[-0.001, -0.001]	< .001
Vile world	-0.005	[-0.007, -0.003]	< .001	0.001	[0, 0.001]	< .001
Failed state perception	-0.004	[-0.005, -0.002]	< .001	0	[0, 0]	.002
Country level						
Alpha	0.009	[0.005, 0.014]	< .001	0	[-0.003, 0.002]	.802
Beta	-0.004	[-0.007, 0]	.029	0.005	[0.003, 0.006]	< .001
Gamma	0.013	[0.006, 0.021]	< .001	-0.002	[-0.009, 0.005]	.514
Delta	0.011	[-0.004, 0.025]	.143	0.033	[0.015, 0.051]	< .001
Ingroup Collectivism	0.027	[0.019, 0.035]	< .001	0.003	[-0.004, 0.01]	.374
Uncertainty avoidance	-0.004	[-0.01, 0.001]	.118	0.004	[0.001, 0.007]	.012
Achievement orientation	-0.013	[-0.022, -0.005]	.003	0.01	[0.004, 0.017]	.002
Assertiveness	-0.019	[-0.039, 0.001]	.057	0.213	[0.16, 0.265]	< .001
Humane	-0.007	[-0.015, 0.001]	.073	0.019	[0.014, 0.024]	< .001
Gender Differentiation	0.007	[-0.004, 0.017]	.236	0.02	[0.007, 0.033]	.002
Institutional Collectivism	0.011	[-0.007, 0.029]	.230	-0.043	[-0.081, -0.004]	.029
Power distance	0.028	[0.019, 0.038]	< .001	0.031	[0.019, 0.043]	< .001
Future orientation	0.002	[-0.012, 0.016]	.821	0.058	[0.043, 0.074]	< .001
Fanaticism	0	[-0.001, 0.001]	.522	0	[0, 0]	< .001
Balkan-based Extrm	0.002	[0, 0.005]	.101	0.002	[0.001, 0.003]	< .001
Islam-based Extrm	-0.004	[-0.006, -0.002]	< .001	0.002	[0.001, 0.003]	< .001
Extremism - pan-cultural	0.002	[-0.001, 0.005]	.203	0.002	[0.002, 0.003]	< .001
Divine Power	0.006	[0.003, 0.009]	< .001	0.001	[0, 0.002]	.045
Proviolence	-0.008	[-0.011, -0.005]	< .001	0.002	[0.001, 0.003]	.002
Vile world	0.01	[0.005, 0.015]	< .001	0.003	[0, 0.006]	.023
Failed state perception	0.001	[-0.001, 0.004]	.284	0.001	[0, 0.002]	.055

Table 11: Associations between Globe-Mindset CNI and personality traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Conscientiousness	0.002	[-0.001, 0.005]	.160	0	[0, 0.001]	.512
Resilience	0.004	[0, 0.007]	.033	0	[-0.001, 0.001]	.474
Honesty	0.007	[0.004, 0.009]	< .001	0.001	[0, 0.001]	.002
Originality/Virtuosity	0.011	[0.007, 0.014]	< .001	0	[-0.001, 0.001]	.455
Agreeableness	0.004	[0.001, 0.008]	.005	0	[-0.001, 0.001]	.694
Extraversion	0.015	[0.012, 0.018]	< .001	0	[-0.001, 0.001]	.937
Disintegration	-0.008	[-0.009, -0.006]	< .001	0	[0, 0]	.116
Country level						
Conscientiousness	-0.036	[-0.05, -0.021]	< .001	0.04	[0.008, 0.072]	.013
Resilience	0.039	[0.02, 0.057]	< .001	-0.035	[-0.062, -0.007]	.014
Honesty	0.007	[-0.001, 0.015]	.070	0.027	[0.022, 0.032]	< .001
Originality/Virtuosity	0.041	[0.032, 0.05]	< .001	-0.06	[-0.08, -0.04]	< .001
Agreeableness	-0.059	[-0.085, -0.033]	< .001	-0.101	[-0.265, 0.064]	.230
Extraversion	0.053	[0.044, 0.062]	< .001	-0.002	[-0.013, 0.008]	.669
Disintegration	-0.017	[-0.02, -0.014]	< .001	0	[-0.001, 0.001]	.880

```
  print(
    pluck(cni.ContMod_tables, table_name) %>%
      strong.weak_effects_table(., caption2)
  )
  cat("\n\n")
})
```

Table 19: Strongest and Weakest Associations between Mindset CNI and personality traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Agreeableness*	(b^2)	-0.545	[-0.671, -0.419]	< .001
Resilience*	(b^2)	0.072	[0.051, 0.094]	< .001
Conscientiousness*	(b^2)	0.053	[0.028, 0.077]	< .001
Agreeableness*	(b)	-0.044	[-0.065, -0.024]	< .001
Originality/Virtuosity*	(b)	0.042	[0.035, 0.048]	< .001
Extraversion*	(b)	0.039	[0.032, 0.046]	< .001
Extraversion*	(b^2)	0.032	[0.024, 0.04]	< .001
Conscientiousness*	(b)	0.028	[0.016, 0.039]	< .001
Originality/Virtuosity*	(b^2)	-0.026	[-0.041, -0.01]	.001
Honesty*	(b)	0.021	[0.015, 0.027]	< .001
Honesty*	(b^2)	0.019	[0.015, 0.023]	< .001
Extraversion†	(b)	0.017	[0.015, 0.019]	< .001
Honesty†	(b)	0.012	[0.01, 0.014]	< .001
Agreeableness†	(b)	0.011	[0.009, 0.013]	< .001
Originality/Virtuosity†	(b)	0.011	[0.008, 0.014]	< .001
Weakest 15 Estimates				
Disintegration†	(b^2)	0	[0, 0]	< .001

Table 19: Strongest and Weakest Associations between Mindset CNI and personality traits (continued)

Moderator	Term	Est	95% CI	p
Extraversion†	(b^2)	-0.001	[-0.001, 0]	.039
Disintegration*	(b^2)	0.003	[0.003, 0.004]	< .001
Resilience†	(b)	0.006	[0.003, 0.009]	< .001
Conscientiousness†	(b)	0.008	[0.005, 0.01]	< .001
Disintegration†	(b)	-0.008	[-0.009, -0.007]	< .001
Disintegration*	(b)	-0.011	[-0.013, -0.008]	< .001
Originality/Virtuosity†	(b)	0.011	[0.008, 0.014]	< .001
Agreeableness†	(b)	0.011	[0.009, 0.013]	< .001
Honesty†	(b)	0.012	[0.01, 0.014]	< .001
Extraversion†	(b)	0.017	[0.015, 0.019]	< .001
Honesty*	(b^2)	0.019	[0.015, 0.023]	< .001
Honesty*	(b)	0.021	[0.015, 0.027]	< .001
Originality/Virtuosity*	(b^2)	-0.026	[-0.041, -0.01]	.001
Conscientiousness*	(b)	0.028	[0.016, 0.039]	< .001

Note:
(b) = Linear model, ($btextsuperscript2$) = Quadratic
* Country level
† Individual level

Table 20: Strongest and Weakest Associations between Mindset CNI and mindset traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Assertiveness*	(b^2)	0.269	[0.23, 0.309]	< .001
Institutional Collectivism*	(b^2)	-0.152	[-0.18, -0.124]	< .001
Future orientation*	(b^2)	0.051	[0.039, 0.062]	< .001
Institutional Collectivism*	(b)	-0.048	[-0.061, -0.034]	< .001
Delta*	(b^2)	0.044	[0.03, 0.058]	< .001
Achievement orientation*	(b)	-0.028	[-0.035, -0.022]	< .001
Power distance*	(b)	0.028	[0.021, 0.035]	< .001
Gender Differentiation*	(b^2)	0.026	[0.017, 0.036]	< .001
Proviolence†	(b)	-0.021	[-0.022, -0.021]	< .001
Gender Differentiation*	(b)	-0.021	[-0.03, -0.013]	< .001
Power distance*	(b^2)	0.021	[0.012, 0.03]	< .001
Institutional Collectivism†	(b)	0.02	[0.016, 0.025]	< .001
Proviolence*	(b)	-0.017	[-0.02, -0.015]	< .001
Humane*	(b)	-0.017	[-0.023, -0.011]	< .001
Future orientation*	(b)	-0.016	[-0.027, -0.005]	.003
Weakest 15 Estimates				
Fanaticism†	(b^2)	0	[0, 0]	< .001
Failed state perception†	(b^2)	0	[0, 0]	< .001
Islam-based Extrm†	(b^2)	0	[0, 0]	< .001
Balkan-based Extrm†	(b^2)	0	[0, 0]	< .001
Beta†	(b^2)	0	[-0.001, 0]	.013
Vile world†	(b^2)	0	[0, 0.001]	.009
Fanaticism*	(b^2)	0	[0, 0]	< .001
Humane†	(b^2)	0	[-0.001, 0]	.037

Table 20: Strongest and Weakest Associations between Mindset CNI and mindset traits (continued)

Moderator	Term	Est	95% CI	p
Divine Power†	(b^2)	0.001	[0, 0.001]	< .001
Delta†	(b^2)	-0.001	[-0.001, 0]	.002
Proviolence†	(b^2)	-0.001	[-0.001, -0.001]	< .001
Power distance†	(b^2)	-0.001	[-0.001, 0]	.007
Uncertainty avoidance†	(b^2)	0.001	[0, 0.002]	< .001
Gender Differentiation†	(b^2)	-0.001	[-0.002, 0]	.041
Alpha†	(b^2)	0.001	[0.001, 0.001]	< .001

Note:
(b) = Linear model, ($btextsuperscript2$) = Quadratic
* Country level
† Individual level

Table 21: Strongest and Weakest Associations between Isms-Mindset CNI and personality traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Agreeableness*	(b^2)	-0.54	[-0.707, -0.374]	< .001
Resilience*	(b^2)	0.07	[0.042, 0.098]	< .001
Conscientiousness*	(b)	0.046	[0.031, 0.061]	< .001
Resilience*	(b)	-0.038	[-0.057, -0.02]	< .001
Extraversion*	(b^2)	0.037	[0.026, 0.047]	< .001
Agreeableness*	(b)	-0.033	[-0.059, -0.006]	.016
Originality/Virtuosity*	(b^2)	0.03	[0.009, 0.051]	.004
Honesty*	(b)	0.02	[0.012, 0.028]	< .001
Extraversion†	(b)	0.014	[0.011, 0.017]	< .001
Originality/Virtuosity*	(b)	0.013	[0.004, 0.023]	.004
Honesty†	(b)	0.012	[0.009, 0.015]	< .001
Honesty*	(b^2)	0.011	[0.006, 0.017]	< .001
Agreeableness†	(b)	0.011	[0.008, 0.014]	< .001
Conscientiousness†	(b)	0.01	[0.007, 0.013]	< .001
Originality/Virtuosity†	(b)	0.008	[0.004, 0.011]	< .001
Weakest 15 Estimates				
Disintegration†	(b^2)	0	[0, 0]	.004
Disintegration*	(b^2)	0.003	[0.002, 0.004]	< .001
Resilience†	(b)	0.005	[0.002, 0.009]	.001
Disintegration†	(b)	-0.006	[-0.008, -0.005]	< .001
Originality/Virtuosity†	(b)	0.008	[0.004, 0.011]	< .001
Conscientiousness†	(b)	0.01	[0.007, 0.013]	< .001
Agreeableness†	(b)	0.011	[0.008, 0.014]	< .001
Honesty*	(b^2)	0.011	[0.006, 0.017]	< .001
Honesty†	(b)	0.012	[0.009, 0.015]	< .001
Originality/Virtuosity*	(b)	0.013	[0.004, 0.023]	.004
Extraversion†	(b)	0.014	[0.011, 0.017]	< .001
Honesty*	(b)	0.02	[0.012, 0.028]	< .001
Originality/Virtuosity*	(b^2)	0.03	[0.009, 0.051]	.004
Agreeableness*	(b)	-0.033	[-0.059, -0.006]	.016
Extraversion*	(b^2)	0.037	[0.026, 0.047]	< .001

Table 21: Strongest and Weakest Associations between Isms-Mindset CNI and personality traits (continued)

Moderator	Term	Est	95% CI	p

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

Table 22: Strongest and Weakest Associations between Isms-Mindset CNI and mindset traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Assertiveness*	(b^2)	0.213	[0.16, 0.265]	< .001
Future orientation*	(b^2)	0.058	[0.043, 0.074]	< .001
Institutional Collectivism*	(b^2)	-0.043	[-0.081, -0.004]	.029
Delta*	(b^2)	0.033	[0.015, 0.051]	< .001
Gamma†	(b)	0.032	[0.03, 0.034]	< .001
Power distance*	(b^2)	0.031	[0.019, 0.043]	< .001
Power distance*	(b)	0.028	[0.019, 0.038]	< .001
Ingroup Collectivism*	(b)	0.027	[0.019, 0.035]	< .001
Institutional Collectivism†	(b)	0.021	[0.015, 0.027]	< .001
Gender Differentiation*	(b^2)	0.02	[0.007, 0.033]	.002
Humane*	(b^2)	0.019	[0.014, 0.024]	< .001
Beta†	(b)	-0.018	[-0.02, -0.016]	< .001
Proviolence†	(b)	-0.017	[-0.018, -0.015]	< .001
Delta†	(b)	0.017	[0.014, 0.019]	< .001
Gamma*	(b)	0.013	[0.006, 0.021]	< .001
Weakest 15 Estimates				
Fanaticism†	(b^2)	0	[0, 0]	< .001
Failed state perception†	(b^2)	0	[0, 0]	.002
Islam-based Extrm†	(b^2)	0	[0, 0]	.023
Balkan-based Extrm†	(b^2)	0	[0, 0]	< .001
Fanaticism*	(b^2)	0	[0, 0]	< .001
Divine Power†	(b^2)	0	[0, 0.001]	< .001
Vile world†	(b^2)	0.001	[0, 0.001]	< .001
Beta†	(b^2)	-0.001	[-0.001, 0]	< .001
Proviolence†	(b^2)	-0.001	[-0.001, -0.001]	< .001
Divine Power*	(b^2)	0.001	[0, 0.002]	.045
Future orientation†	(b^2)	-0.001	[-0.002, 0]	.042
Alpha†	(b^2)	0.001	[0, 0.001]	< .001
Ingroup Collectivism†	(b^2)	-0.001	[-0.002, 0]	.021
Delta†	(b^2)	-0.001	[-0.002, -0.001]	< .001
Gender Differentiation†	(b^2)	-0.002	[-0.003, -0.001]	.006

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

Table 12: Associations between Globe-Mindset CNI and mindset traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Alpha	-0.006	[-0.008, -0.004]	< .001	0	[0, 0.001]	.068
Beta	-0.012	[-0.013, -0.01]	< .001	0	[-0.001, 0]	.126
Gamma	0.003	[0, 0.005]	.037	-0.001	[-0.001, -0.001]	< .001
Delta	0.003	[0, 0.005]	.056	0	[-0.001, 0]	.552
Ingroup Collectivism	0.015	[0.012, 0.019]	< .001	-0.003	[-0.004, -0.002]	< .001
Uncertainty avoidance	-0.007	[-0.01, -0.004]	< .001	0.002	[0.002, 0.003]	< .001
Achievement orientation	0.005	[0.001, 0.008]	.021	0.003	[0.002, 0.004]	< .001
Assertiveness	-0.009	[-0.016, -0.003]	.003	-0.004	[-0.007, -0.001]	.005
Humane	-0.012	[-0.014, -0.009]	< .001	0	[-0.001, 0]	.124
Gender Differentiation	-0.034	[-0.037, -0.03]	< .001	-0.001	[-0.003, 0]	.020
Institutional Collectivism	0.028	[0.022, 0.033]	< .001	-0.011	[-0.014, -0.008]	< .001
Power distance	0.005	[0.002, 0.008]	< .001	-0.001	[-0.002, -0.001]	< .001
Future orientation	0.013	[0.009, 0.016]	< .001	-0.003	[-0.004, -0.002]	< .001
Fanaticism	-0.003	[-0.004, -0.003]	< .001	0	[0, 0]	.089
Balkan-based Extrm	-0.007	[-0.008, -0.006]	< .001	0	[0, 0]	< .001
Islam-based Extrm	-0.007	[-0.008, -0.006]	< .001	0	[0, 0]	.699
Extremism - pan-cultural	-0.006	[-0.008, -0.005]	< .001	0	[0, 0]	.576
Divine Power	-0.002	[-0.004, -0.001]	< .001	0	[0, 0.001]	< .001
Proviolence	-0.012	[-0.013, -0.011]	< .001	0	[0, 0]	.220
Vile world	-0.005	[-0.007, -0.003]	< .001	0	[0, 0]	.465
Failed state perception	-0.002	[-0.003, -0.001]	< .001	0	[0, 0]	< .001
Country level						
Alpha	-0.01	[-0.015, -0.006]	< .001	-0.014	[-0.016, -0.011]	< .001
Beta	-0.016	[-0.019, -0.013]	< .001	0	[-0.001, 0.002]	.449
Gamma	-0.038	[-0.046, -0.031]	< .001	-0.013	[-0.019, -0.006]	< .001
Delta	-0.011	[-0.025, 0.003]	.115	-0.022	[-0.039, -0.004]	.016
Ingroup Collectivism	-0.023	[-0.031, -0.015]	< .001	0	[-0.007, 0.006]	.952
Uncertainty avoidance	-0.002	[-0.008, 0.003]	.452	0.005	[0.002, 0.008]	< .001
Achievement orientation	-0.035	[-0.044, -0.027]	< .001	-0.009	[-0.015, -0.002]	.008
Assertiveness	-0.002	[-0.021, 0.018]	.842	0.138	[0.086, 0.19]	< .001
Humane	-0.027	[-0.034, -0.019]	< .001	0.002	[-0.003, 0.006]	.505
Gender Differentiation	-0.058	[-0.069, -0.048]	< .001	-0.002	[-0.014, 0.01]	.781
Institutional Collectivism	-0.099	[-0.117, -0.082]	< .001	-0.125	[-0.161, -0.088]	< .001
Power distance	0	[-0.009, 0.009]	.944	0.011	[-0.001, 0.023]	.073
Future orientation	-0.056	[-0.069, -0.042]	< .001	0.003	[-0.012, 0.018]	.653
Fanaticism	-0.005	[-0.006, -0.005]	< .001	0	[0, 0]	.049
Balkan-based Extrm	-0.011	[-0.014, -0.009]	< .001	0	[0, 0.001]	.224
Islam-based Extrm	-0.011	[-0.013, -0.009]	< .001	-0.002	[-0.003, -0.002]	< .001
Extremism - pan-cultural	-0.011	[-0.014, -0.008]	< .001	0	[-0.001, 0]	.275
Divine Power	-0.002	[-0.005, 0]	.068	-0.005	[-0.006, -0.004]	< .001
Proviolence	-0.014	[-0.017, -0.011]	< .001	0	[-0.001, 0.001]	.853
Vile world	-0.003	[-0.008, 0.002]	.202	-0.014	[-0.017, -0.011]	< .001
Failed state perception	0	[-0.002, 0.003]	.738	0.001	[0, 0.002]	.004

Table 13: Associations between Fanaticism-Mindset CNI and personality traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Conscientiousness	0.009	[0.006, 0.011]	< .001	0	[0, 0.001]	.207
Resilience	0.008	[0.004, 0.011]	< .001	0.001	[0, 0.002]	.058
Honesty	0.016	[0.014, 0.019]	< .001	0	[0, 0.001]	.275
Originality/Virtuosity	0.012	[0.009, 0.015]	< .001	0	[-0.001, 0.001]	.721
Agreeableness	0.015	[0.012, 0.018]	< .001	0	[-0.001, 0.001]	.763
Extraversion	0.02	[0.018, 0.023]	< .001	-0.001	[-0.001, 0]	.105
Disintegration	-0.01	[-0.011, -0.008]	< .001	0	[0, 0]	< .001
Country level						
Conscientiousness	0.045	[0.03, 0.059]	< .001	0.011	[-0.02, 0.042]	.473
Resilience	0.022	[0.004, 0.04]	.019	0.098	[0.071, 0.125]	< .001
Honesty	0.034	[0.026, 0.041]	< .001	0.018	[0.013, 0.023]	< .001
Originality/Virtuosity	0.054	[0.046, 0.063]	< .001	-0.002	[-0.022, 0.017]	.823
Agreeableness	-0.051	[-0.076, -0.025]	< .001	-0.419	[-0.579, -0.259]	< .001
Extraversion	0.05	[0.041, 0.059]	< .001	0.031	[0.021, 0.041]	< .001
Disintegration	-0.015	[-0.018, -0.012]	< .001	0.004	[0.003, 0.005]	< .001

Table 23: Strongest and Weakest Associations between Globe-Mindset CNI and personality traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Originality/Virtuosity*	(b^2)	-0.06	[-0.08, -0.04]	< .001
Agreeableness*	(b)	-0.059	[-0.085, -0.033]	< .001
Extraversion*	(b)	0.053	[0.044, 0.062]	< .001
Originality/Virtuosity*	(b)	0.041	[0.032, 0.05]	< .001
Conscientiousness*	(b^2)	0.04	[0.008, 0.072]	.013
Resilience*	(b)	0.039	[0.02, 0.057]	< .001
Conscientiousness*	(b)	-0.036	[-0.05, -0.021]	< .001
Resilience*	(b^2)	-0.035	[-0.062, -0.007]	.014
Honesty*	(b^2)	0.027	[0.022, 0.032]	< .001
Disintegration*	(b)	-0.017	[-0.02, -0.014]	< .001
Extraversion†	(b)	0.015	[0.012, 0.018]	< .001
Originality/Virtuosity†	(b)	0.011	[0.007, 0.014]	< .001
Disintegration†	(b)	-0.008	[-0.009, -0.006]	< .001
Honesty†	(b)	0.007	[0.004, 0.009]	< .001
Agreeableness†	(b)	0.004	[0.001, 0.008]	.005
Weakest 15 Estimates				
Honesty†	(b^2)	0.001	[0, 0.001]	.002
Resilience†	(b)	0.004	[0, 0.007]	.033
Agreeableness†	(b)	0.004	[0.001, 0.008]	.005
Honesty†	(b)	0.007	[0.004, 0.009]	< .001
Disintegration†	(b)	-0.008	[-0.009, -0.006]	< .001
Originality/Virtuosity†	(b)	0.011	[0.007, 0.014]	< .001
Extraversion†	(b)	0.015	[0.012, 0.018]	< .001
Disintegration*	(b)	-0.017	[-0.02, -0.014]	< .001
Honesty*	(b^2)	0.027	[0.022, 0.032]	< .001

Table 23: Strongest and Weakest Associations between Globe-Mindset CNI and personality traits (continued)

Moderator	Term	Est	95% CI	p
Resilience*	(b^2)	-0.035	[-0.062, -0.007]	.014
Conscientiousness*	(b)	-0.036	[-0.05, -0.021]	< .001
Resilience*	(b)	0.039	[0.02, 0.057]	< .001
Conscientiousness*	(b^2)	0.04	[0.008, 0.072]	.013
Originality/Virtuosity*	(b)	0.041	[0.032, 0.05]	< .001
Extraversion*	(b)	0.053	[0.044, 0.062]	< .001

Note:
(b) = Linear model, ($btextsuperscript2$) = Quadratic
* Country level
† Individual level

Table 24: Strongest and Weakest Associations between Globe-Mindset CNI and mindset traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Assertiveness*	(b^2)	0.138	[0.086, 0.19]	< .001
Institutional Collectivism*	(b^2)	-0.125	[-0.161, -0.088]	< .001
Institutional Collectivism*	(b)	-0.099	[-0.117, -0.082]	< .001
Gender Differentiation*	(b)	-0.058	[-0.069, -0.048]	< .001
Future orientation*	(b)	-0.056	[-0.069, -0.042]	< .001
Gamma*	(b)	-0.038	[-0.046, -0.031]	< .001
Achievement orientation*	(b)	-0.035	[-0.044, -0.027]	< .001
Gender Differentiation†	(b)	-0.034	[-0.037, -0.03]	< .001
Institutional Collectivism†	(b)	0.028	[0.022, 0.033]	< .001
Humane*	(b)	-0.027	[-0.034, -0.019]	< .001
Ingroup Collectivism*	(b)	-0.023	[-0.031, -0.015]	< .001
Delta*	(b^2)	-0.022	[-0.039, -0.004]	.016
Beta*	(b)	-0.016	[-0.019, -0.013]	< .001
Ingroup Collectivism†	(b)	0.015	[0.012, 0.019]	< .001
Vile world*	(b^2)	-0.014	[-0.017, -0.011]	< .001
Weakest 15 Estimates				
Fanaticism*	(b^2)	0	[0, 0]	.049
Balkan-based Extrm†	(b^2)	0	[0, 0]	< .001
Failed state perception†	(b^2)	0	[0, 0]	< .001
Divine Power†	(b^2)	0	[0, 0.001]	< .001
Gamma†	(b^2)	-0.001	[-0.001, -0.001]	< .001
Failed state perception*	(b^2)	0.001	[0, 0.002]	.004
Power distance†	(b^2)	-0.001	[-0.002, -0.001]	< .001
Gender Differentiation†	(b^2)	-0.001	[-0.003, 0]	.020
Failed state perception†	(b)	-0.002	[-0.003, -0.001]	< .001
Islam-based Extrm*	(b^2)	-0.002	[-0.003, -0.002]	< .001
Uncertainty avoidance†	(b^2)	0.002	[0.002, 0.003]	< .001
Divine Power†	(b)	-0.002	[-0.004, -0.001]	< .001
Gamma†	(b)	0.003	[0, 0.005]	.037
Future orientation†	(b^2)	-0.003	[-0.004, -0.002]	< .001
Ingroup Collectivism†	(b^2)	-0.003	[-0.004, -0.002]	< .001

Table 24: Strongest and Weakest Associations between Globe-Mindset CNI and mindset traits (continued)

Moderator	Term	Est	95% CI	p

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

Table 25: Strongest and Weakest Associations between Fanaticism-Mindset CNI and personality traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Agreeableness*	(b^2)	-0.419	[-0.579, -0.259]	< .001
Resilience*	(b^2)	0.098	[0.071, 0.125]	< .001
Originality/Virtuosity*	(b)	0.054	[0.046, 0.063]	< .001
Agreeableness*	(b)	-0.051	[-0.076, -0.025]	< .001
Extraversion*	(b)	0.05	[0.041, 0.059]	< .001
Conscientiousness*	(b)	0.045	[0.03, 0.059]	< .001
Honesty*	(b)	0.034	[0.026, 0.041]	< .001
Extraversion*	(b^2)	0.031	[0.021, 0.041]	< .001
Resilience*	(b)	0.022	[0.004, 0.04]	.019
Extraversion†	(b)	0.02	[0.018, 0.023]	< .001
Honesty*	(b^2)	0.018	[0.013, 0.023]	< .001
Honesty†	(b)	0.016	[0.014, 0.019]	< .001
Disintegration*	(b)	-0.015	[-0.018, -0.012]	< .001
Agreeableness†	(b)	0.015	[0.012, 0.018]	< .001
Originality/Virtuosity†	(b)	0.012	[0.009, 0.015]	< .001
Weakest 15 Estimates				
Disintegration†	(b^2)	0	[0, 0]	< .001
Disintegration*	(b^2)	0.004	[0.003, 0.005]	< .001
Resilience†	(b)	0.008	[0.004, 0.011]	< .001
Conscientiousness†	(b)	0.009	[0.006, 0.011]	< .001
Disintegration†	(b)	-0.01	[-0.011, -0.008]	< .001
Originality/Virtuosity†	(b)	0.012	[0.009, 0.015]	< .001
Agreeableness†	(b)	0.015	[0.012, 0.018]	< .001
Disintegration*	(b)	-0.015	[-0.018, -0.012]	< .001
Honesty†	(b)	0.016	[0.014, 0.019]	< .001
Honesty*	(b^2)	0.018	[0.013, 0.023]	< .001
Extraversion†	(b)	0.02	[0.018, 0.023]	< .001
Resilience*	(b)	0.022	[0.004, 0.04]	.019
Extraversion*	(b^2)	0.031	[0.021, 0.041]	< .001
Honesty*	(b)	0.034	[0.026, 0.041]	< .001
Conscientiousness*	(b)	0.045	[0.03, 0.059]	< .001

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

Table 14: Associations between Fanaticism-Mindset CNI and mindset traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Alpha	0.002	[0, 0.005]	.025	0.001	[0, 0.001]	< .001
Beta	-0.018	[-0.019, -0.016]	< .001	0	[-0.001, 0]	.065
Gamma	0.013	[0.011, 0.015]	< .001	-0.002	[-0.002, -0.001]	< .001
Delta	0.009	[0.006, 0.011]	< .001	-0.001	[-0.001, 0]	.016
Ingroup Collectivism	0.011	[0.007, 0.014]	< .001	-0.001	[-0.002, 0]	.005
Uncertainty avoidance	-0.006	[-0.009, -0.003]	< .001	0.001	[0, 0.001]	.059
Achievement orientation	0	[-0.004, 0.003]	.825	0.001	[0, 0.002]	.230
Assertiveness	-0.006	[-0.012, 0]	.053	-0.005	[-0.008, -0.002]	< .001
Humane	-0.002	[-0.005, 0]	.057	0	[-0.001, 0]	.128
Gender Differentiation	-0.013	[-0.017, -0.009]	< .001	-0.001	[-0.002, 0]	.099
Institutional Collectivism	0.015	[0.009, 0.021]	< .001	-0.007	[-0.01, -0.004]	< .001
Power distance	0.004	[0.001, 0.007]	.011	0	[-0.001, 0]	.190
Future orientation	0.008	[0.004, 0.011]	< .001	-0.002	[-0.002, -0.001]	< .001
Fanaticism	-0.007	[-0.007, -0.006]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.013	[-0.014, -0.012]	< .001	0	[0, 0]	< .001
Islam-based Extrm	-0.016	[-0.017, -0.015]	< .001	0	[0, 0]	< .001
Extremism - pan-cultural	-0.011	[-0.012, -0.01]	< .001	0	[0, 0]	.790
Divine Power	0.003	[0.002, 0.004]	< .001	0.001	[0.001, 0.001]	< .001
Proviolence	-0.03	[-0.031, -0.029]	< .001	-0.001	[-0.001, -0.001]	< .001
Vile world	-0.003	[-0.005, -0.001]	< .001	0	[0, 0.001]	.067
Failed state perception	-0.001	[-0.002, 0]	.033	0	[0, 0]	< .001
Country level						
Alpha	0.008	[0.004, 0.013]	< .001	-0.011	[-0.014, -0.009]	< .001
Beta	-0.017	[-0.02, -0.014]	< .001	0.003	[0.002, 0.004]	< .001
Gamma	-0.008	[-0.016, -0.001]	.025	-0.004	[-0.011, 0.002]	.222
Delta	-0.015	[-0.028, -0.001]	.037	0.036	[0.019, 0.053]	< .001
Ingroup Collectivism	0.019	[0.011, 0.027]	< .001	0.014	[0.008, 0.021]	< .001
Uncertainty avoidance	-0.016	[-0.021, -0.01]	< .001	0.006	[0.003, 0.009]	< .001
Achievement orientation	-0.04	[-0.048, -0.031]	< .001	0.012	[0.005, 0.018]	< .001
Assertiveness	-0.024	[-0.043, -0.005]	.013	0.285	[0.235, 0.335]	< .001
Humane	-0.03	[-0.038, -0.023]	< .001	0.016	[0.012, 0.02]	< .001
Gender Differentiation	-0.015	[-0.026, -0.005]	.004	0.018	[0.006, 0.031]	.003
Institutional Collectivism	-0.035	[-0.052, -0.017]	< .001	-0.201	[-0.237, -0.165]	< .001
Power distance	0.036	[0.027, 0.045]	< .001	0.014	[0.003, 0.026]	.016
Future orientation	-0.032	[-0.045, -0.018]	< .001	0.058	[0.044, 0.073]	< .001
Fanaticism	-0.004	[-0.005, -0.003]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.003	[-0.006, -0.001]	.007	0.002	[0.001, 0.002]	< .001
Islam-based Extrm	-0.014	[-0.016, -0.012]	< .001	0.001	[0, 0.001]	.122
Extremism - pan-cultural	-0.003	[-0.006, 0]	.026	0.002	[0.001, 0.003]	< .001
Divine Power	0.006	[0.003, 0.008]	< .001	-0.002	[-0.002, -0.001]	< .001
Proviolence	-0.02	[-0.023, -0.018]	< .001	0.001	[0, 0.002]	.085
Vile world	0.014	[0.01, 0.018]	< .001	-0.008	[-0.011, -0.005]	< .001
Failed state perception	0.006	[0.004, 0.008]	< .001	0.004	[0.003, 0.005]	< .001

Table 15: Associations between Personality6 CNI and personality traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Conscientiousness	0.031	[0.028, 0.034]	< .001	-0.001	[-0.002, 0]	.033
Resilience	0.037	[0.034, 0.04]	< .001	-0.003	[-0.004, -0.002]	< .001
Honesty	0.029	[0.027, 0.032]	< .001	0	[-0.001, 0]	.682
Originality/Virtuosity	0.032	[0.028, 0.035]	< .001	-0.002	[-0.003, -0.001]	.003
Agreeableness	0.036	[0.033, 0.039]	< .001	-0.001	[-0.002, 0]	.009
Extraversion	0.052	[0.05, 0.055]	< .001	-0.003	[-0.003, -0.002]	< .001
Disintegration	-0.016	[-0.017, -0.015]	< .001	0	[0, 0]	.138
Country level						
Conscientiousness	0.014	[-0.002, 0.03]	.077	-0.061	[-0.095, -0.026]	< .001
Resilience	0.055	[0.035, 0.075]	< .001	0.031	[0.001, 0.061]	.040
Honesty	0.038	[0.029, 0.046]	< .001	0.017	[0.011, 0.023]	< .001
Originality/Virtuosity	0.052	[0.043, 0.062]	< .001	0.008	[-0.014, 0.03]	.460
Agreeableness	0.002	[-0.026, 0.03]	.894	-0.142	[-0.321, 0.037]	.119
Extraversion	0.058	[0.049, 0.068]	< .001	0.012	[0.001, 0.023]	.038
Disintegration	-0.019	[-0.022, -0.015]	< .001	0.002	[0.001, 0.003]	.001

Table 26: Strongest and Weakest Associations between Fanaticism-Mindset CNI and mindset traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Assertiveness*	(b^2)	0.285	[0.235, 0.335]	< .001
Institutional Collectivism*	(b^2)	-0.201	[-0.237, -0.165]	< .001
Future orientation*	(b^2)	0.058	[0.044, 0.073]	< .001
Achievement orientation*	(b)	-0.04	[-0.048, -0.031]	< .001
Power distance*	(b)	0.036	[0.027, 0.045]	< .001
Delta*	(b^2)	0.036	[0.019, 0.053]	< .001
Institutional Collectivism*	(b)	-0.035	[-0.052, -0.017]	< .001
Future orientation*	(b)	-0.032	[-0.045, -0.018]	< .001
Humane*	(b)	-0.03	[-0.038, -0.023]	< .001
Proviolence†	(b)	-0.03	[-0.031, -0.029]	< .001
Assertiveness*	(b)	-0.024	[-0.043, -0.005]	.013
Proviolence*	(b)	-0.02	[-0.023, -0.018]	< .001
Ingroup Collectivism*	(b)	0.019	[0.011, 0.027]	< .001
Gender Differentiation*	(b^2)	0.018	[0.006, 0.031]	.003
Beta†	(b)	-0.018	[-0.019, -0.016]	< .001
Weakest 15 Estimates				
Fanaticism†	(b^2)	0	[0, 0]	< .001
Failed state perception†	(b^2)	0	[0, 0]	< .001
Islam-based Extrm†	(b^2)	0	[0, 0]	< .001
Balkan-based Extrm†	(b^2)	0	[0, 0]	< .001
Fanaticism*	(b^2)	0	[0, 0]	< .001
Delta†	(b^2)	-0.001	[-0.001, 0]	.016
Divine Power†	(b^2)	0.001	[0.001, 0.001]	< .001
Proviolence†	(b^2)	-0.001	[-0.001, -0.001]	< .001
Alpha†	(b^2)	0.001	[0, 0.001]	< .001

Table 26: Strongest and Weakest Associations between Fanaticism-Mindset CNI and mindset traits (continued)

Moderator	Term	Est	95% CI	p
Failed state perception†	(b)	-0.001	[-0.002, 0]	.033
Ingroup Collectivism†	(b^2)	-0.001	[-0.002, 0]	.005
Future orientation†	(b^2)	-0.002	[-0.002, -0.001]	< .001
Divine Power*	(b^2)	-0.002	[-0.002, -0.001]	< .001
Balkan-based Extrm*	(b^2)	0.002	[0.001, 0.002]	< .001
Gamma†	(b^2)	-0.002	[-0.002, -0.001]	< .001

Note:
(b) = Linear model, ($btextsuperscript2$) = Quadratic
* Country level
† Individual level

Table 27: Strongest and Weakest Associations between Personality6 CNI and personality traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Conscientiousness*	(b^2)	-0.061	[-0.095, -0.026]	< .001
Extraversion*	(b)	0.058	[0.049, 0.068]	< .001
Resilience*	(b)	0.055	[0.035, 0.075]	< .001
Extraversion†	(b)	0.052	[0.05, 0.055]	< .001
Originality/Virtuosity*	(b)	0.052	[0.043, 0.062]	< .001
Honesty*	(b)	0.038	[0.029, 0.046]	< .001
Resilience†	(b)	0.037	[0.034, 0.04]	< .001
Agreeableness†	(b)	0.036	[0.033, 0.039]	< .001
Originality/Virtuosity†	(b)	0.032	[0.028, 0.035]	< .001
Resilience*	(b^2)	0.031	[0.001, 0.061]	.040
Conscientiousness†	(b)	0.031	[0.028, 0.034]	< .001
Honesty†	(b)	0.029	[0.027, 0.032]	< .001
Disintegration*	(b)	-0.019	[-0.022, -0.015]	< .001
Honesty*	(b^2)	0.017	[0.011, 0.023]	< .001
Disintegration†	(b)	-0.016	[-0.017, -0.015]	< .001
Weakest 15 Estimates				
Conscientiousness†	(b^2)	-0.001	[-0.002, 0]	.033
Agreeableness†	(b^2)	-0.001	[-0.002, 0]	.009
Originality/Virtuosity†	(b^2)	-0.002	[-0.003, -0.001]	.003
Disintegration*	(b^2)	0.002	[0.001, 0.003]	.001
Extraversion†	(b^2)	-0.003	[-0.003, -0.002]	< .001
Resilience†	(b^2)	-0.003	[-0.004, -0.002]	< .001
Extraversion*	(b^2)	0.012	[0.001, 0.023]	.038
Disintegration†	(b)	-0.016	[-0.017, -0.015]	< .001
Honesty*	(b^2)	0.017	[0.011, 0.023]	< .001
Disintegration*	(b)	-0.019	[-0.022, -0.015]	< .001
Honesty†	(b)	0.029	[0.027, 0.032]	< .001
Conscientiousness†	(b)	0.031	[0.028, 0.034]	< .001
Resilience*	(b^2)	0.031	[0.001, 0.061]	.040
Originality/Virtuosity†	(b)	0.032	[0.028, 0.035]	< .001
Agreeableness†	(b)	0.036	[0.033, 0.039]	< .001

Table 27: Strongest and Weakest Associations between Personality6 CNI and personality traits (continued)

Moderator	Term	Est	95% CI	p

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

Table 28: Strongest and Weakest Associations between Personality6 CNI and mindset traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Institutional Collectivism*	(b^2)	-0.198	[-0.238, -0.158]	< .001
Assertiveness*	(b^2)	0.154	[0.098, 0.21]	< .001
Future orientation*	(b)	-0.066	[-0.081, -0.052]	< .001
Humane*	(b)	-0.042	[-0.05, -0.034]	< .001
Achievement orientation*	(b)	-0.039	[-0.048, -0.03]	< .001
Future orientation*	(b^2)	0.038	[0.022, 0.055]	< .001
Gender Differentiation*	(b^2)	-0.031	[-0.044, -0.017]	< .001
Gender Differentiation*	(b)	-0.03	[-0.042, -0.019]	< .001
Assertiveness*	(b)	-0.03	[-0.051, -0.009]	.006
Institutional Collectivism*	(b)	-0.026	[-0.045, -0.007]	.007
Delta*	(b)	-0.024	[-0.039, -0.009]	.002
Uncertainty avoidance*	(b)	-0.023	[-0.029, -0.017]	< .001
Power distance*	(b)	0.021	[0.011, 0.03]	< .001
Beta*	(b)	-0.019	[-0.023, -0.016]	< .001
Delta*	(b^2)	-0.019	[-0.039, 0]	.048
Weakest 15 Estimates				
Fanaticism*	(b^2)	0	[0, 0]	< .001
Failed state perception†	(b^2)	0	[0, 0]	< .001
Divine Power†	(b^2)	0	[0, 0.001]	< .001
Beta†	(b^2)	0	[0, 0.001]	.010
Vile world†	(b^2)	0.001	[0, 0.001]	.003
Gamma†	(b^2)	-0.001	[-0.001, 0]	.008
Balkan-based Extrm*	(b^2)	0.001	[0.001, 0.002]	< .001
Extremism - pan-cultural*	(b^2)	0.001	[0.001, 0.002]	< .001
Future orientation†	(b^2)	-0.001	[-0.002, 0]	.004
Failed state perception*	(b^2)	0.001	[0, 0.002]	.003
Gender Differentiation†	(b^2)	-0.002	[-0.003, 0]	.013
Divine Power*	(b^2)	-0.002	[-0.003, -0.001]	< .001
Ingroup Collectivism†	(b^2)	-0.002	[-0.003, -0.001]	< .001
Failed state perception†	(b)	-0.002	[-0.004, -0.001]	< .001
Delta†	(b)	0.003	[0.001, 0.006]	.019

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

Table 16: Associations between Personality6 CNI and mindset traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Alpha	0	[-0.003, 0.002]	.879	0	[0, 0.001]	.213
Beta	-0.011	[-0.013, -0.009]	< .001	0	[0, 0.001]	.010
Gamma	0.013	[0.01, 0.015]	< .001	-0.001	[-0.001, 0]	.008
Delta	0.003	[0.001, 0.006]	.019	0	[0, 0.001]	.582
Ingroup Collectivism	0.009	[0.005, 0.012]	< .001	-0.002	[-0.003, -0.001]	< .001
Uncertainty avoidance	-0.01	[-0.013, -0.006]	< .001	0	[-0.001, 0.001]	.527
Achievement orientation	0.004	[0, 0.008]	.071	0.001	[-0.001, 0.002]	.370
Assertiveness	-0.003	[-0.01, 0.004]	.383	-0.004	[-0.007, -0.001]	.012
Humane	0.003	[0, 0.006]	.053	0	[-0.001, 0]	.099
Gender Differentiation	-0.015	[-0.02, -0.011]	< .001	-0.002	[-0.003, 0]	.013
Institutional Collectivism	0.015	[0.009, 0.021]	< .001	-0.004	[-0.007, -0.001]	.021
Power distance	-0.001	[-0.004, 0.002]	.603	0	[-0.001, 0.001]	.604
Future orientation	0.006	[0.002, 0.01]	.003	-0.001	[-0.002, 0]	.004
Fanaticism	-0.004	[-0.005, -0.004]	< .001	0	[0, 0]	.636
Balkan-based Extrm	-0.009	[-0.01, -0.008]	< .001	0	[0, 0]	.144
Islam-based Extrm	-0.009	[-0.01, -0.008]	< .001	0	[0, 0]	.566
Extremism - pan-cultural	-0.008	[-0.009, -0.007]	< .001	0	[0, 0]	.065
Divine Power	0	[-0.001, 0.002]	.643	0	[0, 0.001]	< .001
Proviolence	-0.016	[-0.018, -0.015]	< .001	0	[0, 0]	.782
Vile world	-0.009	[-0.011, -0.006]	< .001	0.001	[0, 0.001]	.003
Failed state perception	-0.002	[-0.004, -0.001]	< .001	0	[0, 0]	< .001
Country level						
Alpha	-0.009	[-0.014, -0.004]	< .001	-0.01	[-0.013, -0.007]	< .001
Beta	-0.019	[-0.023, -0.016]	< .001	0	[-0.001, 0.002]	.622
Gamma	-0.016	[-0.024, -0.008]	< .001	-0.005	[-0.012, 0.002]	.167
Delta	-0.024	[-0.039, -0.009]	.002	-0.019	[-0.039, 0]	.048
Ingroup Collectivism	-0.003	[-0.012, 0.005]	.441	0.003	[-0.005, 0.01]	.492
Uncertainty avoidance	-0.023	[-0.029, -0.017]	< .001	0.004	[0, 0.007]	.024
Achievement orientation	-0.039	[-0.048, -0.03]	< .001	0.006	[-0.001, 0.014]	.075
Assertiveness	-0.03	[-0.051, -0.009]	.006	0.154	[0.098, 0.21]	< .001
Humane	-0.042	[-0.05, -0.034]	< .001	0.005	[0, 0.01]	.049
Gender Differentiation	-0.03	[-0.042, -0.019]	< .001	-0.031	[-0.044, -0.017]	< .001
Institutional Collectivism	-0.026	[-0.045, -0.007]	.007	-0.198	[-0.238, -0.158]	< .001
Power distance	0.021	[0.011, 0.03]	< .001	-0.014	[-0.026, -0.001]	.040
Future orientation	-0.066	[-0.081, -0.052]	< .001	0.038	[0.022, 0.055]	< .001
Fanaticism	-0.006	[-0.007, -0.005]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.012	[-0.015, -0.009]	< .001	0.001	[0.001, 0.002]	< .001
Islam-based Extrm	-0.012	[-0.014, -0.01]	< .001	0	[-0.001, 0.001]	.450
Extremism - pan-cultural	-0.012	[-0.015, -0.009]	< .001	0.001	[0.001, 0.002]	< .001
Divine Power	-0.004	[-0.006, -0.001]	.015	-0.002	[-0.003, -0.001]	< .001
Proviolence	-0.015	[-0.018, -0.012]	< .001	0.003	[0.002, 0.005]	< .001
Vile world	-0.001	[-0.006, 0.004]	.821	-0.006	[-0.009, -0.003]	< .001
Failed state perception	0.005	[0.003, 0.008]	< .001	0.001	[0, 0.002]	.003

Table 17: Associations between Personality7 CNI and personality traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Conscientiousness	0.026	[0.023, 0.029]	< .001	0	[-0.001, 0]	.308
Resilience	0.035	[0.032, 0.038]	< .001	-0.002	[-0.002, -0.001]	< .001
Honesty	0.026	[0.024, 0.029]	< .001	0	[0, 0.001]	.754
Originality/Virtuosity	0.03	[0.026, 0.033]	< .001	-0.001	[-0.002, 0]	.029
Agreeableness	0.031	[0.028, 0.034]	< .001	-0.001	[-0.002, 0]	.036
Extraversion	0.048	[0.045, 0.05]	< .001	-0.003	[-0.003, -0.002]	< .001
Disintegration	-0.022	[-0.023, -0.021]	< .001	0	[0, 0]	< .001
Country level						
Conscientiousness	0.005	[-0.01, 0.02]	.532	-0.036	[-0.069, -0.003]	.030
Resilience	0.077	[0.058, 0.096]	< .001	0.032	[0.004, 0.061]	.024
Honesty	0.036	[0.028, 0.044]	< .001	0.018	[0.012, 0.023]	< .001
Originality/Virtuosity	0.064	[0.055, 0.073]	< .001	-0.024	[-0.044, -0.004]	.020
Agreeableness	-0.012	[-0.039, 0.015]	.370	-0.025	[-0.195, 0.144]	.769
Extraversion	0.072	[0.063, 0.081]	< .001	0.004	[-0.007, 0.014]	.498
Disintegration	-0.023	[-0.026, -0.02]	< .001	0.002	[0.001, 0.003]	< .001

Table 29: Strongest and Weakest Associations between Personality7 CNI and personality traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Resilience*	(b)	0.077	[0.058, 0.096]	< .001
Extraversion*	(b)	0.072	[0.063, 0.081]	< .001
Originality/Virtuosity*	(b)	0.064	[0.055, 0.073]	< .001
Extraversion†	(b)	0.048	[0.045, 0.05]	< .001
Conscientiousness*	(b^2)	-0.036	[-0.069, -0.003]	.030
Honesty*	(b)	0.036	[0.028, 0.044]	< .001
Resilience†	(b)	0.035	[0.032, 0.038]	< .001
Resilience*	(b^2)	0.032	[0.004, 0.061]	.024
Agreeableness†	(b)	0.031	[0.028, 0.034]	< .001
Originality/Virtuosity†	(b)	0.03	[0.026, 0.033]	< .001
Honesty†	(b)	0.026	[0.024, 0.029]	< .001
Conscientiousness†	(b)	0.026	[0.023, 0.029]	< .001
Originality/Virtuosity*	(b^2)	-0.024	[-0.044, -0.004]	.020
Disintegration*	(b)	-0.023	[-0.026, -0.02]	< .001
Disintegration†	(b)	-0.022	[-0.023, -0.021]	< .001
Weakest 15 Estimates				
Disintegration†	(b^2)	0	[0, 0]	< .001
Agreeableness†	(b^2)	-0.001	[-0.002, 0]	.036
Originality/Virtuosity†	(b^2)	-0.001	[-0.002, 0]	.029
Disintegration*	(b^2)	0.002	[0.001, 0.003]	< .001
Resilience†	(b^2)	-0.002	[-0.002, -0.001]	< .001
Extraversion†	(b^2)	-0.003	[-0.003, -0.002]	< .001
Honesty*	(b^2)	0.018	[0.012, 0.023]	< .001
Disintegration†	(b)	-0.022	[-0.023, -0.021]	< .001
Disintegration*	(b)	-0.023	[-0.026, -0.02]	< .001

Table 29: Strongest and Weakest Associations between Personality7 CNI and personality traits (continued)

Moderator	Term	Est	95% CI	p
Originality/Virtuosity*	(b^2)	-0.024	[-0.044, -0.004]	.020
Conscientiousness†	(b)	0.026	[0.023, 0.029]	< .001
Honesty†	(b)	0.026	[0.024, 0.029]	< .001
Originality/Virtuosity†	(b)	0.03	[0.026, 0.033]	< .001
Agreeableness†	(b)	0.031	[0.028, 0.034]	< .001
Resilience*	(b^2)	0.032	[0.004, 0.061]	.024

Note:
(b) = Linear model, ($btextsuperscript2$) = Quadratic
* Country level
† Individual level

Table 30: Strongest and Weakest Associations between Personality7 CNI and mindset traits

Moderator	Term	Est	95% CI	p
Strongest 15 Estimates				
Institutional Collectivism*	(b^2)	-0.25	[-0.287, -0.213]	< .001
Assertiveness*	(b^2)	0.165	[0.112, 0.218]	< .001
Future orientation*	(b)	-0.071	[-0.085, -0.057]	< .001
Institutional Collectivism*	(b)	-0.055	[-0.073, -0.038]	< .001
Humane*	(b)	-0.046	[-0.054, -0.039]	< .001
Achievement orientation*	(b)	-0.046	[-0.055, -0.038]	< .001
Gender Differentiation*	(b)	-0.041	[-0.052, -0.03]	< .001
Delta*	(b)	-0.036	[-0.05, -0.022]	< .001
Assertiveness*	(b)	-0.029	[-0.049, -0.009]	.004
Gamma*	(b)	-0.028	[-0.036, -0.02]	< .001
Future orientation*	(b^2)	0.026	[0.01, 0.041]	< .001
Beta*	(b)	-0.024	[-0.027, -0.02]	< .001
Uncertainty avoidance*	(b)	-0.023	[-0.029, -0.018]	< .001
Gender Differentiation*	(b^2)	-0.02	[-0.033, -0.008]	.002
Proviolence*	(b)	-0.02	[-0.023, -0.017]	< .001
Weakest 15 Estimates				
Balkan-based Extrm†	(b^2)	0	[0, 0]	.034
Fanaticism*	(b^2)	0	[0, 0]	< .001
Failed state perception†	(b^2)	0	[0, 0]	< .001
Beta†	(b^2)	0	[0, 0.001]	.019
Divine Power†	(b^2)	0	[0, 0.001]	< .001
Vile world†	(b^2)	0	[0, 0.001]	.008
Alpha†	(b^2)	0.001	[0, 0.001]	.025
Balkan-based Extrm*	(b^2)	0.001	[0, 0.001]	.025
Gamma†	(b^2)	-0.001	[-0.001, 0]	< .001
Islam-based Extrm*	(b^2)	-0.001	[-0.002, 0]	.039
Future orientation†	(b^2)	-0.002	[-0.003, -0.001]	< .001
Gender Differentiation†	(b^2)	-0.002	[-0.003, -0.001]	.006
Proviolence*	(b^2)	0.002	[0.001, 0.003]	.002
Ingroup Collectivism†	(b^2)	-0.002	[-0.003, -0.001]	< .001
Failed state perception†	(b)	-0.003	[-0.004, -0.002]	< .001

Table 30: Strongest and Weakest Associations between Personality7 CNI and mindset traits (continued)

Moderator	Term	Est	95% CI	p

Note:
(b) = Linear model, (*btextsuperscript*2) = Quadratic
* Country level
† Individual level

3.2.3 Overall trends

To distinguish the most influential effects, three categories of tables are presented here:

1. Strongest moderators: Effects that significantly enhance or diminish the impact of cultural normativity.
2. Weakest moderators: Effects that, while statistically significant, have minimal influence on cultural normativity.
3. Non-significant effects: Factors that show no statistically significant moderation of cultural normativity.

This comprehensive approach allows us to identify key moderators, subtle influences, and factors that do not play a substantial role in modifying the effect of cultural normativity.

```
overall_table <- function(table_type, title) {
  table <- bind_rows(cni.ContMod_tables, .id = "model")

  if (table_type == "overall highest") {
    table <- table %>%
      filter(p.value < .05) %>%
      arrange(desc(abs(estimate)))
  } else if (table_type == "overall weakest") {
    table <- table %>%
      filter(p.value < .05) %>%
      arrange(abs(estimate))
  } else if (table_type == "overall n.s") {
    table <- table %>%
      filter(p.value >= .05) %>%
      arrange(abs(estimate))
  } else {
    stop("Invalid table_type. Choose 'overall highest', 'overall lowest', or 'overall n.s'")
  }

final_table <- table %>%
  head(20) %>%
  specify_var_names() %>%
  separate(model, c("CNI_type", "Moderator_type"), sep = "\\.") %>%
  mutate(
    CNI_type = str_remove(CNI_type, "CNI"),
    CNI_type = str_to_sentence(CNI_type),
    CNI_type = str_replace_all(CNI_type, c(
      "cni" = " CNI",
      "Ism" = "Isms",
      "Fantc" = "Fanaticism",
      "Globe" = "GLOBE",
      "Pty6" = "Personality 6",
      "Pty7" = "Personality 7")),
    Moderator_type = if_else(Moderator_type == "pty7", "Personality", "Mindset"),
```

Table 18: Associations between Personality7 CNI and mindset traits

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
Alpha	-0.001	[-0.003, 0.001]	.299	0.001	[0, 0.001]	.025
Beta	-0.012	[-0.014, -0.01]	< .001	0	[0, 0.001]	.019
Gamma	0.011	[0.008, 0.013]	< .001	-0.001	[-0.001, 0]	< .001
Delta	0.001	[-0.002, 0.004]	.544	0	[-0.001, 0]	.761
Ingroup Collectivism	0.008	[0.005, 0.012]	< .001	-0.002	[-0.003, -0.001]	< .001
Uncertainty avoidance	-0.009	[-0.013, -0.006]	< .001	0	[-0.001, 0.001]	.725
Achievement orientation	0.003	[-0.001, 0.007]	.205	0.001	[0, 0.002]	.208
Assertiveness	-0.004	[-0.011, 0.002]	.199	-0.004	[-0.007, 0]	.024
Humane	0.002	[0, 0.005]	.109	-0.001	[-0.001, 0]	.050
Gender Differentiation	-0.016	[-0.02, -0.012]	< .001	-0.002	[-0.003, -0.001]	.006
Institutional Collectivism	0.012	[0.006, 0.018]	< .001	-0.005	[-0.008, -0.002]	.003
Power distance	0	[-0.003, 0.003]	.760	-0.001	[-0.001, 0]	.092
Future orientation	0.006	[0.002, 0.009]	.002	-0.002	[-0.003, -0.001]	< .001
Fanaticism	-0.005	[-0.005, -0.005]	< .001	0	[0, 0]	.477
Balkan-based Extrm	-0.01	[-0.011, -0.009]	< .001	0	[0, 0]	.034
Islam-based Extrm	-0.01	[-0.011, -0.009]	< .001	0	[0, 0]	.917
Extremism - pan-cultural	-0.009	[-0.01, -0.007]	< .001	0	[0, 0]	.114
Divine Power	0	[-0.002, 0.001]	.820	0	[0, 0.001]	< .001
Proviolence	-0.017	[-0.019, -0.016]	< .001	0	[0, 0]	.571
Vile world	-0.01	[-0.012, -0.008]	< .001	0	[0, 0.001]	.008
Failed state perception	-0.003	[-0.004, -0.002]	< .001	0	[0, 0]	< .001
Country level						
Alpha	-0.008	[-0.012, -0.003]	.001	-0.015	[-0.018, -0.013]	< .001
Beta	-0.024	[-0.027, -0.02]	< .001	0	[-0.001, 0.001]	.585
Gamma	-0.028	[-0.036, -0.02]	< .001	-0.007	[-0.014, 0]	.045
Delta	-0.036	[-0.05, -0.022]	< .001	-0.008	[-0.026, 0.01]	.367
Ingroup Collectivism	-0.009	[-0.017, 0]	.044	0.008	[0.001, 0.015]	.022
Uncertainty avoidance	-0.023	[-0.029, -0.018]	< .001	0.004	[0.001, 0.007]	.009
Achievement orientation	-0.046	[-0.055, -0.038]	< .001	0.003	[-0.003, 0.01]	.342
Assertiveness	-0.029	[-0.049, -0.009]	.004	0.165	[0.112, 0.218]	< .001
Humane	-0.046	[-0.054, -0.039]	< .001	0.002	[-0.003, 0.006]	.421
Gender Differentiation	-0.041	[-0.052, -0.03]	< .001	-0.02	[-0.033, -0.008]	.002
Institutional Collectivism	-0.055	[-0.073, -0.038]	< .001	-0.25	[-0.287, -0.213]	< .001
Power distance	0.018	[0.009, 0.027]	< .001	-0.016	[-0.028, -0.003]	.012
Future orientation	-0.071	[-0.085, -0.057]	< .001	0.026	[0.01, 0.041]	< .001
Fanaticism	-0.007	[-0.008, -0.006]	< .001	0	[0, 0]	< .001
Balkan-based Extrm	-0.013	[-0.015, -0.01]	< .001	0.001	[0, 0.001]	.025
Islam-based Extrm	-0.016	[-0.018, -0.013]	< .001	-0.001	[-0.002, 0]	.039
Extremism - pan-cultural	-0.012	[-0.015, -0.009]	< .001	0.001	[0, 0.001]	.051
Divine Power	-0.002	[-0.005, 0]	.070	-0.003	[-0.004, -0.002]	< .001
Proviolence	-0.02	[-0.023, -0.017]	< .001	0.002	[0.001, 0.003]	.002
Vile world	0.001	[-0.003, 0.006]	.553	-0.013	[-0.016, -0.01]	< .001
Failed state perception	0.006	[0.004, 0.009]	< .001	0.003	[0.002, 0.004]	< .001

```
    p.value = map_chr(p.value, papaja::printp),
    across(where(is.numeric), ~ round(., 3)),
    ci = paste0("[", conf.low, ", ", conf.high,"]"),
    term = ifelse(str_detect(term, "2"), "(b\\textsuperscript{2})", "(b)"),
    estimate = as.character(estimate),
    modtr = paste0(modtr, " (", Moderator_type, ")"),
    modtr = ifelse(level == "Country",
                   paste0(modtr, footnote_marker_symbol(1, "latex")),
                   paste0(modtr, footnote_marker_symbol(2, "latex"))
    ),
    CNI_type = str_replace(CNI_type, "CNI", "")
  ) %>%
  select(CNI_type, modtr, term, estimate, ci, p.value)

final_table %>%
  kable(booktabs = T,
        escape = F,
        format = "latex",
        col.names = c("CNI type", "Moderator", "Term", "Est", "95\\% CI", "$\\textit{p}$"),
        caption = title) %>%
  kable_styling() %>%
  footnote(symbol = c("Country", "Individual"),
           symbol_title = "",
           general = "(b) = Linear model, (b\\textsuperscript{2}) = Quadratic",
           general_title = "Note:",
           title_format = "italic",
           fixed_small_size = TRUE,
           footnote_as_chunk = FALSE,
           threeparttable = TRUE)
}

overall_table_details <- tibble(
  table_type = c("overall highest", "overall weakest", "overall n.s"))%>%
  mutate(title = paste0("Variables with ", word(table_type , 2), " effect sizes with each CNI type"))
```

3.3 Plots

3.3.1 Variable view: Overall effects

Given that there are 114 (individual level scale scores = 28, country level scale scores = 28 and their linear and quadratic associations with CNI types) effect sizes to evaluate in total for each CNI type, it was necessary to identify a starting point. In order to assess the continuous moderator effects for each of the CNI types, the highest 15 and lowest 15 associations (across linear and quadratic) were considered.

```
plot_high.low_mindset_effects <- function(data) {

  base_data <- data %>%
    specify_var_names() %>%
    filter(round(p.value, 3) < 0.05) %>% #distinct(level) %>%
    arrange(desc(abs(estimate))) %>%
    mutate(
      level = case_when(
```

Table 31: Variables with highest effect sizes with each CNI type

CNI type	Moderator	Term	Est	95% CI	p
Mindset	Agreeableness (Personality)*	(b^2)	-0.545	[-0.671, -0.419]	< .001
Isms	Agreeableness (Personality)*	(b^2)	-0.54	[-0.707, -0.374]	< .001
Fanaticism	Agreeableness (Personality)*	(b^2)	-0.419	[-0.579, -0.259]	< .001
Fanaticism	Assertiveness (Mindset)*	(b^2)	0.285	[0.235, 0.335]	< .001
Mindset	Assertiveness (Mindset)*	(b^2)	0.269	[0.23, 0.309]	< .001
Personality 7	Institutional Collectivism (Mindset)*	(b^2)	-0.25	[-0.287, -0.213]	< .001
Isms	Assertiveness (Mindset)*	(b^2)	0.213	[0.16, 0.265]	< .001
Fanaticism	Institutional Collectivism (Mindset)*	(b^2)	-0.201	[-0.237, -0.165]	< .001
Personality 6	Institutional Collectivism (Mindset)*	(b^2)	-0.198	[-0.238, -0.158]	< .001
Personality 7	Assertiveness (Mindset)*	(b^2)	0.165	[0.112, 0.218]	< .001
Personality 6	Assertiveness (Mindset)*	(b^2)	0.154	[0.098, 0.21]	< .001
Mindset	Institutional Collectivism (Mindset)*	(b^2)	-0.152	[-0.18, -0.124]	< .001
GLOBE	Assertiveness (Mindset)*	(b^2)	0.138	[0.086, 0.19]	< .001
GLOBE	Institutional Collectivism (Mindset)*	(b^2)	-0.125	[-0.161, -0.088]	< .001
GLOBE	Institutional Collectivism (Mindset)*	(b)	-0.099	[-0.117, -0.082]	< .001
Fanaticism	Resilience (Personality)*	(b^2)	0.098	[0.071, 0.125]	< .001
Personality 7	Resilience (Personality)*	(b)	0.077	[0.058, 0.096]	< .001
Mindset	Resilience (Personality)*	(b^2)	0.072	[0.051, 0.094]	< .001
Personality 7	Extraversion (Personality)*	(b)	0.072	[0.063, 0.081]	< .001
Personality 7	Future orientation (Mindset)*	(b)	-0.071	[-0.085, -0.057]	< .001

Note:
(b) = Linear model, (b^{2}) = Quadratic
* Country
† Individual

Table 32: Variables with weakest effect sizes with each CNI type

CNI type	Moderator	Term	Est	95% CI	p
Mindset	Fanaticism (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Isms	Fanaticism (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Fanaticism	Fanaticism (Mindset)†	(b^2)	0	[0, 0]	$< .001$
GLOBE	Fanaticism (Mindset)*	(b^2)	0	[0, 0]	.049
Personality 7	Balkan-based Extrm (Mindset)†	(b^2)	0	[0, 0]	.034
Mindset	Failed state perception (Mindset)†	(b^2)	0	[0, 0]	$< .001$
GLOBE	Balkan-based Extrm (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Isms	Failed state perception (Mindset)†	(b^2)	0	[0, 0]	.002
Isms	Islam-based Extrm (Mindset)†	(b^2)	0	[0, 0]	.023
Mindset	Islam-based Extrm (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Fanaticism	Failed state perception (Mindset)†	(b^2)	0	[0, 0]	$< .001$
GLOBE	Failed state perception (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Personality 7	Fanaticism (Mindset)*	(b^2)	0	[0, 0]	$< .001$
Personality 6	Fanaticism (Mindset)*	(b^2)	0	[0, 0]	$< .001$
Isms	Disintegration (Personality)†	(b^2)	0	[0, 0]	.004
Mindset	Disintegration (Personality)†	(b^2)	0	[0, 0]	$< .001$
Personality 7	Failed state perception (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Fanaticism	Disintegration (Personality)†	(b^2)	0	[0, 0]	$< .001$
Fanaticism	Islam-based Extrm (Mindset)†	(b^2)	0	[0, 0]	$< .001$
Personality 6	Failed state perception (Mindset)†	(b^2)	0	[0, 0]	$< .001$

Note:
(b) = Linear model, (b^{2}) = Quadratic
* Country
† Individual

Table 33: Variables with n.s effect sizes with each CNI type

CNI type	Moderator	Term	Est	95% CI	p
Personality 6	Fanaticism (Mindset)†	(b^2)	0	[0, 0]	.636
Personality 7	Fanaticism (Mindset)†	(b^2)	0	[0, 0]	.477
Personality 7	Islam-based Extrm (Mindset)†	(b^2)	0	[0, 0]	.917
Isms	Resilience (Personality)†	(b^2)	0	[-0.001, 0.001]	.978
Fanaticism	Extremism - pan-cultural (Mindset)†	(b^2)	0	[0, 0]	.790
GLOBE	Fanaticism (Mindset)†	(b^2)	0	[0, 0]	.089
Isms	Power distance (Mindset)†	(b^2)	0	[-0.001, 0.001]	.957
GLOBE	Islam-based Extrm (Mindset)†	(b^2)	0	[0, 0]	.699
Personality 6	Proviolence (Mindset)†	(b^2)	0	[0, 0]	.782
GLOBE	Extremism - pan-cultural (Mindset)†	(b^2)	0	[0, 0]	.576
Isms	Extremism - pan-cultural (Mindset)†	(b^2)	0	[0, 0]	.560
GLOBE	Extraversion (Personality)†	(b^2)	0	[-0.001, 0.001]	.937
Personality 6	Islam-based Extrm (Mindset)†	(b^2)	0	[0, 0]	.566
Mindset	Extremism - pan-cultural (Mindset)†	(b^2)	0	[0, 0]	.310
Personality 7	Proviolence (Mindset)†	(b^2)	0	[0, 0]	.571
Mindset	Gamma (Mindset)*	(b^2)	0	[-0.005, 0.005]	.984
Personality 6	Balkan-based Extrm (Mindset)†	(b^2)	0	[0, 0]	.144
GLOBE	Disintegration (Personality)*	(b^2)	0	[-0.001, 0.001]	.880
Personality 7	Extremism - pan-cultural (Mindset)†	(b^2)	0	[0, 0]	.114
Personality 7	Delta (Mindset)†	(b^2)	0	[-0.001, 0]	.761

Note:
(b) = Linear model, (b^{2}) = Quadratic
* Country
† Individual

```
  level == "Community" ~ "Country",
  TRUE ~ level  # This keeps other values unchanged
),
    color = case_when(
      modtr %in% c("Alpha", "Beta", "Gamma", "Delta") ~ "Isms",
      modtr %in% c("Ingroup Collectivism", "Uncertainty avoidance", "Achievement orientation",
                   "Assertiveness", "Humane", "Gender Differentiation", "Institutional Collectivism
      modtr %in% c("Fanaticism", "Extremism - Yugoslavia", "Extremism - Islam", "Extremism - pan-cu
                   "Divine Power", "Proviolence", "Vile world") ~ "Fanaticism",
      modtr == "Failed state perception" ~ "Failed state"
    ),
    term_type = case_when(
term == "z_ctry_response:modtr_score" ~ "Linear",
term == "z_ctry_response:I(modtr_score^2)" ~ "Quadratic",
TRUE ~ NA_character_,
      .default = NA_character_)
  )

# Select 15 highest and 15 lowest estimates and tag them as 'Highest' or 'Lowest'
highest_15 <- base_data %>% head(15) %>% mutate(group = "Highest 15 Estimates")
lowest_15 <- base_data %>% tail(15) %>% mutate(group = "Lowest 15 Estimates")

# Combine the data
all_data <- bind_rows(highest_15, lowest_15)

# Define the overall range of estimates for consistent axis scaling
estimate_range <- range(c(all_data$conf.high, all_data$conf.low))

# Define the plot
combined_plot <- ggplot(all_data,
  aes(x = reorder(modtr, estimate), y = estimate, color = color, linetype = term_type, shape = leve
  geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = 0, alpha = 0.3, size = 3, position

  geom_point(size = 2, position = position_dodge(width = 0.4)) +

  geom_linerange(aes(ymin = 0, ymax = estimate), position = position_dodge(width = 0.4)) +

  scale_shape_manual(values = c("Country" = 15, "Individual" = 17), drop = FALSE) +
  scale_color_manual(values = c("Isms" = "#ff6f91", "Globe" = "#377EB8", "Fanaticism" = "#008f7a",
  scale_linetype_manual(values = c("Linear" = "dotdash", "Quadratic" = "solid"), drop = FALSE) +
  scale_y_continuous(limits = estimate_range) +
  coord_flip() +
  facet_wrap(~group, ncol = 1, scales = "free_y")+
  theme_minimal(base_family = "serif", base_size = 12) +
  labs(
    x = NULL,
    y = "Estimate",
    color = "Domain",
    shape = "Level",
    linetype = "Association") +
          theme_bw() +
  theme(text = element_text(family = "serif", size = 13.2), legend.position = "bottom")+
```

```
    guides(
  color = guide_legend(ncol = 2, title.position = "top"),  # 2 columns for Domain
  shape = guide_legend(ncol = 1, title.position = "top"),  # 1 column for Level
  linetype = guide_legend(ncol = 1, title.position = "top")  # 1 column for Association
)


  return(combined_plot)
}

plot_high.low_pty_effects <- function(data) {
  base_data <- data %>%
   # cni.ContMod_tables$ismCNI.pty %>%
    specify_var_names() %>%
    filter(round(p.value, 3) < 0.05) %>%
    arrange(desc(abs(estimate))) %>%
    mutate(
      level = case_when(
        level == "Community" ~ "Country",
        TRUE ~ level),
      color = modtr,
      term_type = case_when(
        term == "z_ctry_response:modtr_score" ~ "Linear",
        term == "z_ctry_response:I(modtr_score^2)" ~ "Quadratic",
        TRUE ~ NA_character_,
        .default = NA_character_)
    )

  # Select 10 highest and 10 lowest estimates and tag them as 'Highest' or 'Lowest'
  highest_10 <- base_data %>% head(10) %>% mutate(group = "Highest 10 Estimates")
  lowest_10 <- base_data %>% tail(10) %>% mutate(group = "Lowest 10 Estimates")

  # Combine the data
  all_data <- bind_rows(highest_10, lowest_10)
  # Define the overall range of estimates for consistent axis scaling
  estimate_range <- range(c(all_data$conf.low, all_data$conf.high))

  # Define the plot
  combined_plot <- ggplot(all_data,
    aes(x = reorder(modtr, estimate), y = estimate, color = color, linetype = term_type, shape = leve
   geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = 0, alpha = 0.3, size = 3, position =

    geom_point(aes(shape = level), size = 2, position = position_dodge(width = 0.4)) +

    geom_linerange(aes(ymin = 0, ymax = estimate, linetype = term_type), position = position_dodge(wi

    scale_shape_manual(values = c("Country" = 15, "Individual" = 17), drop = FALSE) +
    scale_fill_manual(values = c(
      "Conscientiousness" = "#ff6f91",
      "Honesty" = "#377EB8",
      "Agreeableness" = "#008f7a",
      "Resilience" = "#e6d021",
      "Extraversion" = "#d7573b",
```

```
      "Originality/Virtuosity" = "#c67533",
      "Disintegration" = "#646199"
    )) +
    scale_color_manual(values = c(
      "Conscientiousness" = "#ff6f91",
      "Honesty" = "#377EB8",
      "Agreeableness" = "#008f7a",
      "Resilience" = "#e6d021",
      "Extraversion" = "#d7573b",
      "Originality/Virtuosity" = "#c67533",
      "Disintegration" = "#646199"
    )) +
    scale_linetype_manual(values = c("Linear" = "dotdash", "Quadratic" = "solid"), drop = FALSE) +
    scale_y_continuous(limits = estimate_range) +  # Ensure consistent y-axis limits
    coord_flip() +
    facet_wrap(~group, ncol = 1, scales = "free_y") +  # Facet the plot into Highest and Lowest
    theme_minimal(base_family = "serif", base_size = 12) +
    labs(
      x = NULL,
      y = "Estimate",
      color = "Domain",
      fill = "Domain",
      shape = "Level",
      linetype = "Association") +
    theme_bw() +
    theme(
      text = element_text(family = "serif", size = 12),
       axis.text.y = element_text(size = 13.2),
        legend.position = "bottom")  +

    guides(
      color = guide_legend(ncol = 2, title.position = "top"),  # 2 columns for Domain
      fill = guide_legend(ncol = 2, title.position = "top"),  # 2 columns for Domain (for the ribbon)
      shape = guide_legend(ncol = 1, title.position = "top"),  # 1 column for Level
      linetype = guide_legend(ncol = 1, title.position = "top")  # 1 column for Association
    )

  return(combined_plot)
}
```

3.3.2 CNI view: Linear and Quadratic effects

These plots allow to visualize the causal effects of mindset and personality variables across CNI types. Linear and quadratic relations are plotted separately, while not setting the Estimate axis to same values across all plots. A more variable focused view can be seen in the previous section wherein the focus is mainly on the largest and smallest effects. This is a CNI focused view that allows for comprehending the behavior of variable estimates within every CNI type.

```
#"Moderating effects on CNI: Individual vs Country"
cni.pty_effects_plot <- function(data, association_type) {

  if (association_type == "linear") {
```

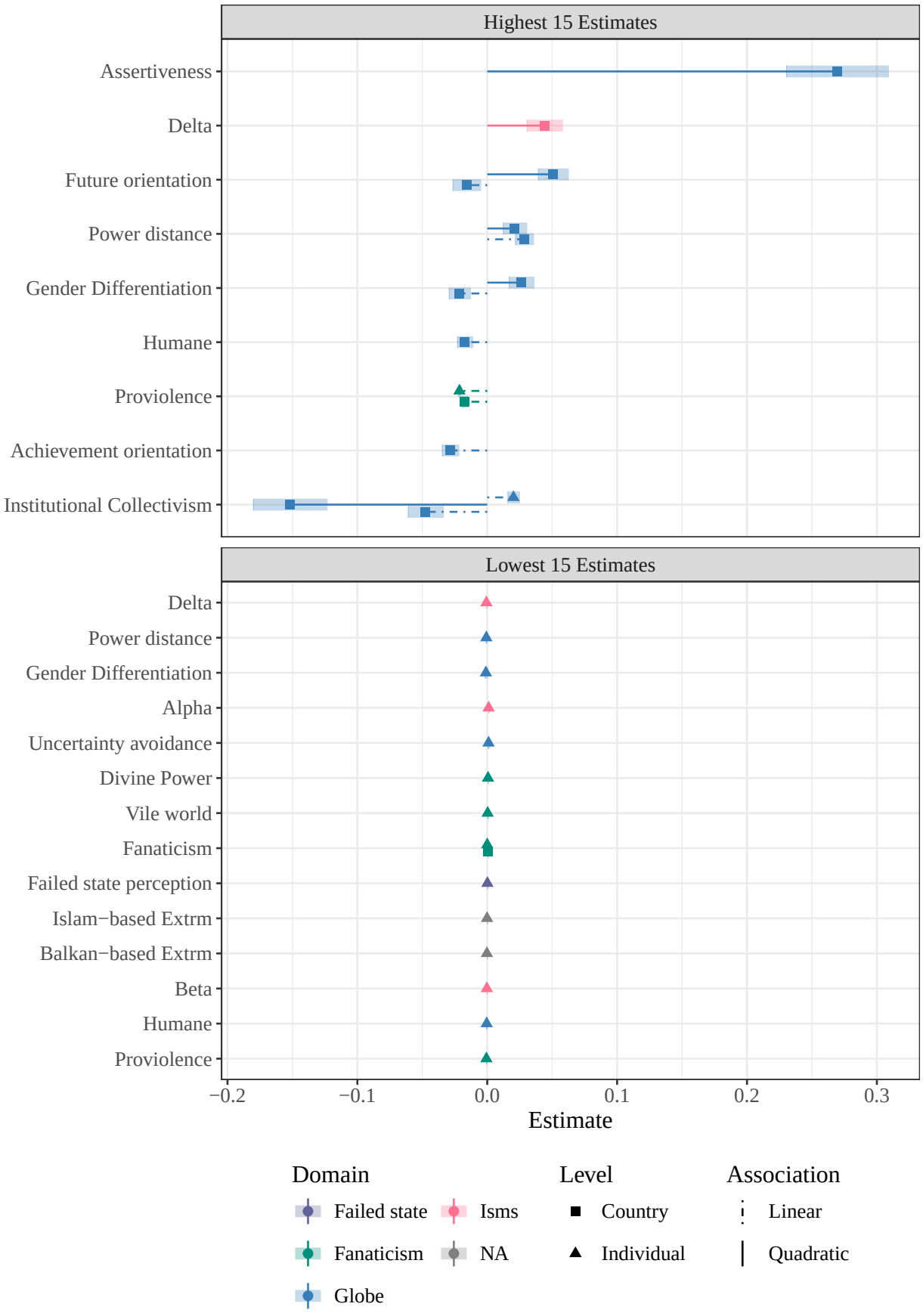

Figure 11: Associations between Mindset CNI and mindset traits

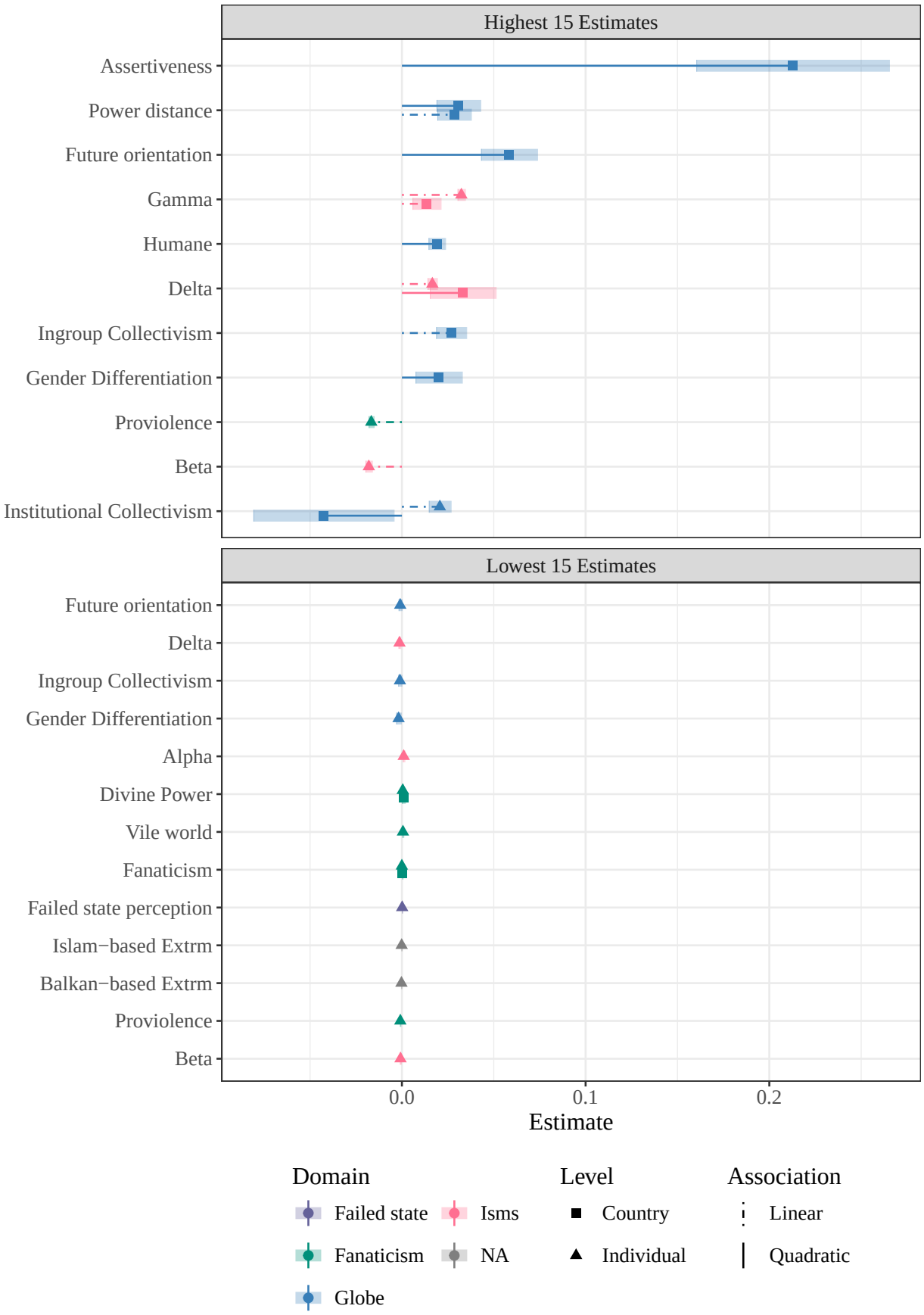

Figure 12: Associations between Isms-Mindset CNI and mindset traits

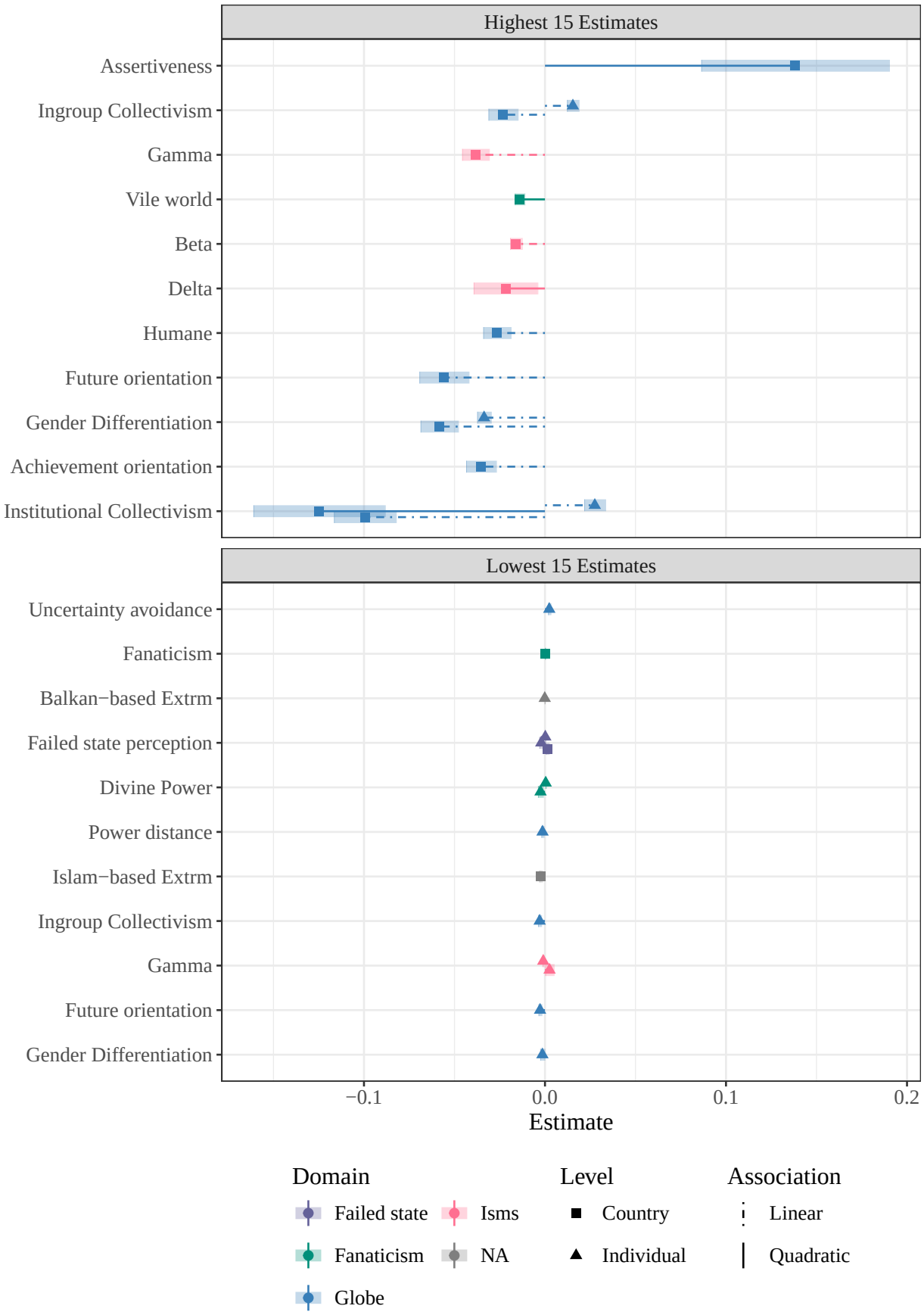

Figure 13: Associations between Globe-Mindset CNI and mindset traits

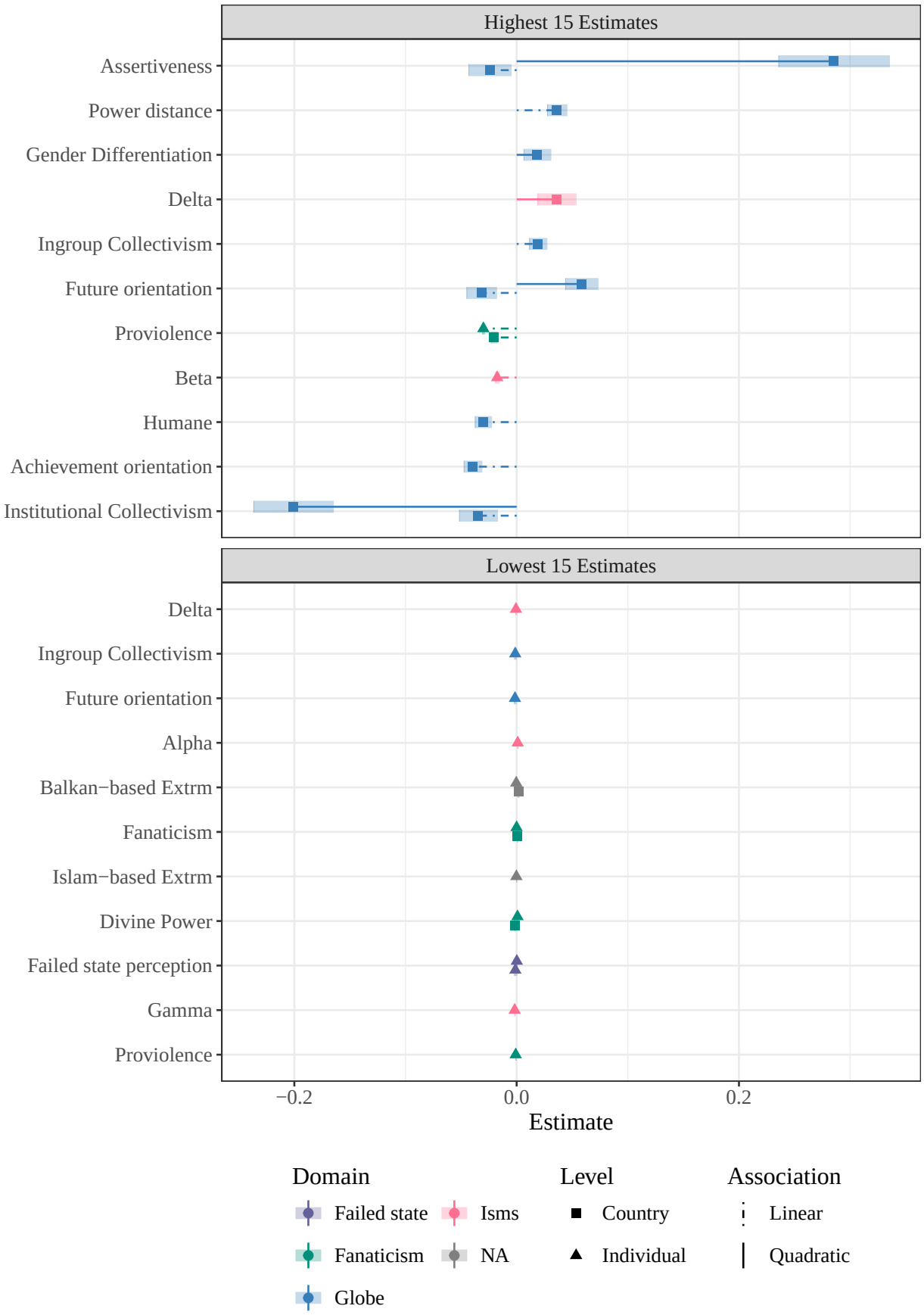

Figure 14: Associations between Fanaticism-Mindset CNI and mindset traits

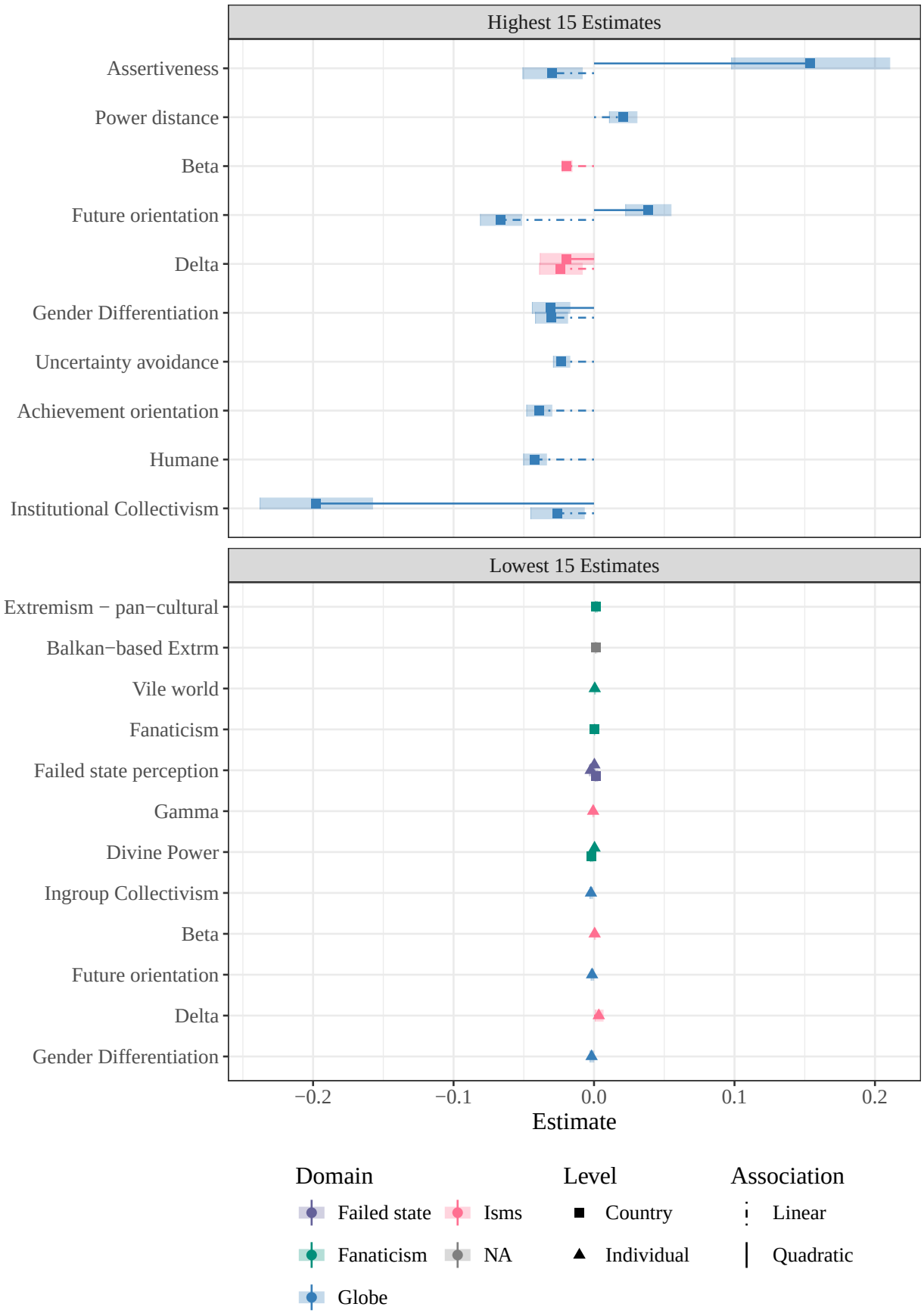

Figure 15: Associations between Personality6 CNI and mindset traits

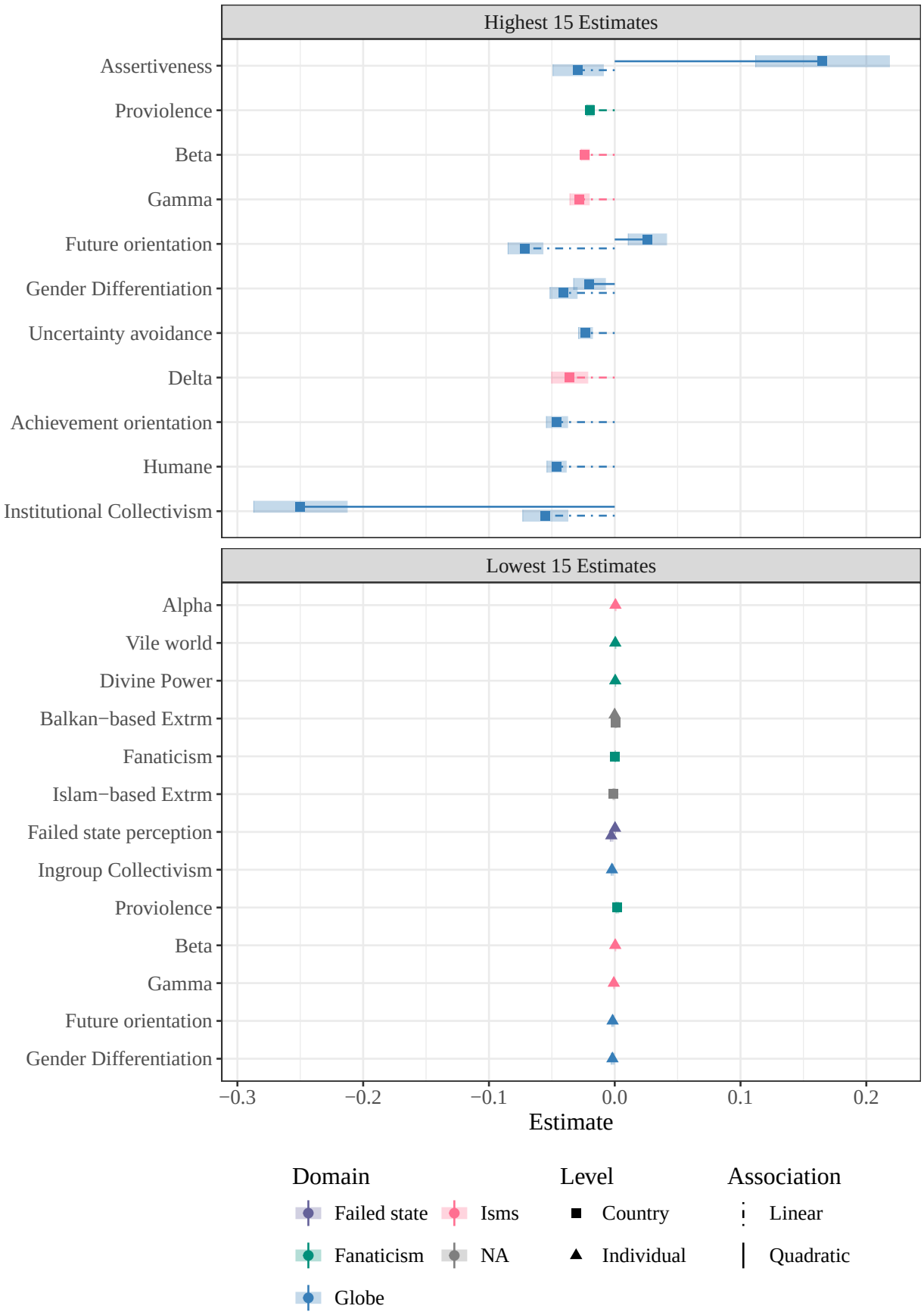

Figure 16: Associations between Personality7 CNI and mindset traits

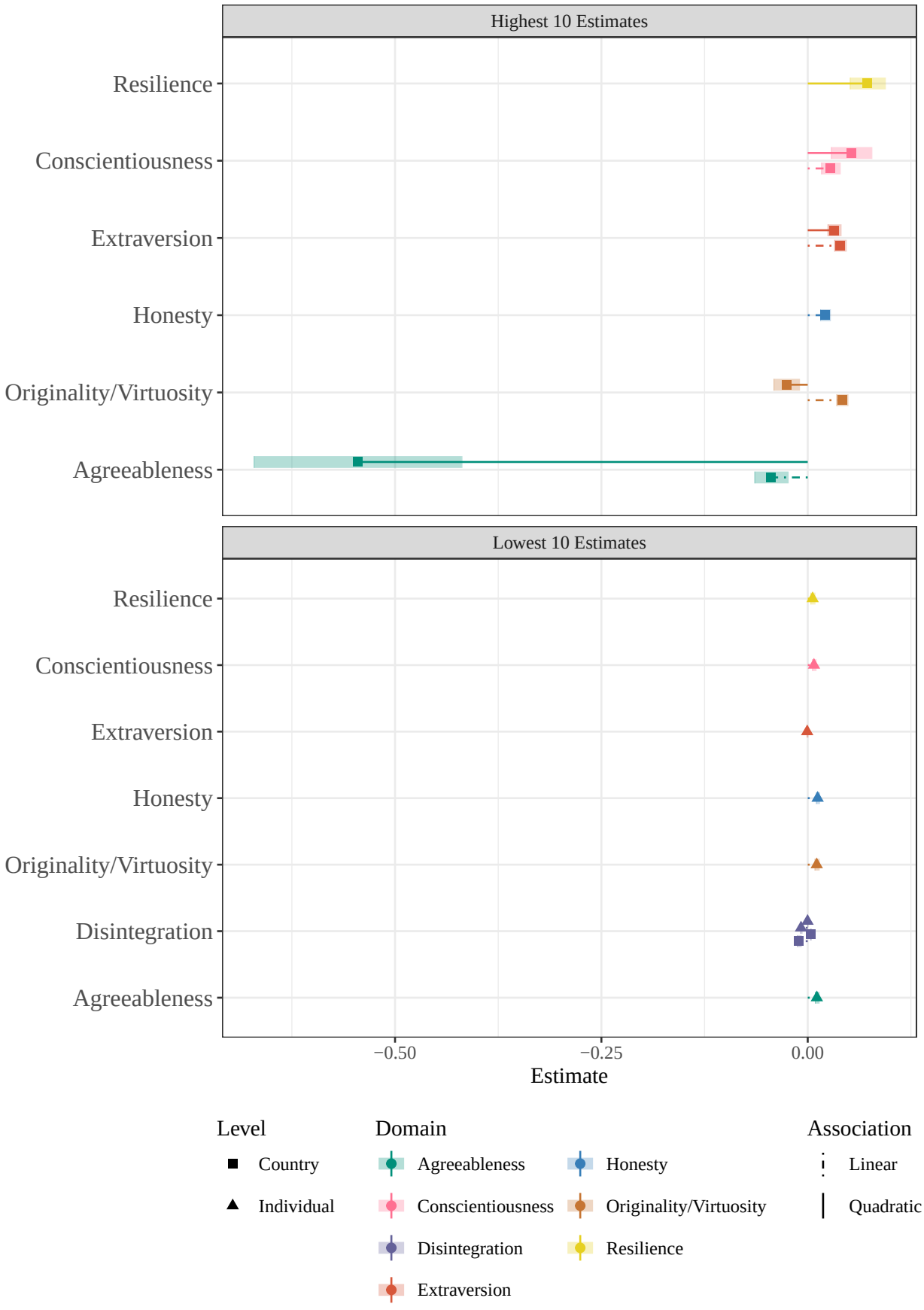

Figure 17: Associations between Mindset CNI and personality traits

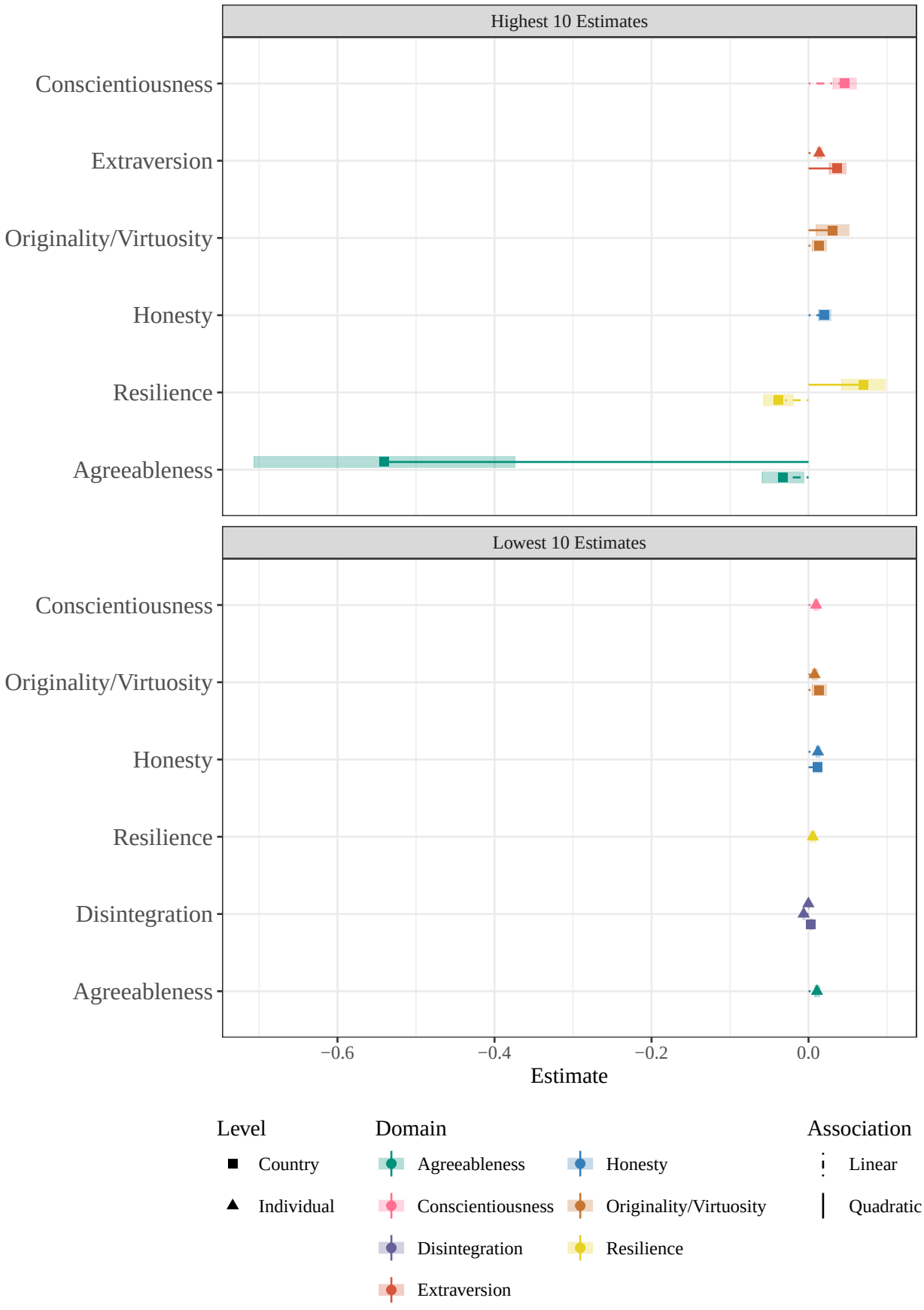

Figure 18: Associations between Isms-Mindset CNI and personality traits

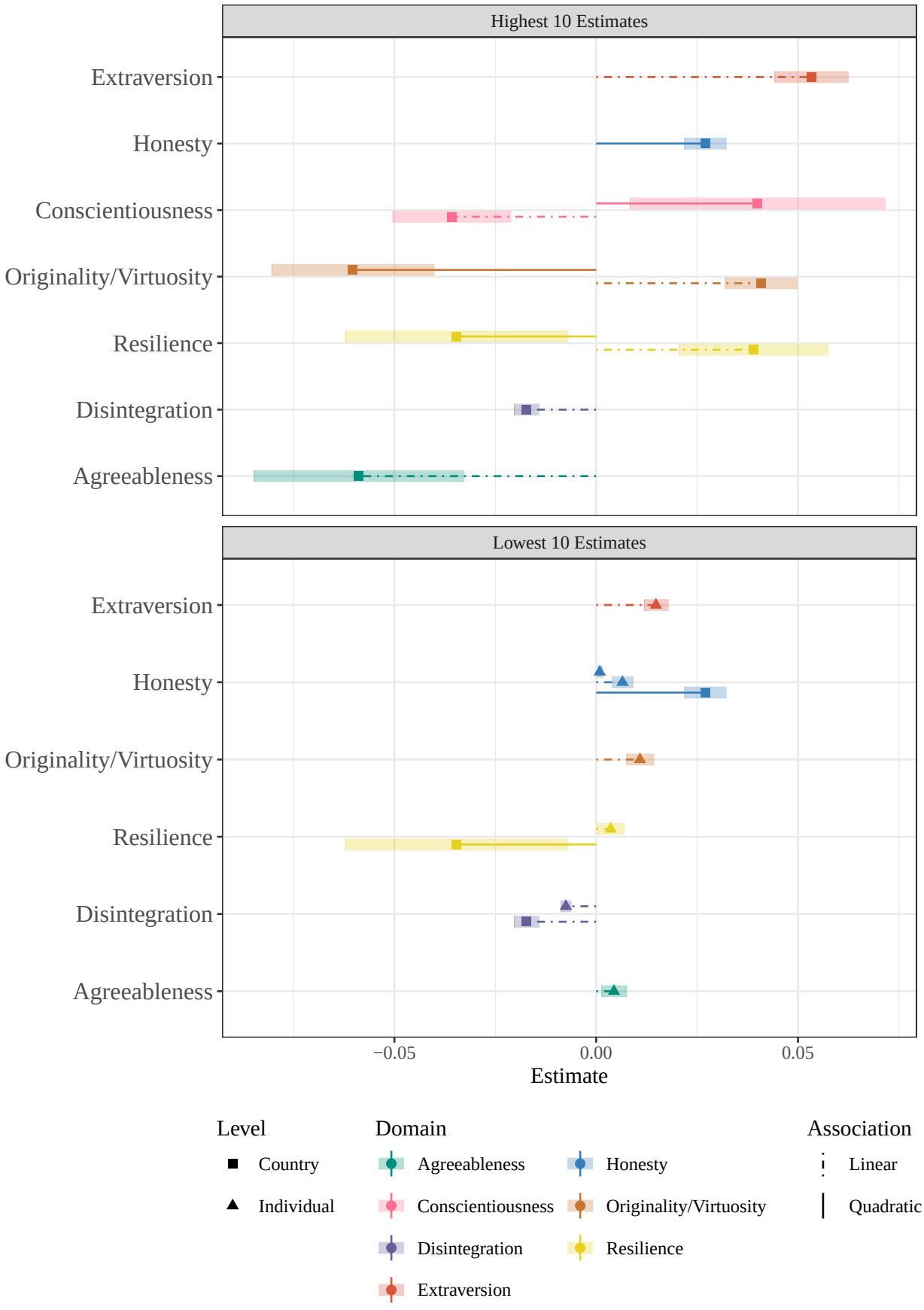

Figure 19: Associations between Globe-Mindset CNI and personality traits

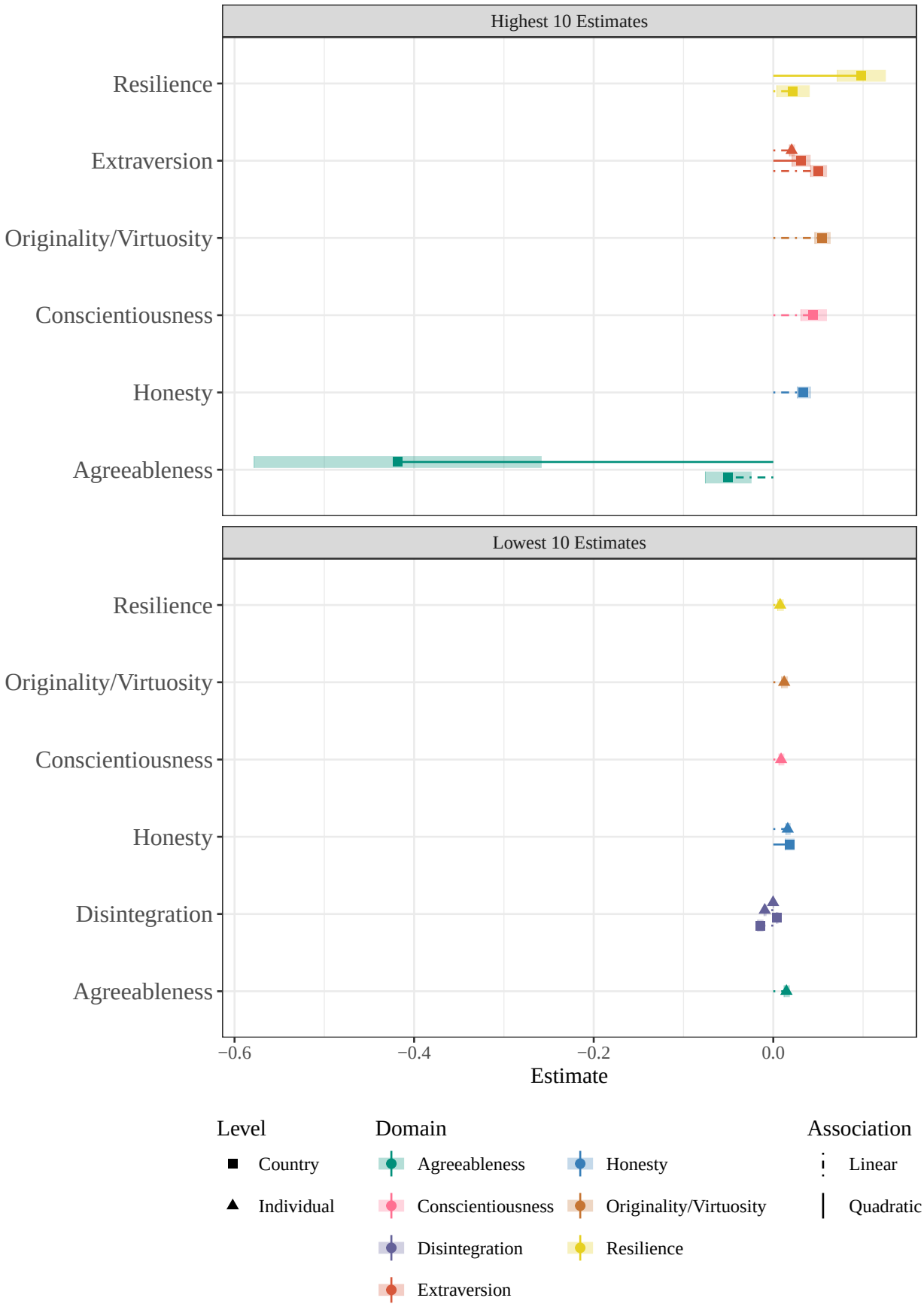

Figure 20: Associations between Fanaticism-Mindset CNI and personality traits

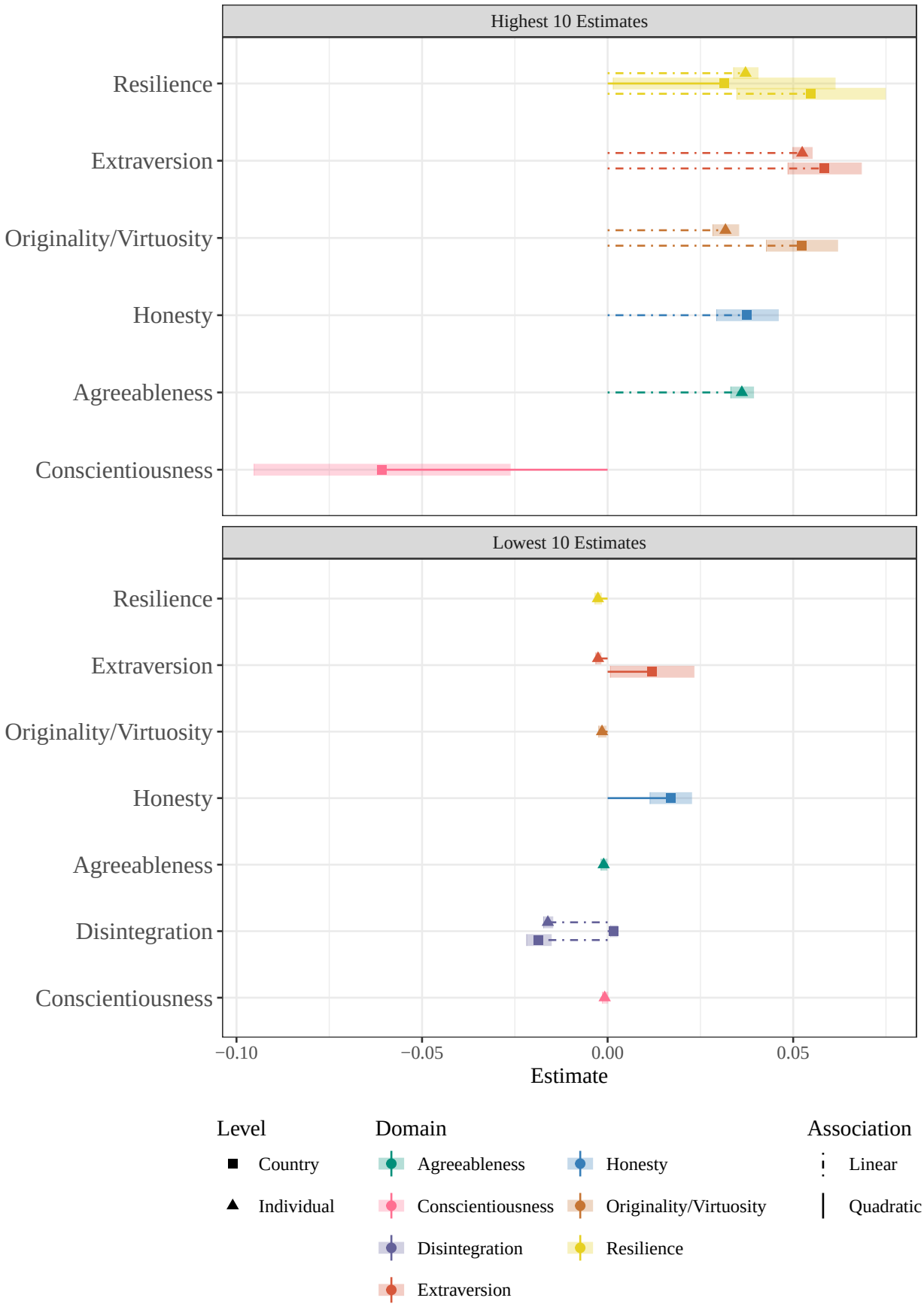

Figure 21: Associations between Personality6 CNI and personality traits

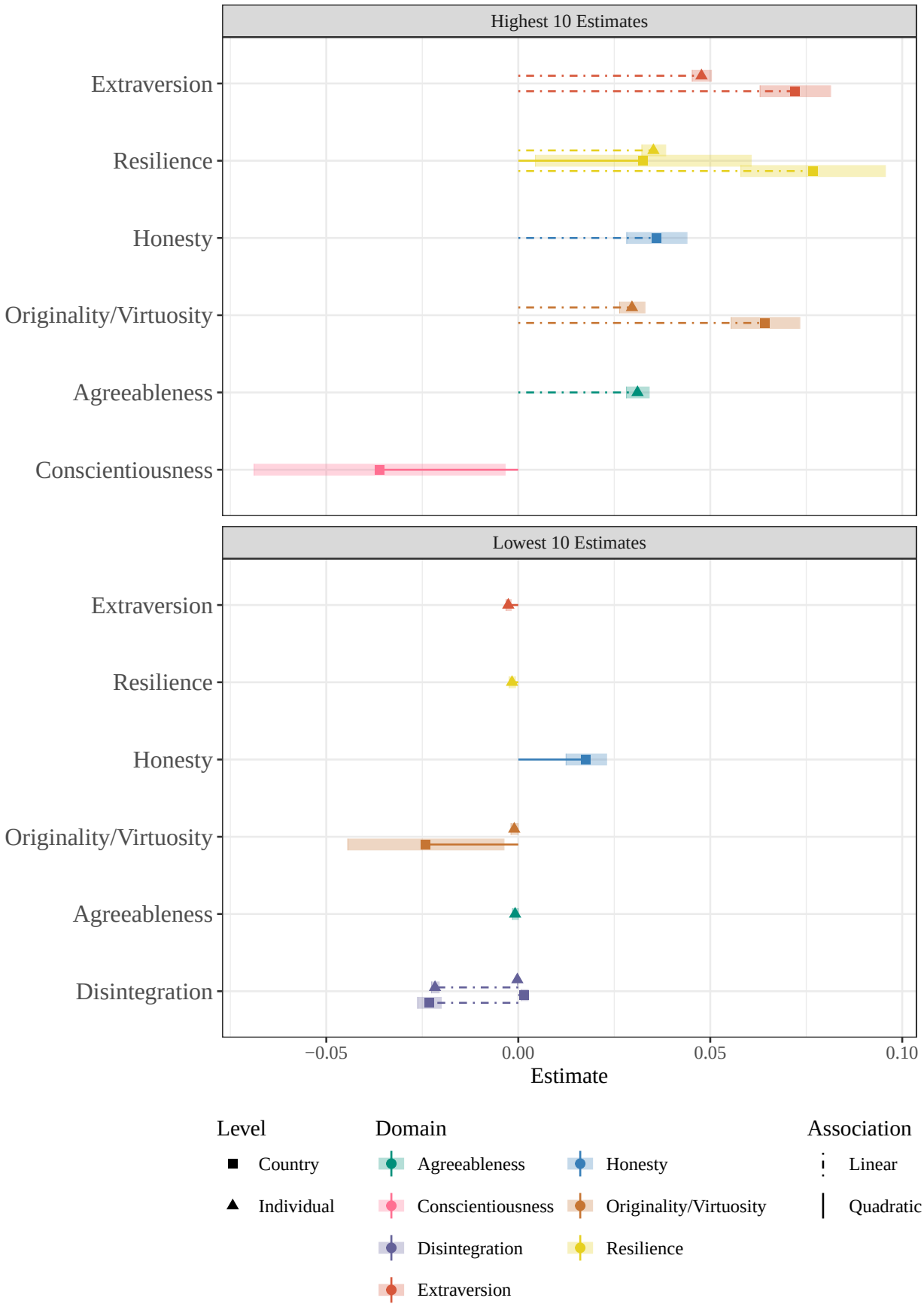

Figure 22: Associations between Personality7 CNI and personality traits

```
  data_ass.type <- data %>% #cni.ContMod_tables$globeCNI.pty7
    #linear effects
    filter(term == "z_ctry_response:modtr_score")
} else if (association_type == "quadratic") {
  data_ass.type <- data %>%
    #quadratic effects
    filter(term == "z_ctry_response:I(modtr_score^2)")
} else {
  stop("Invalid association type. Choose 'linear' or 'quadratic'")
}

  data_ass.type %>%
  specify_var_names() %>%
  with_groups(modtr, ~ mutate(.x, avg_abs_estimate = mean(abs(estimate)))) %>%
  mutate(
    modtr = fct_reorder(modtr, avg_abs_estimate, .desc = FALSE),
    sig = case_when(
      p.value < .05 & estimate > 0 ~ "Pos",
      p.value < .05 & estimate < 0 ~ "Neg",
      TRUE ~ "NOT"),
    level = case_when(
      level == "Community" ~ "Country",
      TRUE ~ level
    ),
    asterisk = ifelse(p.value < 0.05, "*", ""),
    asterisk_position = ifelse(estimate > 0, conf.high, conf.low)
  ) %>%
  ggplot(aes(x = modtr, y = estimate, fill = modtr, alpha = level)) +
  geom_col(position = position_dodge(width = 0.8)) +
  geom_errorbar(aes(ymin = conf.low, ymax = conf.high),
                position = position_dodge(width = 0.8),
                width = 0.25) +
  geom_hline(yintercept = 0, linetype = "dashed", color = "gray50") +
  # Add asterisks for significant results
  geom_text(aes(label = asterisk,
                y = asterisk_position,
                vjust = 1.37),
            position = position_dodge(width = 0.8),
 show.legend  = FALSE,
            size = 5) +
  scale_fill_manual(values = c(
    "Conscientiousness" = "#ff6f91",
    "Honesty" = "#377EB8",
    "Agreeableness" = "#008f7a",
    "Resilience" = "#e6d021",
    "Extraversion" = "#d7573b",
    "Originality/Virtuosity" = "#c67533",
    "Disintegration" = "#646199"
  )) +
  scale_alpha_manual(values = c("Individual" = 1, "Country" = 0.4)) +
  labs(x = "Moderator", y = "Estimate",
       fill = "Trait", alpha = "Level") +
  theme_bw() +
```

```
    theme(legend.position = "bottom",
          text = element_text(family = "serif", size = 14)) +
    coord_flip() +
    guides(fill = "none")
}

cni.mindset_effects_plot <- function(data, association_type) {

  if (association_type == "linear") {
    data_ass.type <- data %>%
      #linear effects
      filter(term == "z_ctry_response:modtr_score")
  } else if (association_type == "quadratic") {
    data_ass.type <- data %>%
      #quadratic effects
      filter(term == "z_ctry_response:I(modtr_score^2)")
  } else {
    stop("Invalid association type. Choose 'linear' or 'quadratic'")
  }

  data_ass.type %>%
    specify_var_names() %>%
    with_groups(modtr, ~ mutate(.x, avg_abs_estimate = mean(abs(estimate)))) %>%
    mutate(
      modtr = fct_reorder(modtr, avg_abs_estimate, .desc = FALSE),
      color = case_when(
        modtr == "Alpha" ~ "Isms",
        modtr == "Beta" ~ "Isms",
        modtr == "Gamma" ~ "Isms",
        modtr == "Delta" ~ "Isms",
        modtr == "Traditional family structure" ~ "Globe",
        modtr == "Uncertainty avoidance" ~ "Globe",
        modtr == "Achievement orientation" ~ "Globe",
        modtr == "Assertiveness" ~ "Globe",
        modtr == "Humane" ~ "Globe",
        modtr == "Gender Differentiation" ~ "Globe",
        modtr == "Ingroup Collectivism" ~ "Globe",
        modtr == "Power distance" ~ "Globe",
        modtr == "Future orientation" ~ "Globe",
        modtr == "Fanaticism" ~ "Fanaticism",
        modtr == "Extremism - Yugoslavia" ~ "Fanaticism",
        modtr == "Extremism - Islam"  ~ "Fanaticism",
        modtr == "Extremism - pan-cultural" ~ "Fanaticism",
        modtr == "Divine Power" ~ "Fanaticism",
        modtr == "Proviolence" ~ "Fanaticism",
        modtr == "Vile world" ~ "Fanaticism",
        modtr == "Failed state perception" ~ "Failed state"),
      sig = case_when(
        p.value < .05 & estimate > 0 ~ "Pos",
        p.value < .05 & estimate < 0 ~ "Neg",
        TRUE ~ "NOT"),
      level = case_when(
        level == "Community" ~ "Country",
```

```
      TRUE ~ level
    ),
    asterisk = ifelse(p.value < 0.05, "*", ""),
    asterisk_position = ifelse(estimate > 0, conf.high, conf.low)
  ) %>%
  ggplot(aes(x = modtr, y = estimate, fill = color, alpha = level)) +
  geom_col(position = position_dodge(width = 0.8)) +
  geom_errorbar(aes(ymin = conf.low, ymax = conf.high),
                position = position_dodge(width = 0.8),
                width = 0.25) +
  geom_hline(yintercept = 0, linetype = "dashed", color = "gray50") +
  # Add asterisks for significant results
  geom_text(aes(label = asterisk,
                y = asterisk_position,
                vjust = 1.37),
            position = position_dodge(width = 0.8), size = 5,
      show.legend = FALSE) +
  scale_fill_manual(values = c(
    "Isms" = "#ff6f91",
    "Globe" = "#377EB8",
    "Fanaticism" = "#008f7a",
    "Failed state" = "#646199"),
    guide = guide_legend(
      position = "bottom",
      ncol = 2,
      direction = "vertical")) +
  scale_alpha_manual(values = c("Individual" = 1, "Country" = 0.4),
    guide = guide_legend(
      position = "bottom",
      ncol = 1,
      direction = "vertical")) +
  labs(x = "Moderator", y = "Estimate",
       fill = "Trait", alpha = "Level") +
  theme_bw() +
  theme(legend.position = "bottom",
        text = element_text(family = "serif", size = 14)) +
  coord_flip()
}

cni.ContMod_plot_details <- cni.ContMod_tbl_details %>%
  # Duplicate each row
  slice(rep(1:n(), each = 2)) %>%
  # Add association_type column
  mutate(association_type = rep(c("linear", "quadratic"), n() / 2)) %>%
  # Modify caption based on association_type
  mutate(caption = case_when(
   association_type == "linear" ~ paste0("Linear ", sub("Associations", "associations", caption)),
    association_type == "quadratic" ~ paste0("Quadratic ", sub("Associations", "associations", capt
  ))
```

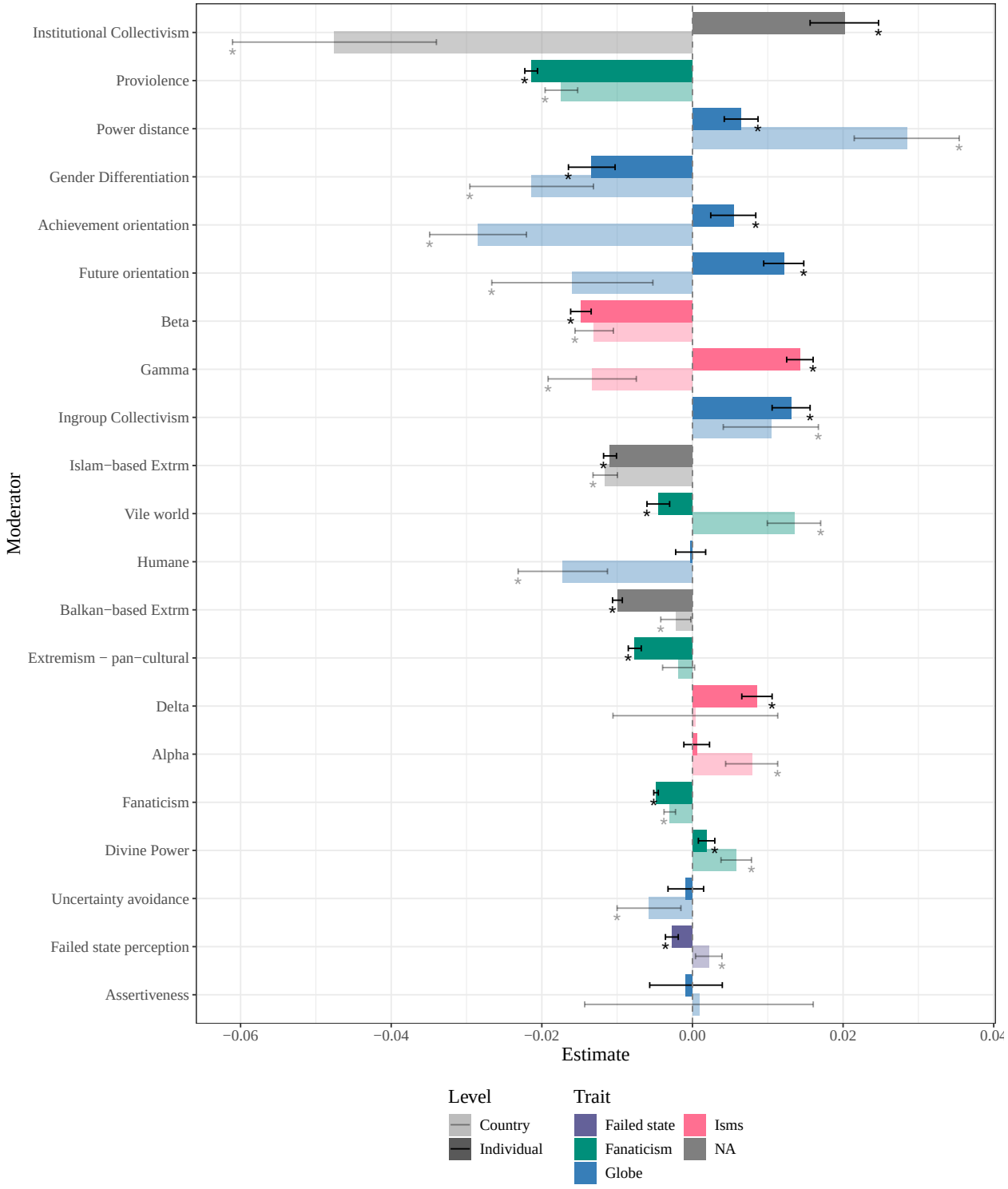

Figure 23: Linear associations between Mindset CNI and mindset traits

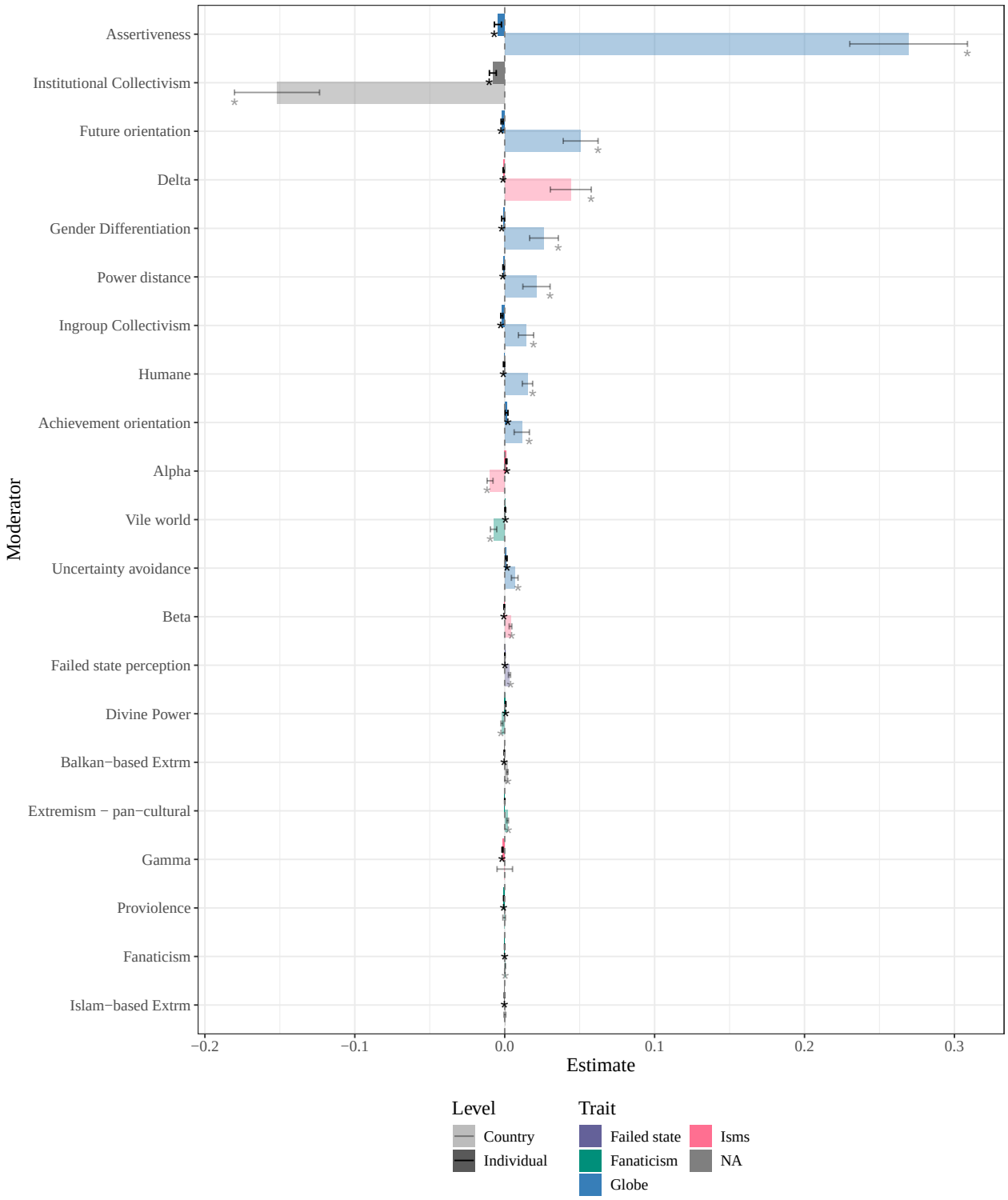

Figure 24: Quadratic associations between Mindset CNI and mindset traits

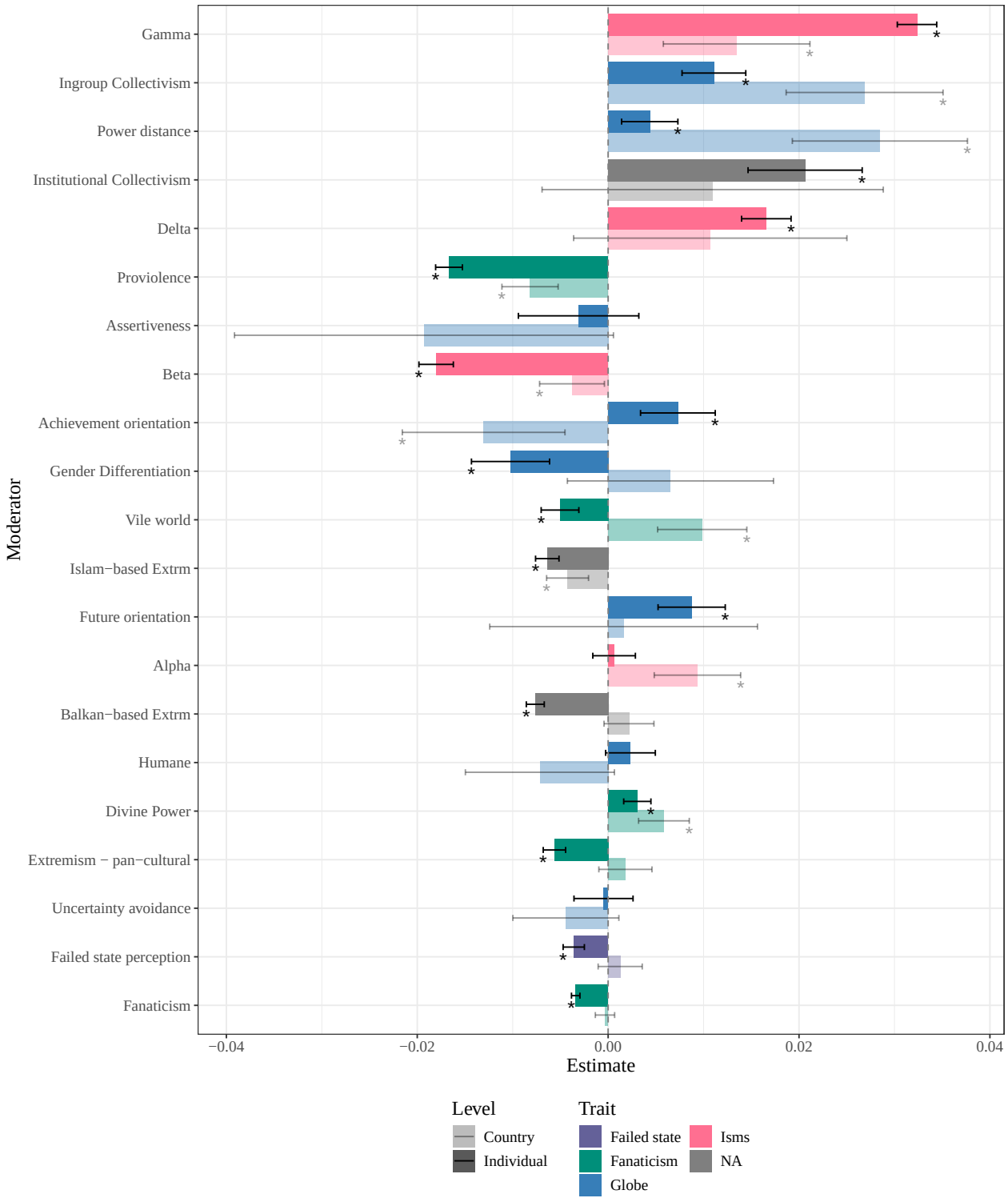

Figure 25: Linear associations between Isms-Mindset CNI and mindset traits

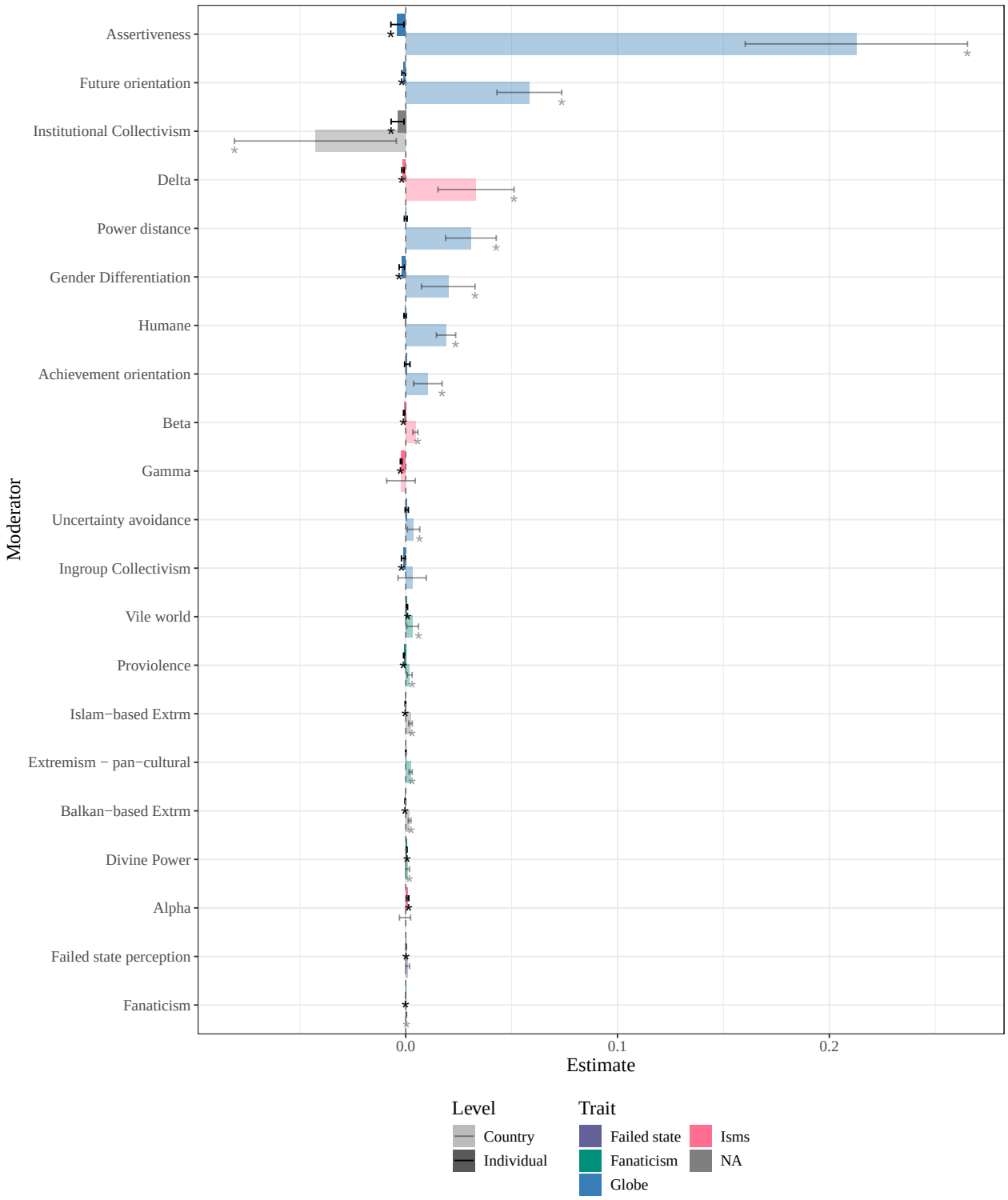

Figure 26: Quadratic associations between Isms-Mindset CNI and mindset traits

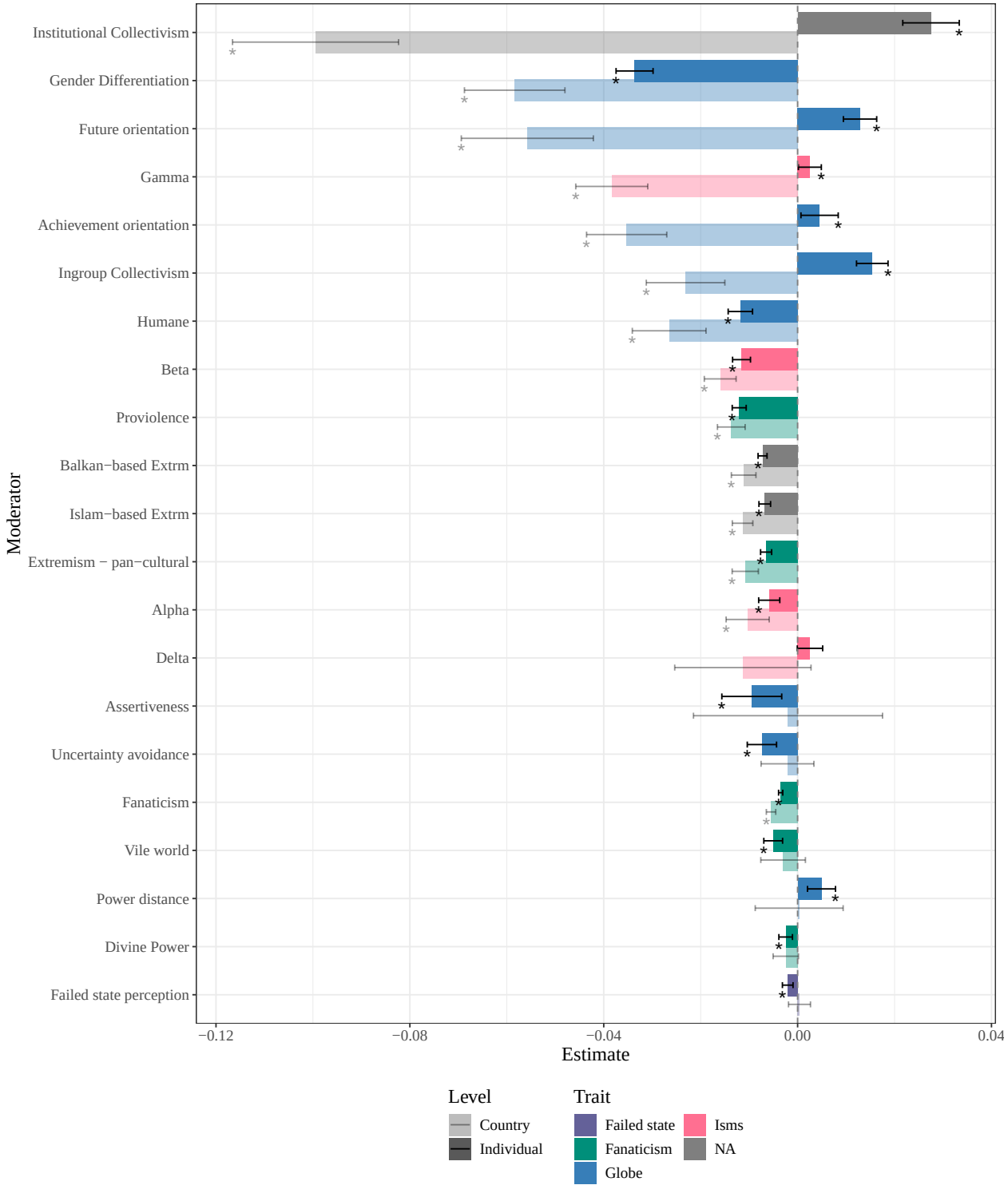

Figure 27: Linear associations between Globe-Mindset CNI and mindset traits

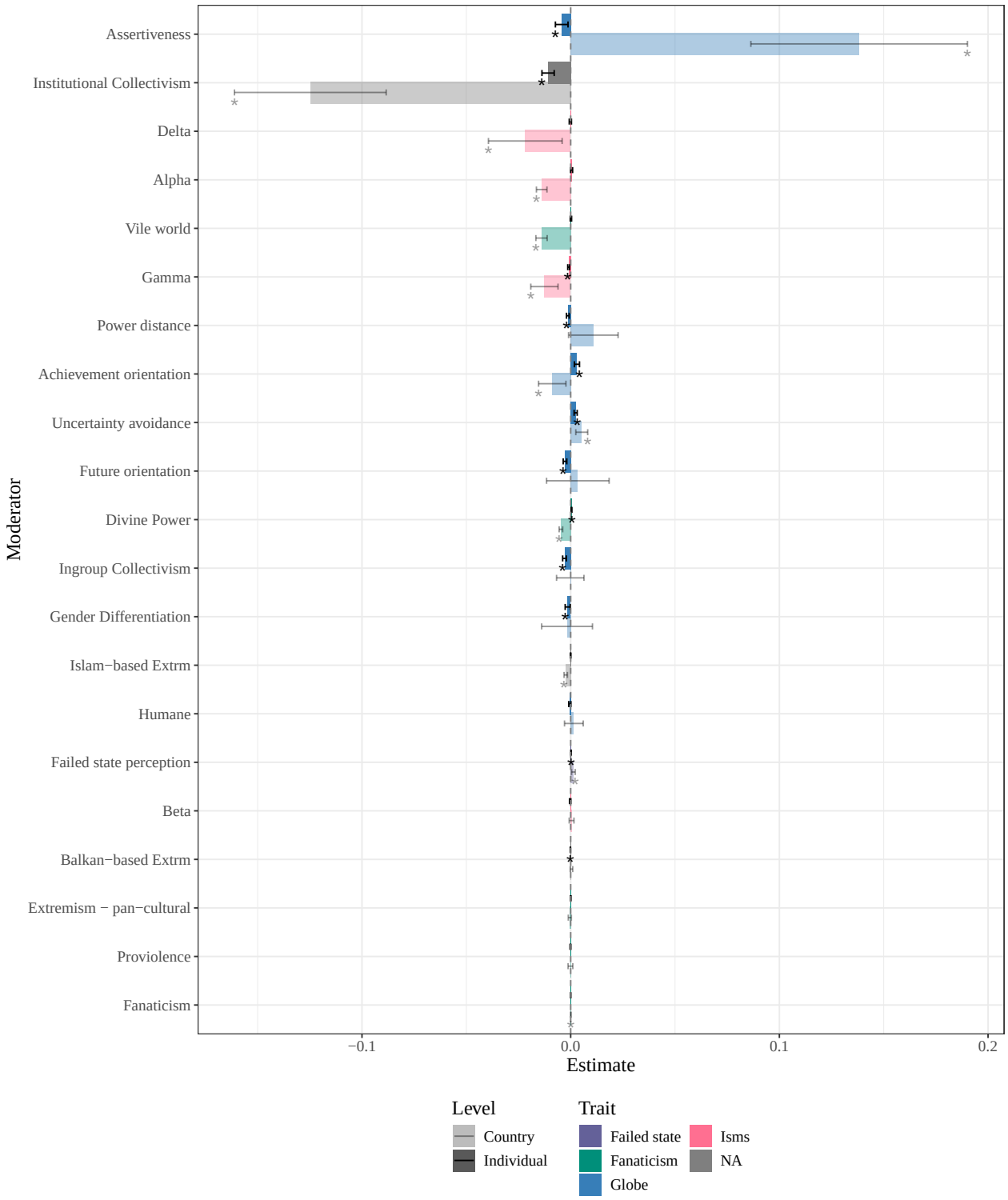

Figure 28: Quadratic associations between Globe-Mindset CNI and mindset traits

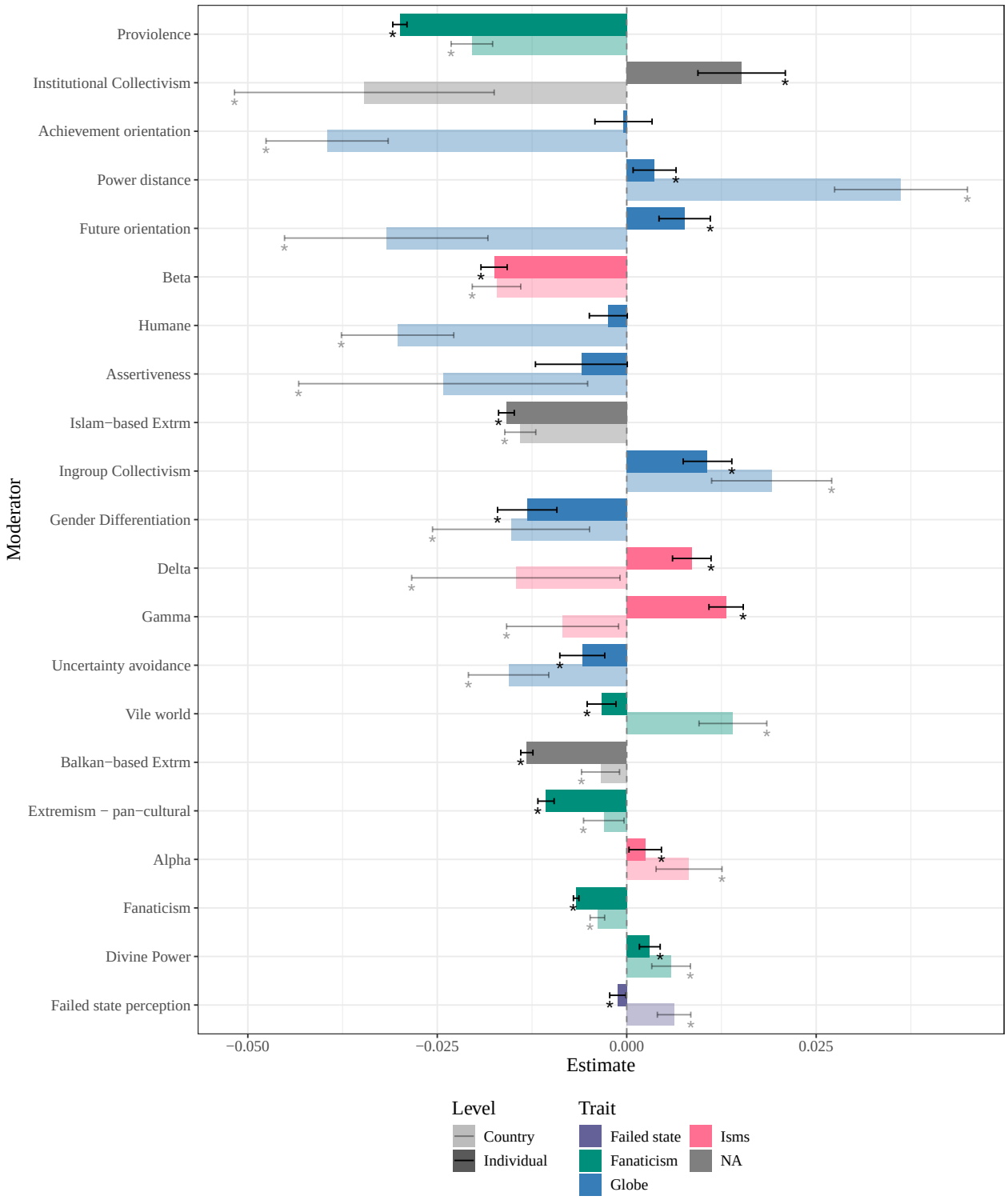

Figure 29: Linear associations between Fanaticism-Mindset CNI and mindset traits

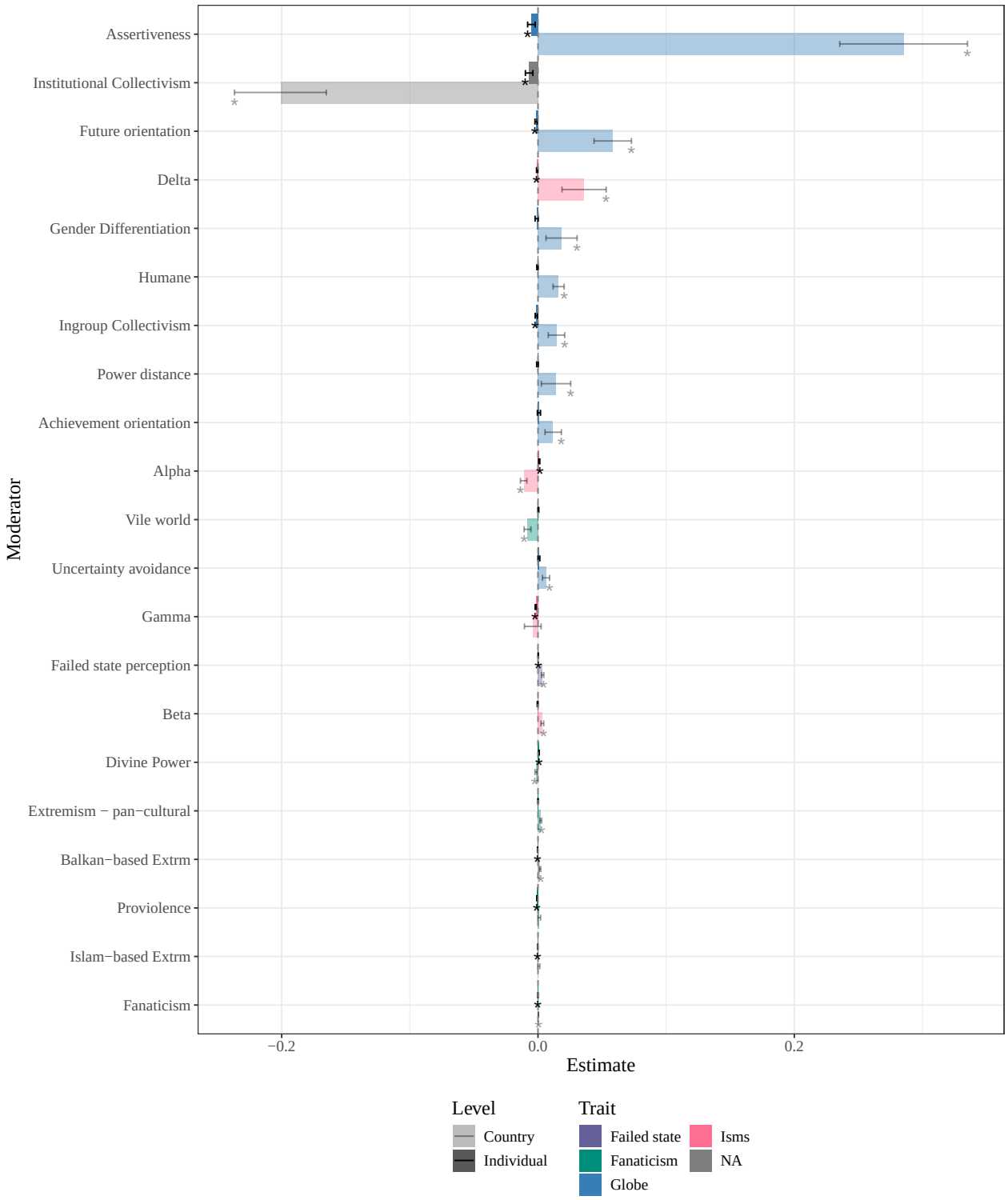

Figure 30: Quadratic associations between Fanaticism-Mindset CNI and mindset traits

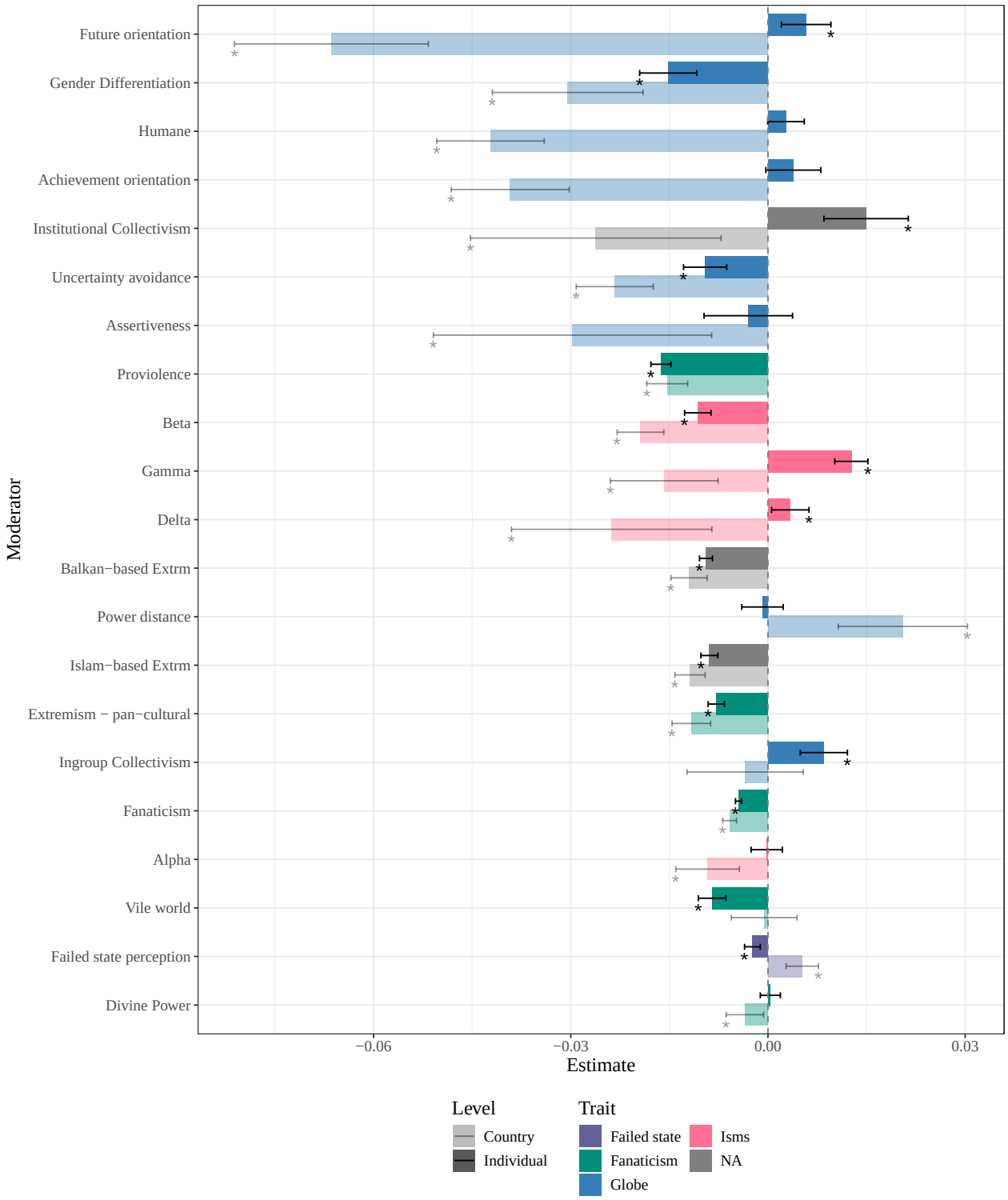

Figure 31: Linear associations between Personality6 CNI and mindset traits

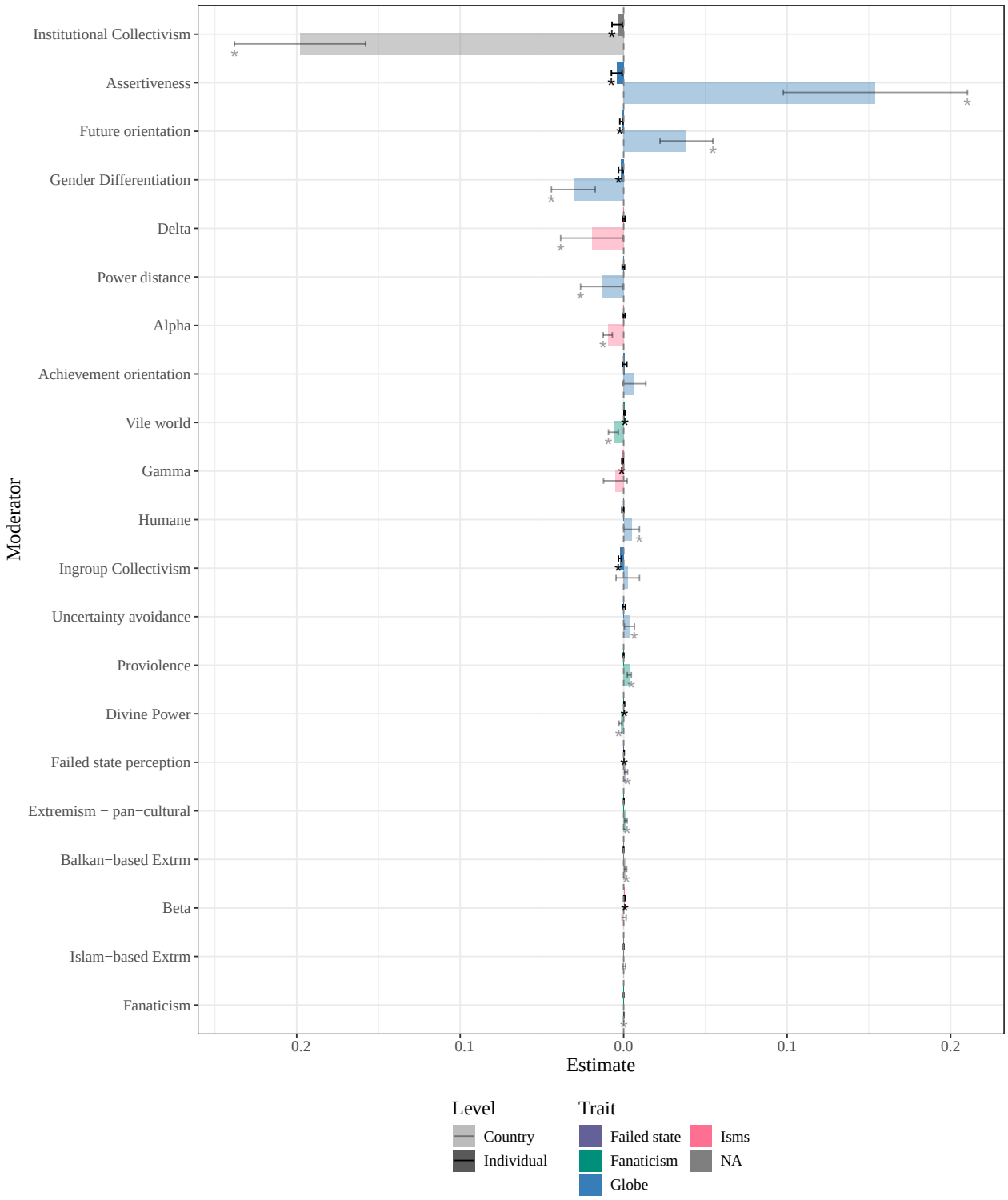

Figure 32: Quadratic associations between Personality6 CNI and mindset traits

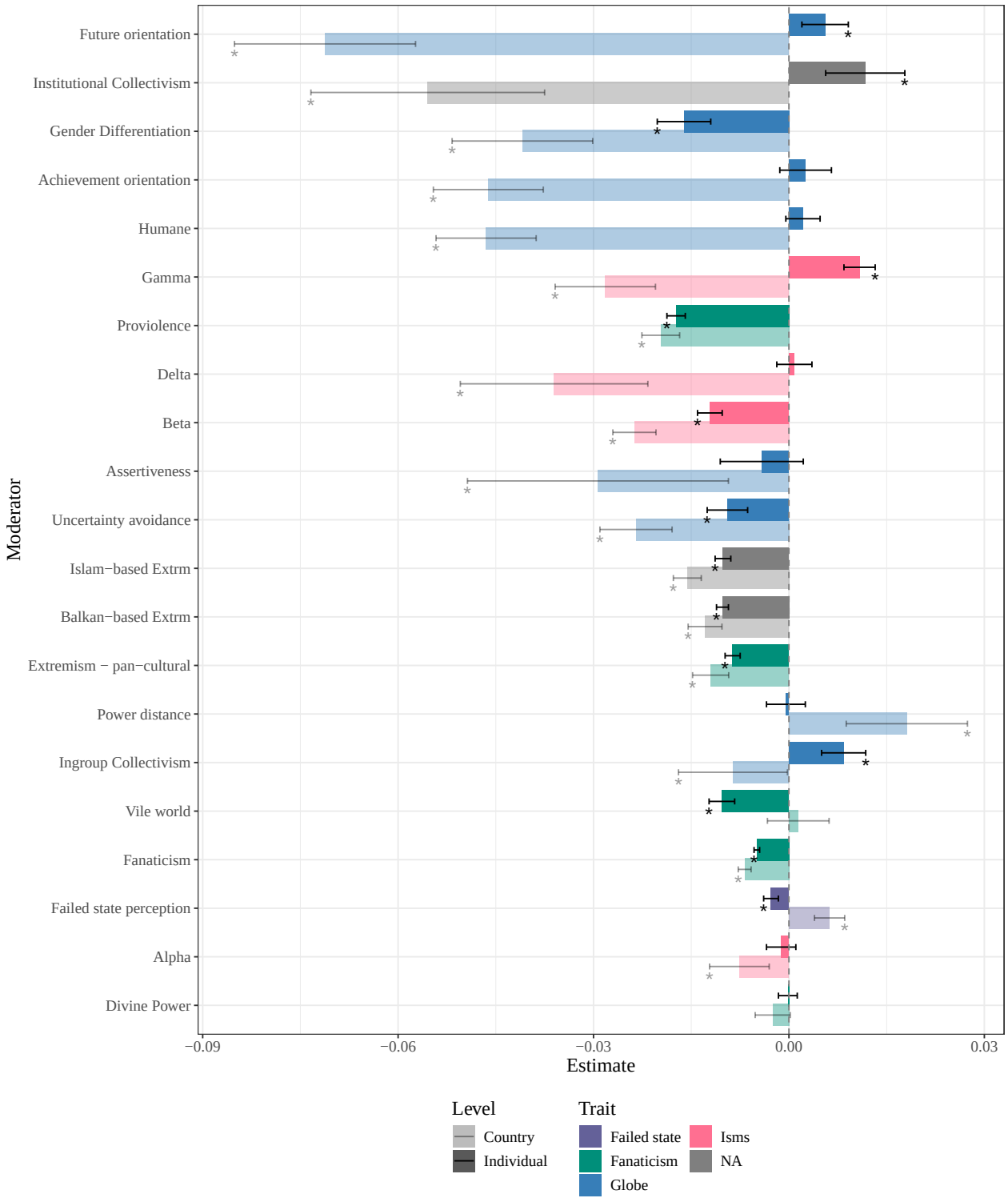

Figure 33: Linear associations between Personality7 CNI and mindset traits

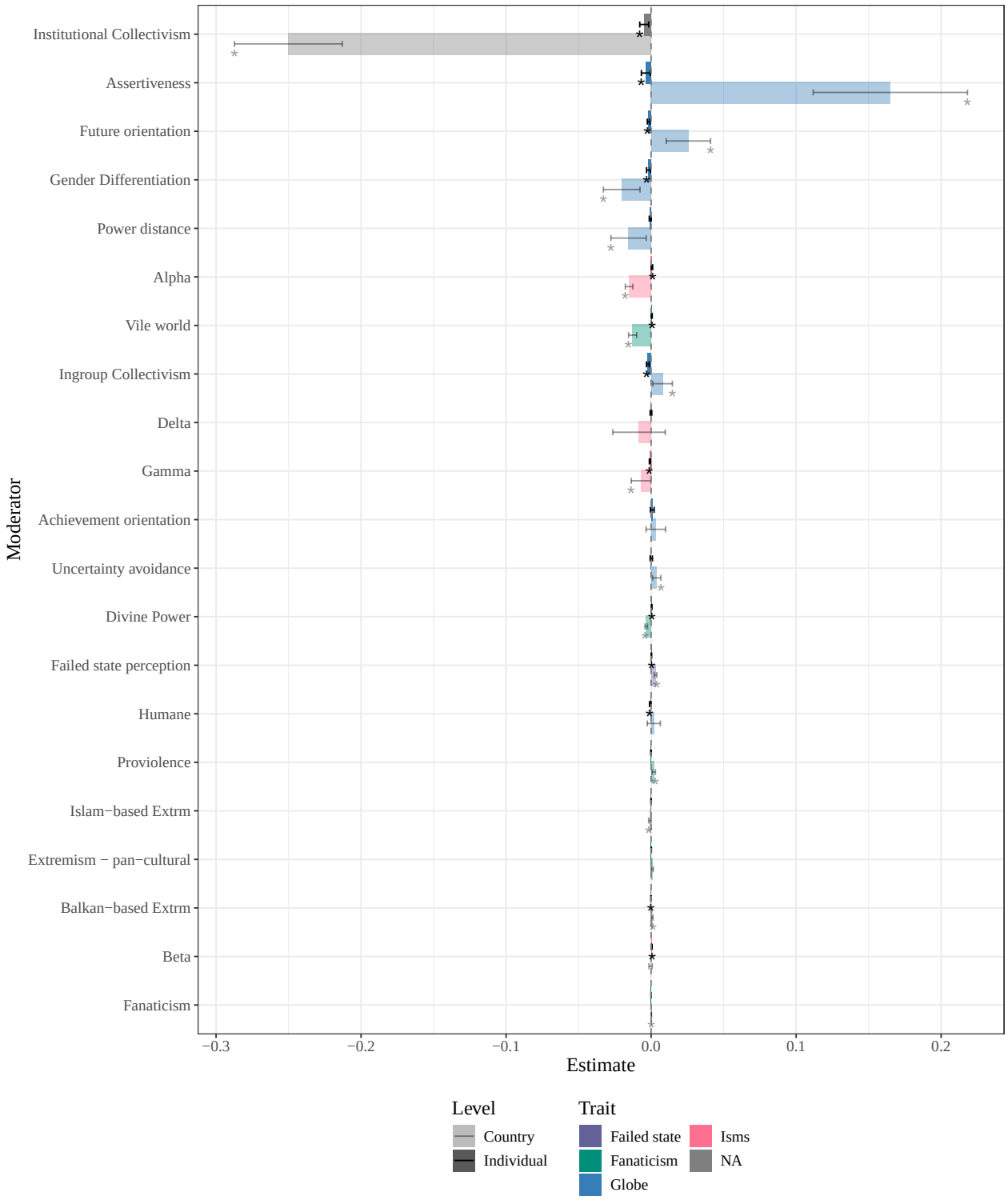

Figure 34: Quadratic associations between Personality7 CNI and mindset traits

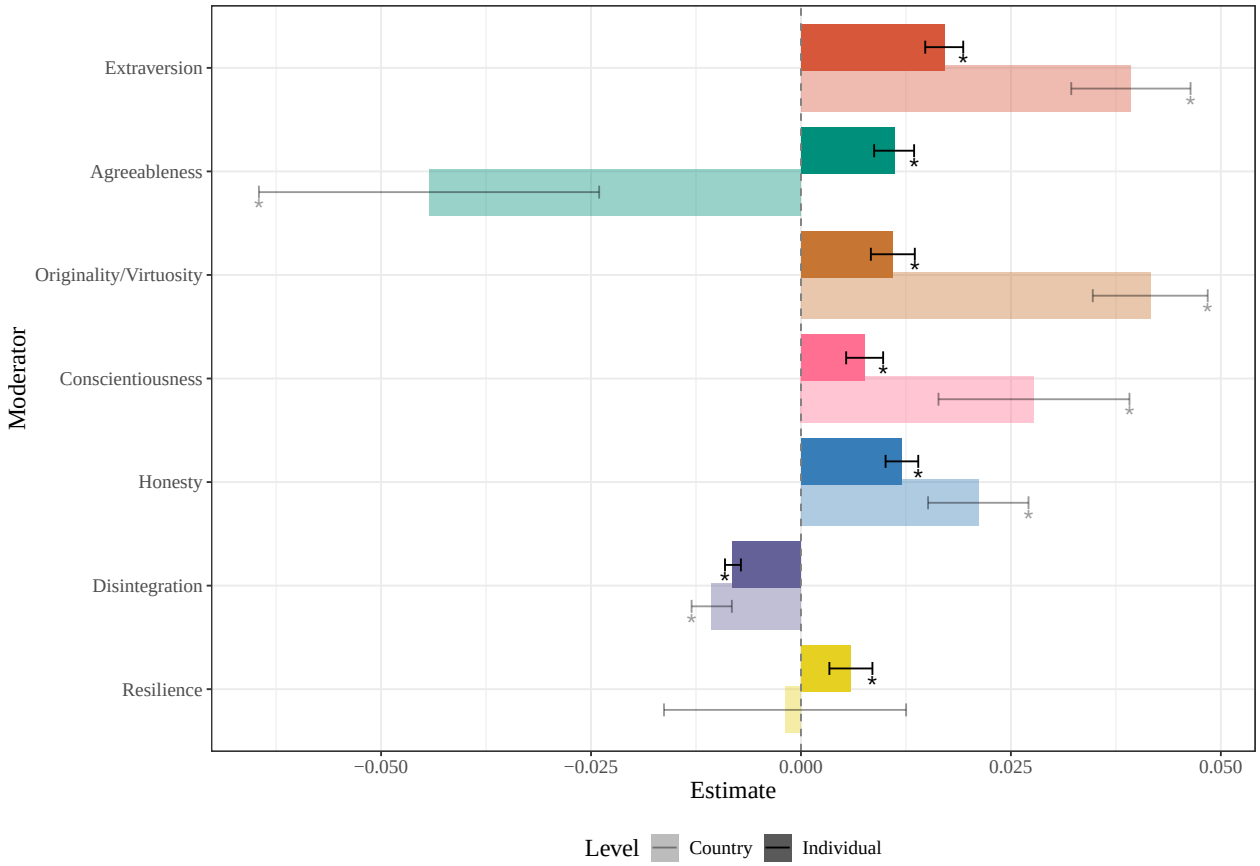

Figure 35: Linear associations between Mindset CNI and personality traits

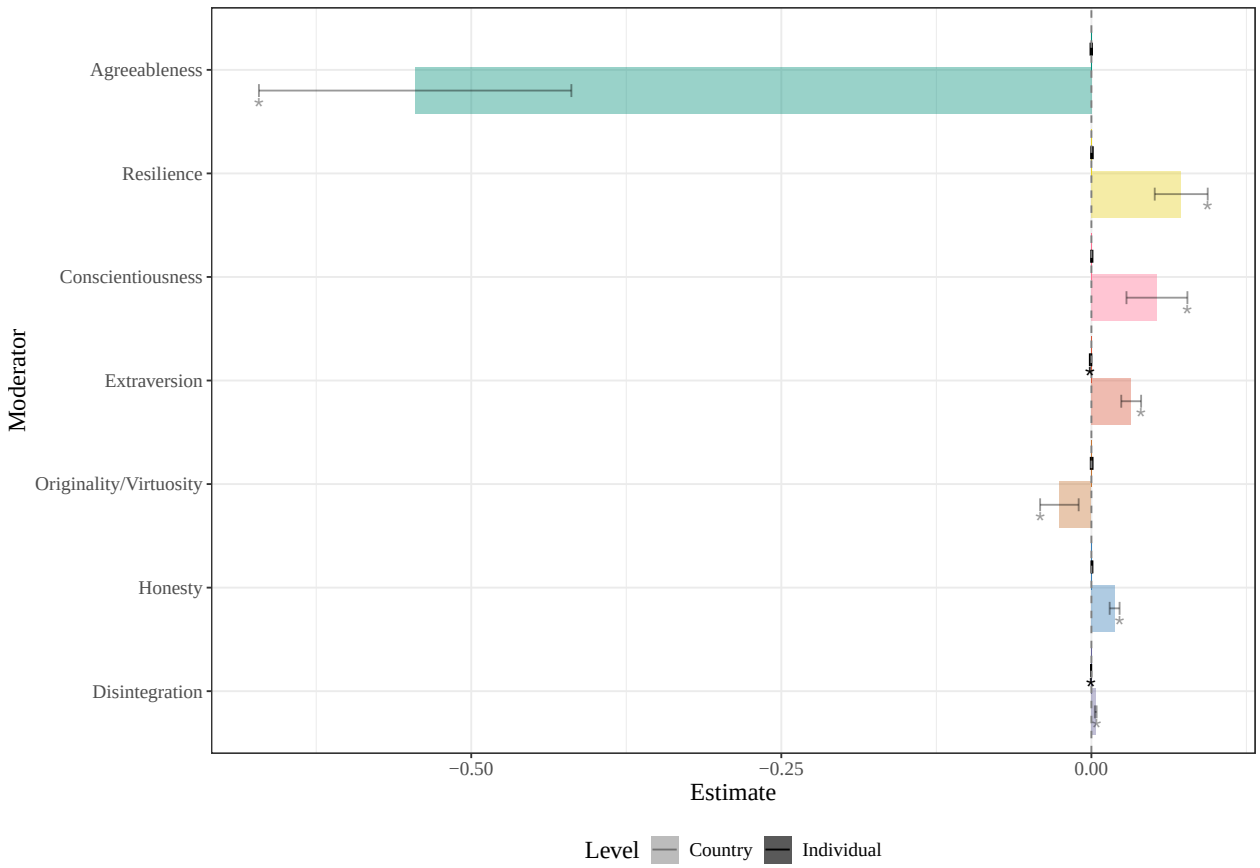

Figure 36: Quadratic associations between Mindset CNI and personality traits

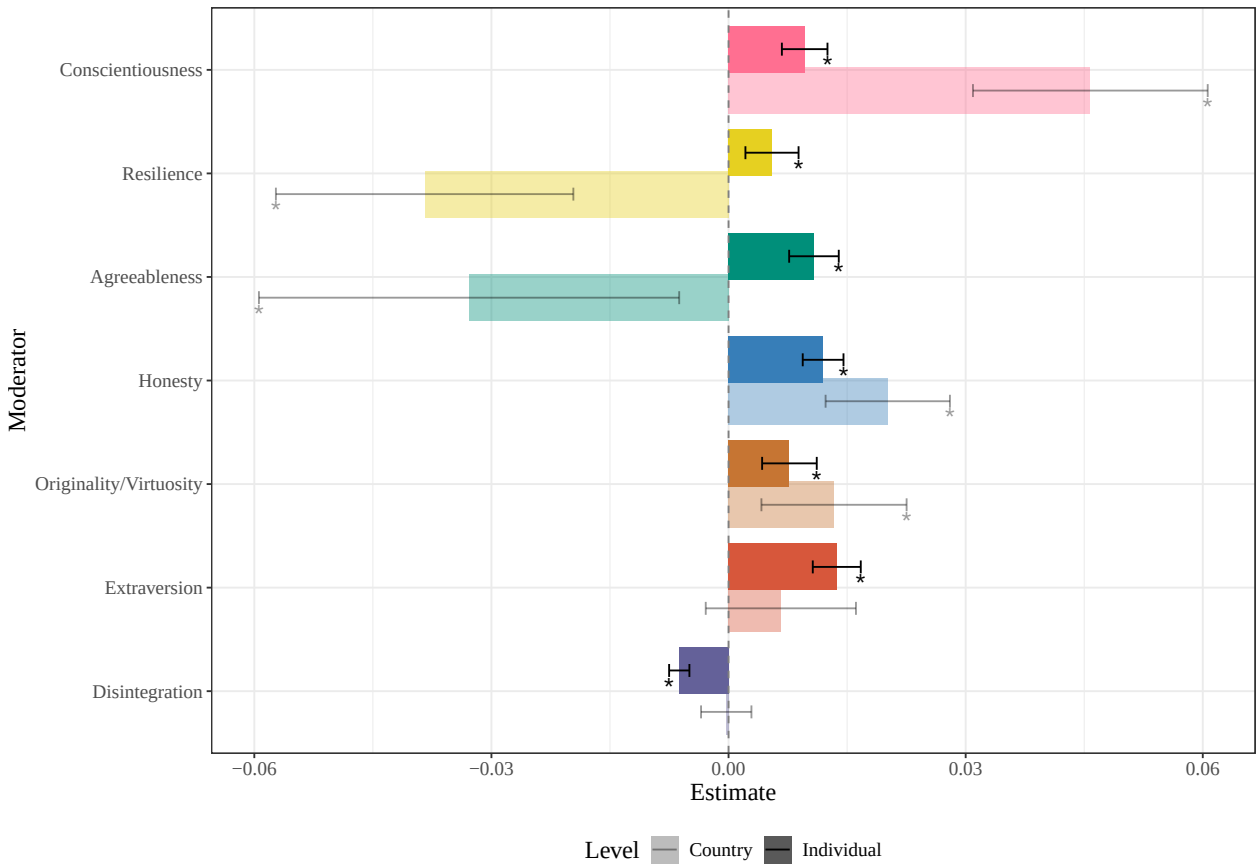

Figure 37: Linear associations between Isms-Mindset CNI and personality traits

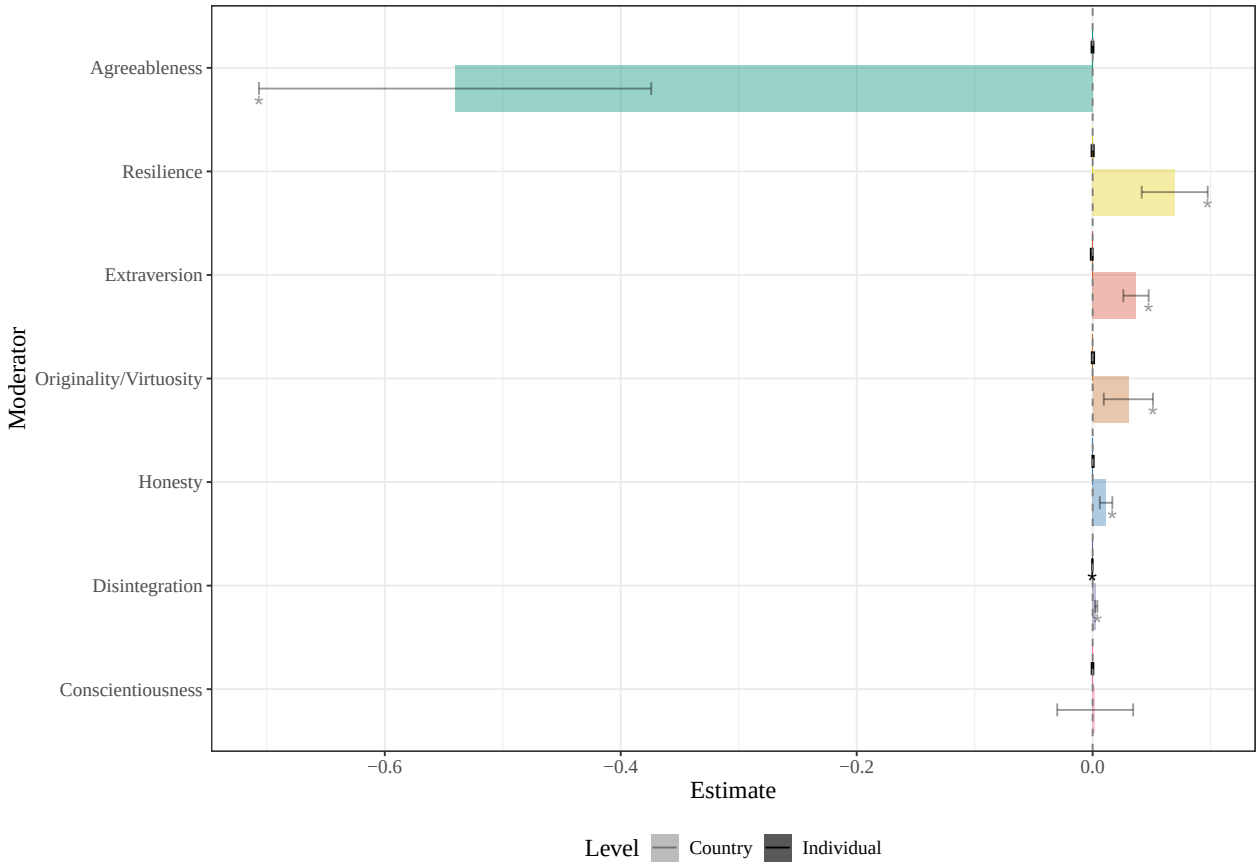

Figure 38: Quadratic associations between Isms-Mindset CNI and personality traits

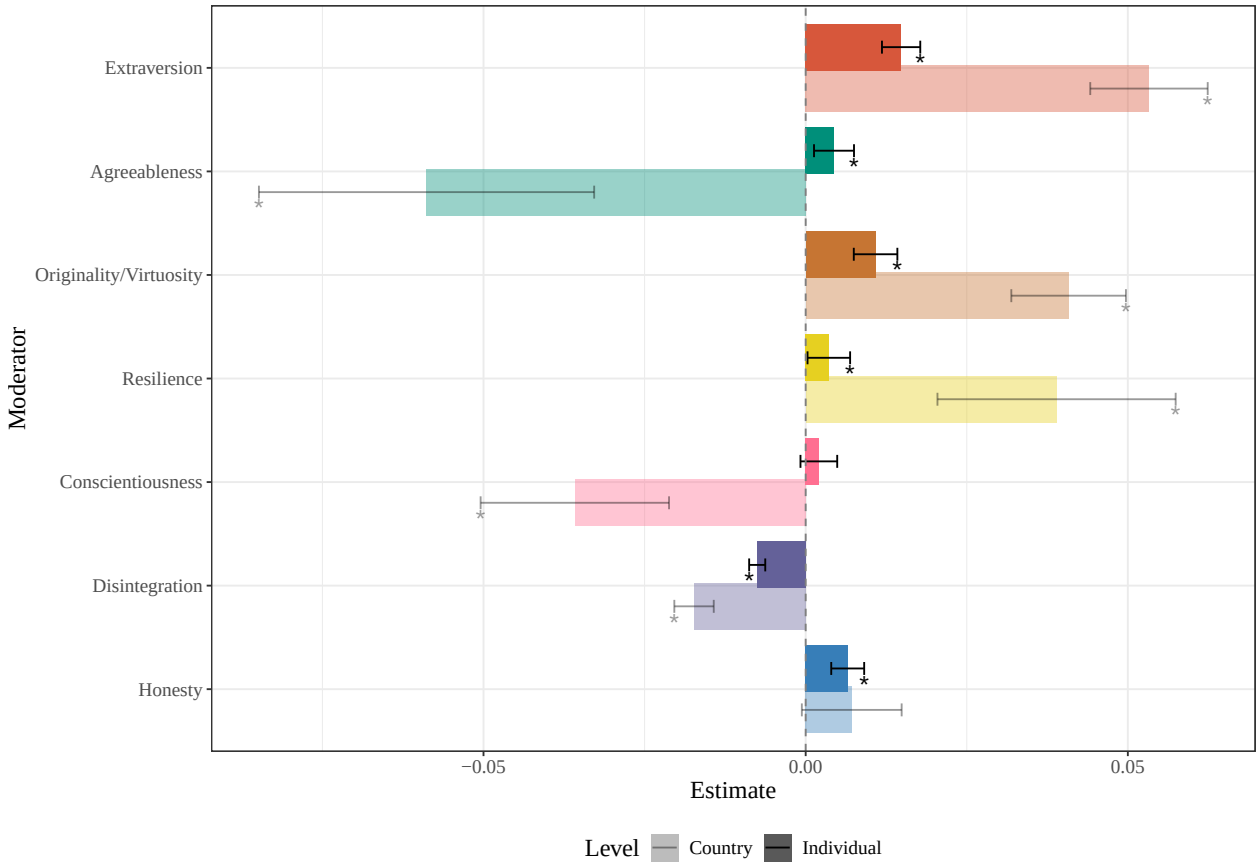

Figure 39: Linear associations between Globe-Mindset CNI and personality traits

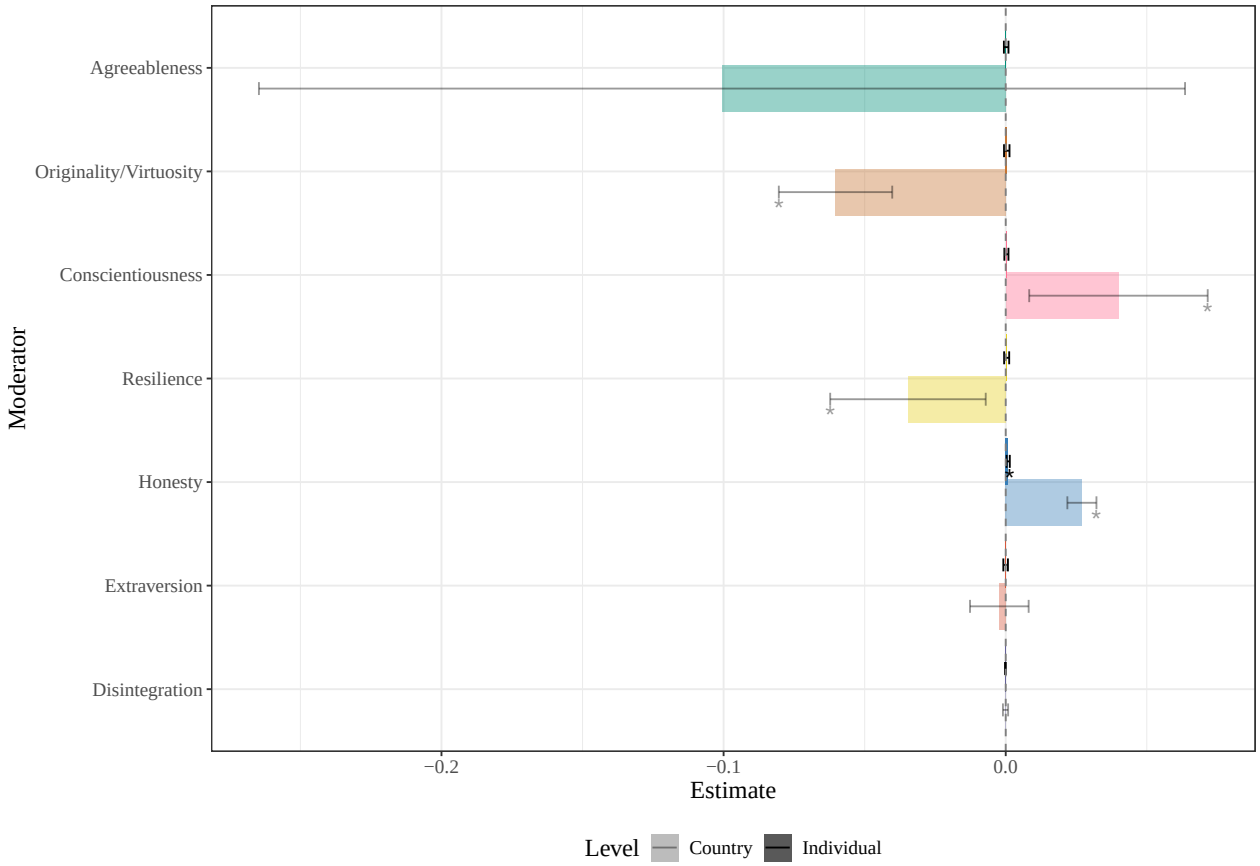

Figure 40: Quadratic associations between Globe-Mindset CNI and personality traits

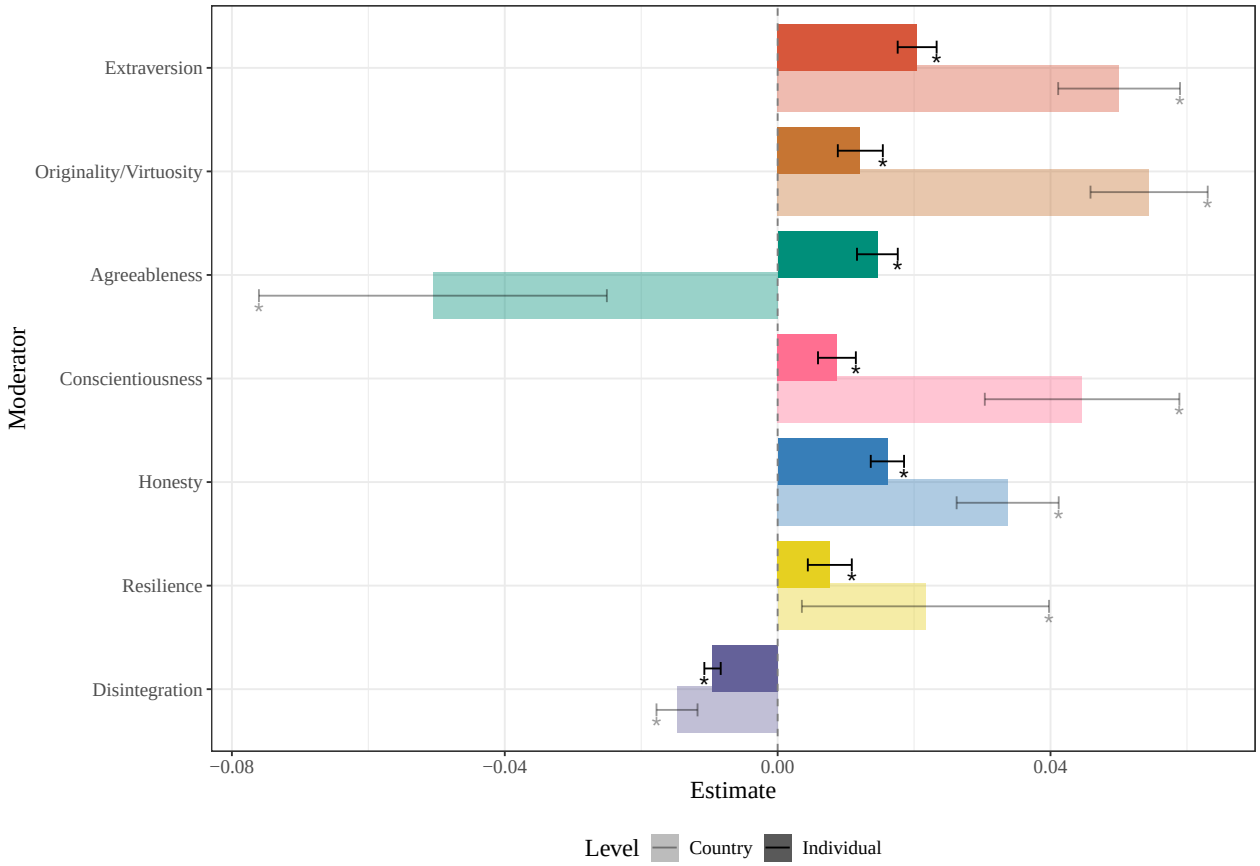

Figure 41: Linear associations between Fanaticism-Mindset CNI and personality traits

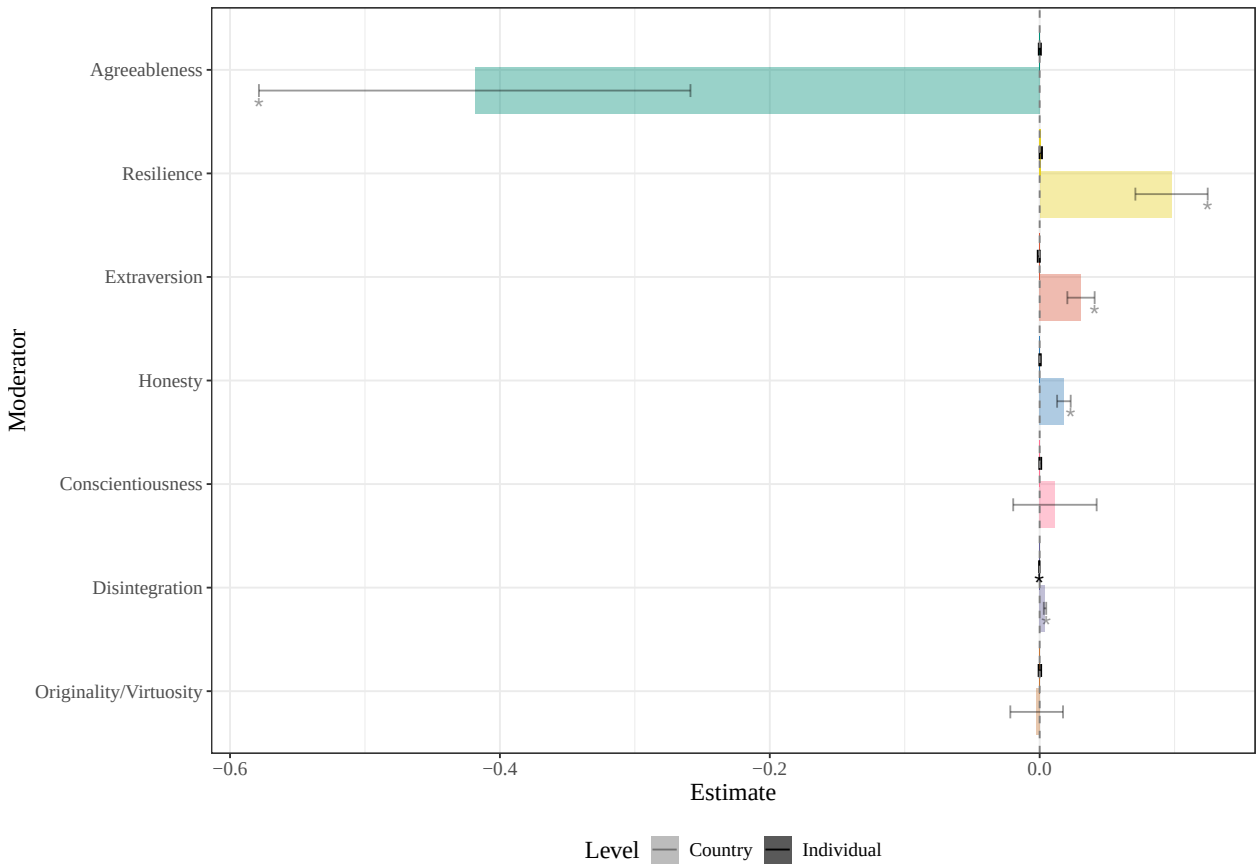

Figure 42: Quadratic associations between Fanaticism-Mindset CNI and personality traits

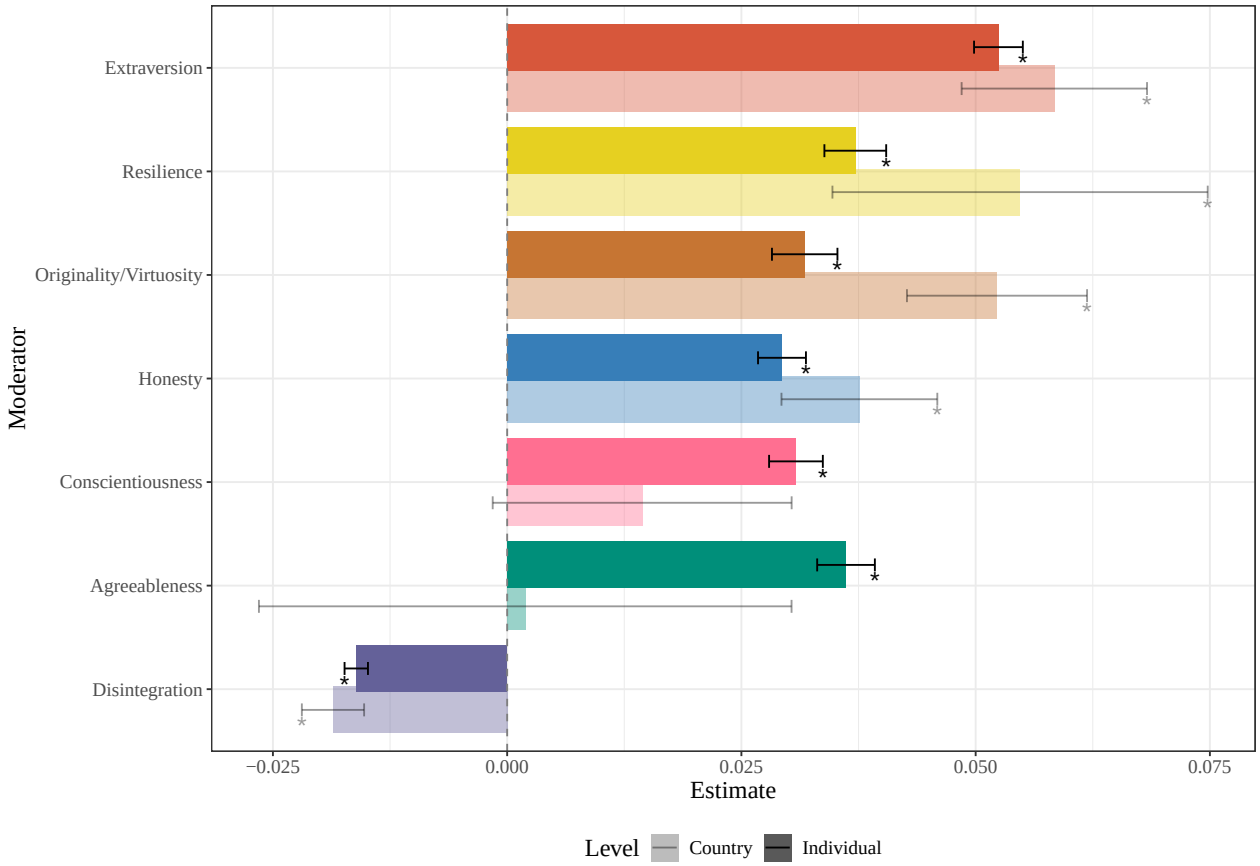

Figure 43: Linear associations between Personality6 CNI and personality traits

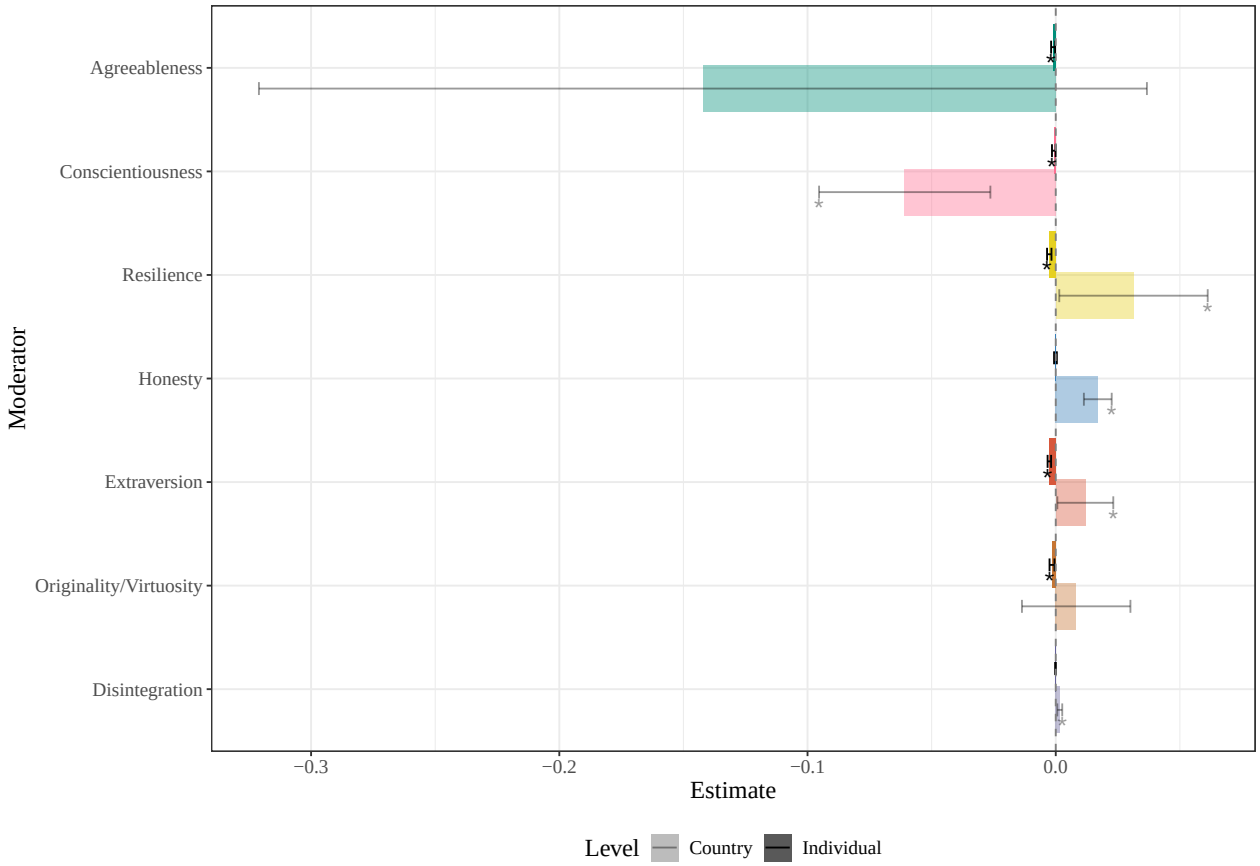

Figure 44: Quadratic associations between Personality6 CNI and personality traits

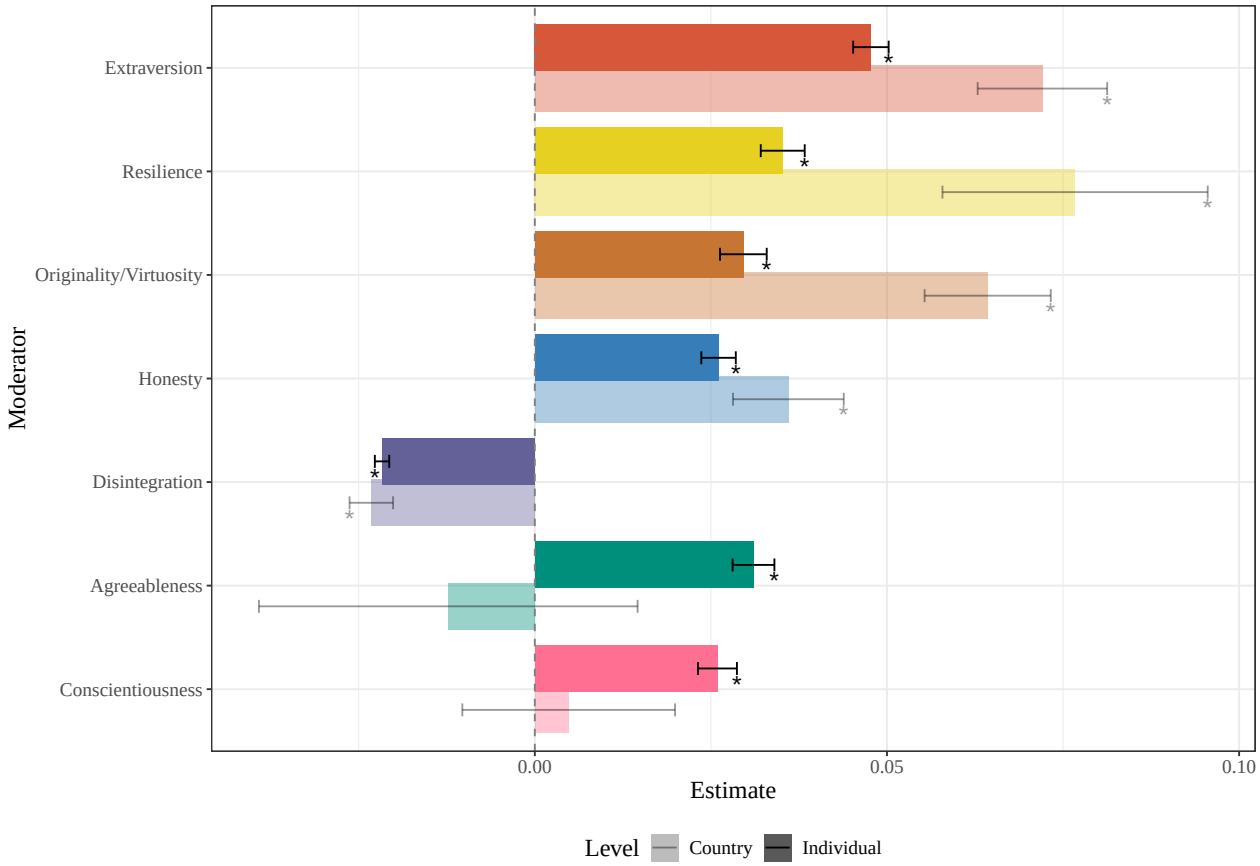

Figure 45: Linear associations between Personality7 CNI and personality traits

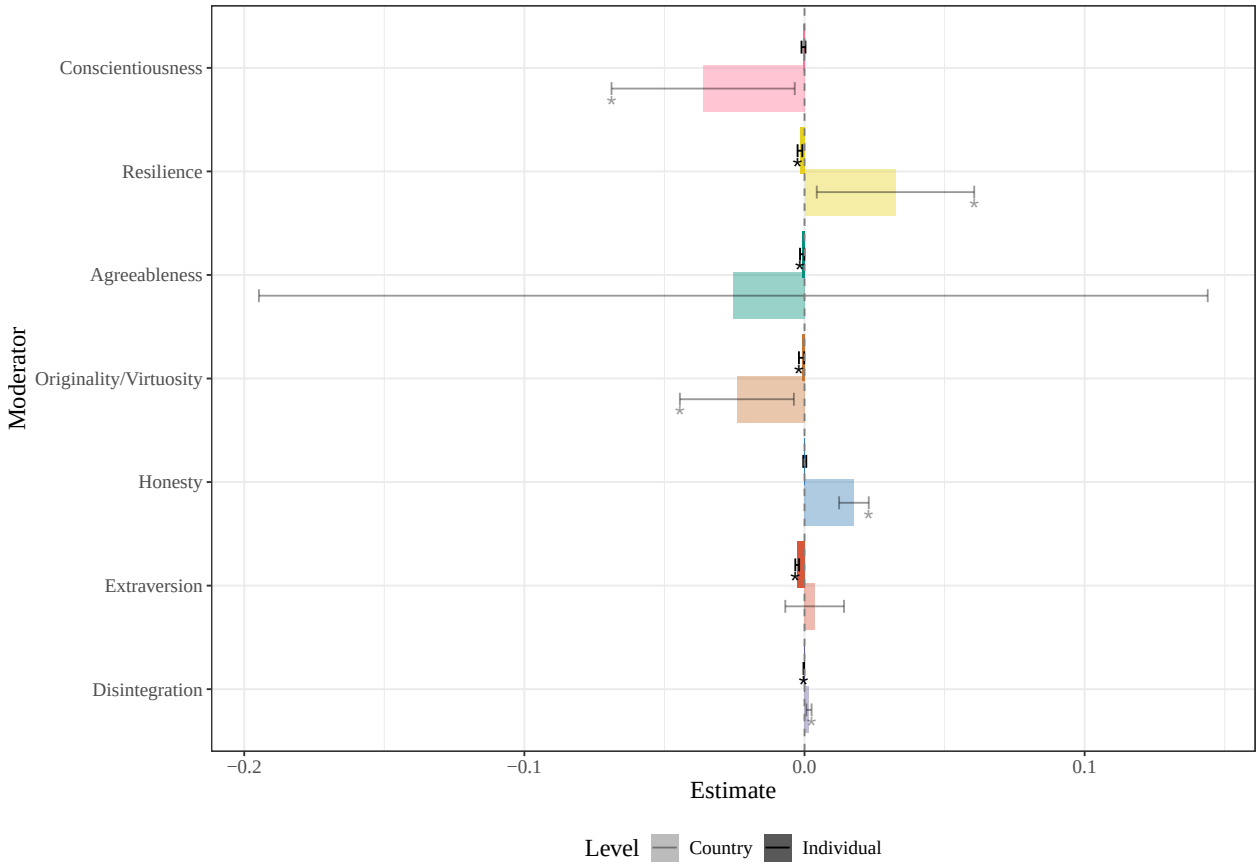

Figure 46: Quadratic associations between Personality7 CNI and personality traits

3.3.3 Five Strongest moderators

```
cni_types <- unique(sub("CNI.*", "CNI", names(cni.ContMod_tables)))

strongest5_contMods <- function(cni_type, data_list) {
  df_names <- grep(paste0("^", cni_type),
                   names(data_list), value = TRUE)

  bind_rows(data_list[df_names], .id = "modtr_type") %>%
    arrange(desc(abs(estimate))) %>%
    filter(p.value <.05) %>%
    slice_head(n = 5)
}

# Apply the function to each CNI type
strongest5_contMods_CNI <- map_dfr(cni_types, ~strongest5_contMods(.x, cni.ContMod_tables)) %>%
  specify_var_names() %>%
  with_groups(modtr, ~ mutate(.x, avg_abs_estimate = mean(abs(estimate)))) %>%
  mutate(modtr = fct_reorder(modtr, avg_abs_estimate, .desc = FALSE)) %>%
  select(-term)  %>%
  mutate(cni_type = str_extract(modtr_type, "^[^.]+")) %>%
  mutate(label_color = case_when(
    str_detect(modtr_type, "\\.pty7$") ~ "#c76e00",
    str_detect(modtr_type, "\\.pty6$") ~ "#c76e00",
    str_detect(modtr_type, "\\.mindset$") ~ "#008000",
    TRUE ~ "black"))

# this approach ensures that the order of coloring is right
modtr_order <- strongest5_contMods_CNI %>%
  group_by(modtr) %>%
  summarize(mean_estimate = mean(estimate)) %>%
  arrange(mean_estimate) %>%
  pull(modtr)


strongest5_contMods_CNI <- strongest5_contMods_CNI %>%
  mutate(modtr = factor(modtr, levels = modtr_order))


color_mapping <- strongest5_contMods_CNI %>%
  select(modtr, label_color) %>%
  distinct() %>%
  deframe()
```

```
strongest5_contMods_CNI %>%
 ggplot(aes(x = modtr, y = estimate, color = cni_type, group = interaction(modtr))) +
   geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = 0, alpha = 0.3, linewidth = 3.8, pos
   geom_point() +
  scale_color_manual(values = c("mindsetCNI" = "#0074B7", "ismCNI"  = "#6082B6", "fantcCNI"  = "#70d6
   labs(x = NULL,
        y = "CNI estimate",
        color = "CNI Types",
```

```
      caption = "<i>Note:</i> <span style='color:#c76e00;'>Personality </span> and <span style='col
    coord_flip() +
    theme_bw() +
    theme(plot.title.position = "plot",
          text = element_text(family = "serif", size = 12),
       axis.text.y = element_markdown(
       color = color_mapping[levels(strongest5_contMods_CNI$modtr)],
       size = 13),
       plot.caption = element_markdown(hjust =1.4, size = 8.3) )
```

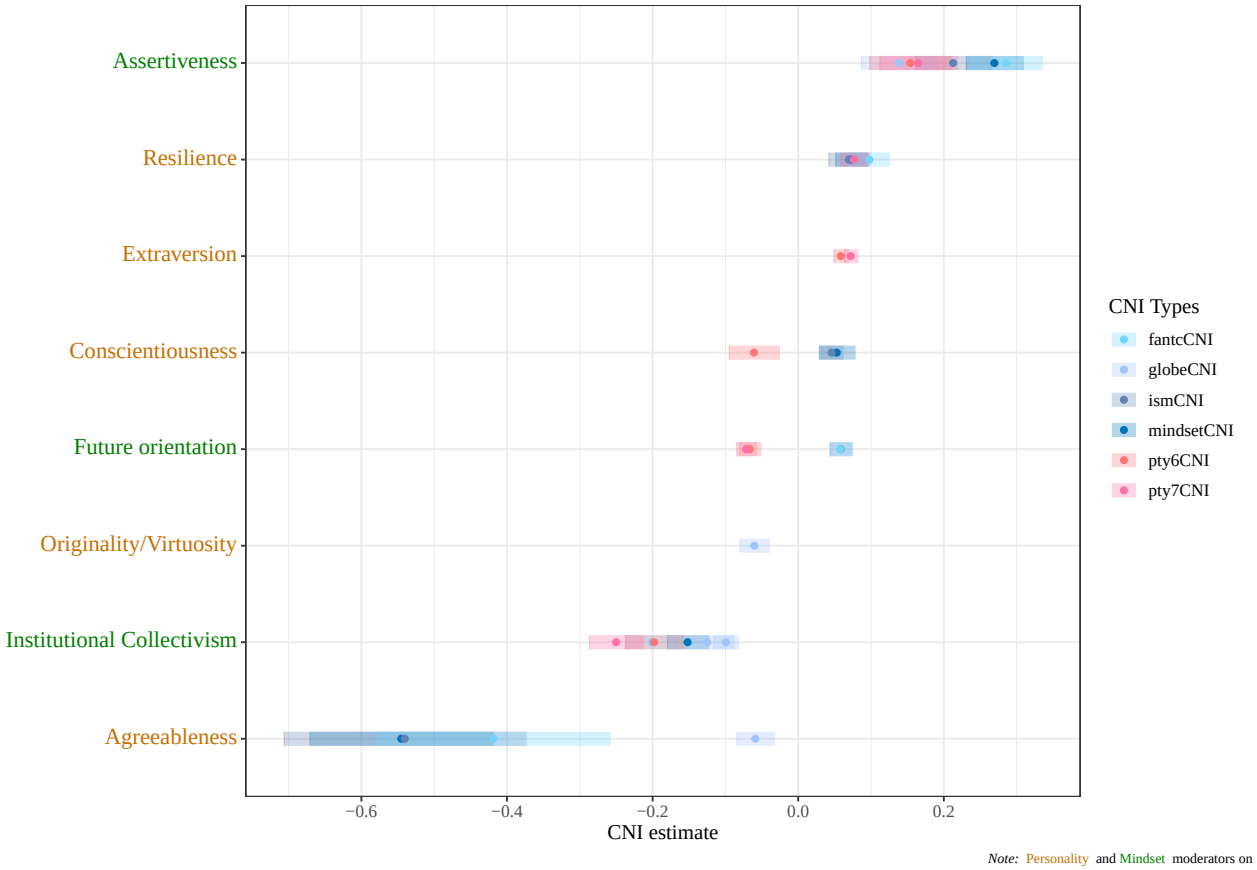

Figure 47: Five Strongest Estimates across CNI types

```
final_table <- map_dfr(cni_types, ~strongest5_contMods(.x, cni.ContMod_tables)) %>%
  specify_var_names() %>%
  with_groups(modtr, ~ mutate(.x, avg_abs_estimate = mean(abs(estimate)))) %>%
  mutate(modtr = fct_reorder(modtr, avg_abs_estimate, .desc = FALSE)) %>%

  specify_var_names() %>%
  separate(modtr_type, c("CNI_type", "Moderator_type"), sep = "\\.") %>%
  mutate(
    CNI_type = str_remove(CNI_type, "CNI"),
    CNI_type = str_to_sentence(CNI_type),
    CNI_type = str_replace_all(CNI_type, c(
```

```
      "cni" = " CNI",
      "Ism" = "Isms",
      "Fantc" = "Fanaticism",
      "Globe" = "GLOBE",
      "Pty6" = "Personality 6",
      "Pty7" = "Personality 7")),
    Moderator_type = if_else(Moderator_type == "pty7", "Personality", "Mindset"),
    p.value = map_chr(p.value, papaja::printp),
    across(where(is.numeric), ~ round(., 3)),
    ci = paste0("[", conf.low, ", ", conf.high,"]"),
    term = ifelse(str_detect(term, "2"), "(b\\textsuperscript{2})", "(b)"),
    estimate = as.character(estimate),
    modtr = paste0(modtr, " (", Moderator_type, ")"),
    modtr = ifelse(level == "Country",
                   paste0(modtr, footnote_marker_symbol(1, "latex")),
                   paste0(modtr, footnote_marker_symbol(2, "latex"))),
    CNI_type = str_replace(CNI_type, "CNI", "")) %>%
  select(CNI_type, modtr, term, estimate, ci, p.value)

final_table %>%
  kable(booktabs = T,
        escape = F,
        format = "latex",
        col.names = c("CNI type", "Moderator", "Term", "Est", "95\\% CI", "$\\textit{p}$"),
        longtable = T,
         align = c('l', 'r', 'c', 'c', 'c', 'c')) %>%
  kable_styling(latex_options = c("repeat_header")) %>%
  collapse_rows(columns = 1, latex_hline = "linespace") %>%
  footnote(symbol = c("Country", "Individual"),
           symbol_title = "",
           general = "(b) = Linear model, (b\\textsuperscript{2}) = Quadratic",
           general_title = "Note:",
           title_format = "italic",
           fixed_small_size = TRUE,
           footnote_as_chunk = FALSE,
           threeparttable = TRUE)
```

Table 34: Five Strongest Estimates across CNI types

CNI type	Moderator	Term	Est	95% CI	p
Mindset	Agreeableness (Personality)*	(b^2)	-0.545	[-0.671, -0.419]	$< .001$
	Assertiveness (Mindset)*	(b^2)	0.269	[0.23, 0.309]	$< .001$
	Institutional Collectivism (Mindset)*	(b^2)	-0.152	[-0.18, -0.124]	$< .001$
	Resilience (Personality)*	(b^2)	0.072	[0.051, 0.094]	$< .001$
	Conscientiousness (Personality)*	(b^2)	0.053	[0.028, 0.077]	$< .001$
Isms	Agreeableness (Personality)*	(b^2)	-0.54	[-0.707, -0.374]	$< .001$
	Assertiveness (Mindset)*	(b^2)	0.213	[0.16, 0.265]	$< .001$
	Resilience (Personality)*	(b^2)	0.07	[0.042, 0.098]	$< .001$
	Future orientation (Mindset)*	(b^2)	0.058	[0.043, 0.074]	$< .001$
	Conscientiousness (Personality)*	(b)	0.046	[0.031, 0.061]	$< .001$
	Assertiveness (Mindset)*	(b^2)	0.138	[0.086, 0.19]	$< .001$

(continued)

CNI type	Moderator	Term	Est	95% CI	p
GLOBE	Institutional Collectivism (Mindset)*	(b^2)	-0.125	[-0.161, -0.088]	< .001
	Institutional Collectivism (Mindset)*	(b)	-0.099	[-0.117, -0.082]	< .001
	Originality/Virtuosity (Personality)*	(b^2)	-0.06	[-0.08, -0.04]	< .001
	Agreeableness (Personality)*	(b)	-0.059	[-0.085, -0.033]	< .001
Fanaticism	Agreeableness (Personality)*	(b^2)	-0.419	[-0.579, -0.259]	< .001
	Assertiveness (Mindset)*	(b^2)	0.285	[0.235, 0.335]	< .001
	Institutional Collectivism (Mindset)*	(b^2)	-0.201	[-0.237, -0.165]	< .001
	Resilience (Personality)*	(b^2)	0.098	[0.071, 0.125]	< .001
	Future orientation (Mindset)*	(b^2)	0.058	[0.044, 0.073]	< .001
Personality 6	Institutional Collectivism (Mindset)*	(b^2)	-0.198	[-0.238, -0.158]	< .001
	Assertiveness (Mindset)*	(b^2)	0.154	[0.098, 0.21]	< .001
	Future orientation (Mindset)*	(b)	-0.066	[-0.081, -0.052]	< .001
	Conscientiousness (Personality)*	(b^2)	-0.061	[-0.095, -0.026]	< .001
	Extraversion (Personality)*	(b)	0.058	[0.049, 0.068]	< .001
Personality 7	Institutional Collectivism (Mindset)*	(b^2)	-0.25	[-0.287, -0.213]	< .001
	Assertiveness (Mindset)*	(b^2)	0.165	[0.112, 0.218]	< .001
	Resilience (Personality)*	(b)	0.077	[0.058, 0.096]	< .001
	Extraversion (Personality)*	(b)	0.072	[0.063, 0.081]	< .001
	Future orientation (Mindset)*	(b)	-0.071	[-0.085, -0.057]	< .001

Note:
(b) = Linear model, (b^{2}) = Quadratic
* Country
† Individual

4 RQ3.1: CNI~well-being

```
cni.swbMod_tblNames <- tibble(table_name = c("mindsetCNI.swb", "ismCNI.swb", "globeCNI.swb", "fantcCN
  mutate(
    cni_type = paste0(str_extract(table_name, "^[^.]+"), "_profiles"),
    variable_type =  str_extract(table_name, "[^.]+$")
    )

cni.swbMod_tables <- map2(
  .x = cni.swbMod_tblNames$cni_type,
  .y = cni.swbMod_tblNames$variable_type,
  .f = function(x, y) {
    # Use get() to retrieve the object by its name
    data <- get(x)

    # Call the function with the retrieved data and the variable type
    cni.ContMod_effects_tblData(data, y)
  }
) %>%
  # Set names of the resulting list
  set_names(cni.swbMod_tblNames$table_name)
```

Figure 48 indicates that SWB is a stronger predictor of Personality CNI than Mindset-CNI.

Table 35: Association between CNI and Subjective well-being

	Linear (b)			Quadratic (b^2)		
	Est	95% CI	p	Est	95% CI	p
Individual level						
mindsetCNI.swb	0.012	[0.01, 0.014]	< .001	-0.001	[-0.001, 0]	.003
ismCNI.swb	0.01	[0.007, 0.013]	< .001	-0.001	[-0.001, 0]	.025
globeCNI.swb	0.007	[0.005, 0.01]	< .001	0	[-0.001, 0.001]	.724
fantcCNI.swb	0.012	[0.009, 0.014]	< .001	-0.001	[-0.001, 0]	.052
pty6CNI.swb	0.018	[0.015, 0.021]	< .001	-0.001	[-0.002, 0]	.009
pty7CNI.swb	0.02	[0.017, 0.023]	< .001	-0.001	[-0.002, -0.001]	< .001
Country level						
mindsetCNI.swb	0.016	[0.013, 0.02]	< .001	-0.001	[-0.004, 0.002]	.650
ismCNI.swb	0.004	[-0.001, 0.009]	.105	-0.001	[-0.005, 0.003]	.561
globeCNI.swb	0.015	[0.01, 0.02]	< .001	0.001	[-0.003, 0.005]	.685
fantcCNI.swb	0.017	[0.012, 0.021]	< .001	0.006	[0.002, 0.01]	.001
pty6CNI.swb	0.006	[0.001, 0.011]	.012	0.015	[0.01, 0.019]	< .001
pty7CNI.swb	0.014	[0.01, 0.019]	< .001	0.015	[0.011, 0.019]	< .001

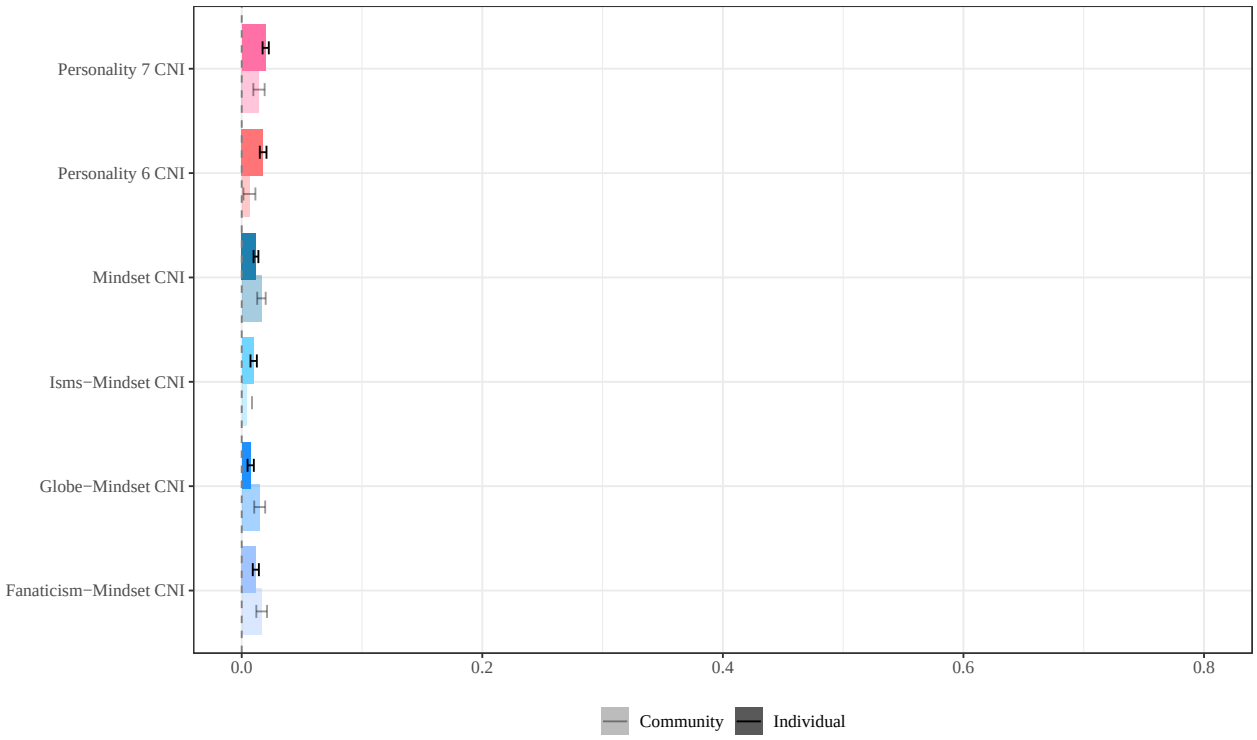

Figure 48: CNI predicted by Subjective Well-being

5 RQ3.2: Well-being ~ CNI

The relative importance of different CNIs can be evaluated by their predictive power for well-being outcomes. A key research question is to what degree CNIs serve as predictors of various subjective well-being (SWB) measures. In order to use SWB as an outcome variable we need to establish the measurement invariance of the life satisfaction scale used in the study. This will allow to make appropriate attributions about the causal relationships wherein the observed differences are due to true variation in the constructs rather than measurement artifacts.

5.1 Measurement Invariance Analysis - SWB

```
swb_MI.data <- data1 %>%
  #swb items have been rescaled to a range of 1 to 5
  dplyr::select(starts_with("swb"), country)

swbModel = '
f1 =~ swb1 + swb2 + swb3 + swb4 + swb5
'
#-----Configural invariance-----#
swbModel.config <- measEq.syntax(
  configural.model = swbModel,
  data = swb_MI.data,
  group = "country") # column name of group variable

# fit the new model synatx to the data,
fit.config <- cfa(as.character(swbModel.config),
                  data = swb_MI.data,
                  group = "country")

summary_config <- summary(fit.config, fit.measures = T)


#-----Metric invariance-----#
swbModel.metric <- measEq.syntax(
  configural.model = swbModel,
  data = swb_MI.data,
  group = "country",
  group.equal = c("loadings")) # column name of group variable


fit.metric <- cfa(as.character(swbModel.metric),
                  data = swb_MI.data,
                  group = "country")

summary_metric <- summary(fit.metric, fit.measures = T)

#-----Scalar invariance-----#
swbModel.scalar <- measEq.syntax(
  configural.model = swbModel,
  data = swb_MI.data,
  group = "country",
  group.equal = c("loadings", "intercepts")) # column name of group variable
```

```r
fit.scalar <- cfa(as.character(swbModel.scalar),
                  data = swb_MI.data,
                  group = "country")

summary_scalar <- summary(fit.scalar, fit.measures = T)

#-----Strict invariance-----#
swbModel.strict <- measEq.syntax(
  configural.model = swbModel,
  data = swb_MI.data,
  group = "country",
  group.equal = c("loadings", "intercepts", "residuals")) # column name of group variable

fit.strict <- cfa(as.character(swbModel.strict),
                  data = swb_MI.data,
                  group = "country")


summary_strict <- summary(fit.strict, fit.measures = T)


#-----all fit stats-----#
fit_tbl <-  \(summary){
fit_stats <- c("chisq", "pvalue", "df",  "rmsea",  "rmsea.ci.lower", "rmsea.ci.upper", "srmr", "tli",

get_all_fits <- \(summary, stat){
 fit_index <- summary$fit %>%
   pluck(stat)
 formatted_index <- format(round(fit_index, 2), nsmall = 2)
    return(as.numeric(formatted_index))
}

df <- map2_df(.x = list(summary), .y = fit_stats, ~{
  tibble(fit_stats = .y, values = get_all_fits(.x, .y))
})

# Transform the data
 df <- df %>%
    pivot_wider(names_from = "fit_stats", values_from = values) %>%
    mutate(
      chisq = ifelse(pvalue < 0.05, glue("{chisq}**({df})"), glue("{chisq} ({df})")),
      RMSEA = glue("{rmsea} ({rmsea.ci.lower}, {rmsea.ci.upper})")
    ) %>%
  dplyr::select(-pvalue, -df, -rmsea, - rmsea.ci.upper, -rmsea.ci.lower) %>%
  rename("SRMR" = srmr,
         "TLI" = "tli",
         "CFI" = "cfi") %>%
  dplyr::select(chisq, RMSEA, everything())

return(df)

}
```

```r
# convert any input into a character string
convert_to_char <- \(...) {
  expr <- enquos(...)
  char_vector <- map_chr(expr, quo_name)
  return(char_vector)
}

#compute all the fit indices
MI_table <- map_df(list(summary_config, summary_metric, summary_scalar, summary_strict), .f = fit_tbl
 #add invariance type col
  mutate(invariance_type = convert_to_char(Configural, Metric, Scalar, Strict),  .before = chisq) %>%
 #add delta cols
 mutate(
    temp_RMSEA = as.numeric(str_extract(RMSEA, "\\d+\\.\\d+")),
    delta_CFI = c(NA, -diff(CFI)),
    delta_RMSEA = c(NA, diff(temp_RMSEA)),
    delta_SRMR = c(NA, diff(SRMR))
  ) %>%
  select(-temp_RMSEA)
```

Table 36: Measurement Invariance metrics for Subjective Well-being

Invariance type	Chi square	RMSEA	SRMR	TLI	CFI	dCFI	dRMSEA	dSRMR
Configural	259.98**(40)	0.13 (0.11, 0.14)	0.04	0.89	0.94			
Metric	381.38**(68)	0.12 (0.11, 0.13)	0.08	0.91	0.92	0.02	-0.01	0.04
Scalar	963.58**(96)	0.17 (0.16, 0.18)	0.13	0.82	0.78	0.14	0.05	0.05
Strict	1934.79**(131)	0.21 (0.2, 0.21)	0.16	0.72	0.54	0.24	0.04	0.03

Measurement invariance was assessed (Table 36) for testing cross-cultural comparability of the 5-item Life Satisfaction scale measuring subjective well-being, across eight nations in Study 1. A series of increasingly constrained multi-group confirmatory factor analysis models were employed to evaluate configural, metric, scalar, and strict invariance.

- The `configural invariance` model, which tests for similarity in factor structure (pattern of zero and non-zero loadings) across groups showed acceptable fit (CFI = 0.94, TLI = 0.89, RMSEA = 0.13 [90% CI: 0.11, 0.14], SRMR = 0.04). While the CFI indicates acceptable fit (close to cutoff of 0.95), the TLI (based on typical cutoff for good fit: 0.95) and RMSEA (baed on typical cutoffs: $<$ 0.05 for good fit, $<$ 0.08 for reasonable fit) suggest some misfit.
- The `metric invariance` model, which constrains factor loadings to be equal across groups, demonstrated a slight decrease in fit (CFI = 0.92, TLI = 0.91, RMSEA = 0.12 [90% CI: 0.11, 0.13], SRMR = 0.0753). The change in CFI (CFI = 0.02, exceeds the recommended threshold of 0.01, but within the more lenient threshold of 0.02) and RMSEA (RMSEA = -0.0100, within acceptable limits of 0.015), indicating partial support for metric invariance.
- The `scalar invariance` model, which additionally constrains item intercepts to be equal across groups, showed a substantial decrease in fit (CFI = 0.78, TLI = 0.82, RMSEA = 0.17 [90% CI: 0.16, 0.18], SRMR = 0.13). The changes in fit indices (CFI = 0.14, RMSEA = 0.05, SRMR = 0.05) far exceeded recommended thresholds, indicating that scalar invariance does not hold.
- The strict invariance model, which also constrains residual variances to be equal across groups, exhibited a further decline in fit (CFI = 0.54, TLI = 0.72, RMSEA = 0.21 [90% CI: 0.2, 0.21], SRMR = 0.16), indicating that strict invariance is not tenable.

In summary, the SWB scale demonstrates partial support for configural and metric invariance across the eight

nations, and there is evidence of non-invariance at scalar, and strict levels. These results suggest that while the basic structure of the scale could be similar across cultures, there may be differences in the strength of item-factor relationships, item intercepts, and item residuals across nations. Given the established complexity of SWB across cultures, we suggest that the readers approach the use of this construct with caution.

5.2 Test for heteroskedasticity:

To test if the levels of SWB vary unequally across the range of CNI (homoscedasticity), White's test for heteroskedasticity is computed.

Advantages of bootstrapped White's test: a) Robust to non-normality: Unlike some other tests, it does not assume normality of errors. b) Flexible: It can detect various forms of heteroscedasticity. c) Bootstrapping: This adds robustness to the test, especially for smaller sample sizes or when the data doesn not meet parametric assumptions. White's Test for Heteroscedasticity: This test assesses whether the variance of the residuals is constant across all levels of the independent variable(s). A significant W statistic indicates the presence of heteroscedasticity. White's test is a more general form of the Breusch-Pagan test. While Breusch-Pagan assumes heteroscedasticity is a linear function of the independent variables, White's test allows for non-linear forms.

```
pty5CNI_mod <- mindsetCNI_profiles$self.ctry_profiles %>%
  full_join(mindsetCNI_profiles$overallM_profiles, by = "item") %>% add_CNIformula(.)



library(whitestrap)

compute_heterosk_swb.cni <- \(cni_mod){

  data <- coef(cni_mod)$pID %>%
  as.data.frame() %>%
  mutate(pID = rownames(.)) %>%
  select(-`(Intercept)`) %>%
  separate(pID, into = c("pID", "country")) %>%
  rename(CNI = z_ctry_response) %>%
  full_join(data1)

  linear_lm <- lm(sc_swb.indv ~ CNI, data = data)

  linear_heterosk <- white_test_boot(linear_lm)

  quadratic_lm <- lm(sc_swb.indv ~ CNI + CNI^2, data = data)

  quadratic_heterosk <- white_test_boot(quadratic_lm)

  return(lst(linear_lm, linear_heterosk,  quadratic_lm, quadratic_heterosk))

}

all_swb.cni_mods_heterosk <- map(
  lst(mindsetCNI_mod, ismCNI_mod, globeCNI_mod,fantcCNI_mod,
  pty6CNI_mod, pty7CNI_mod),

  compute_heterosk_swb.cni)
```

Table 37: Heteroscedasticity of SWB across CNI types

	Linear (b)		Quadratic (b^2)	
Model	W	p	W	p
mindset	8.64	0.016	8.64	0.012
ism	7.45	0.027	7.45	0.021
globe	0.53	0.760	0.53	0.790
fantc	5.18	0.074	5.18	0.065
pty6	0.55	0.750	0.55	0.774
pty7	5.32	0.070	5.32	0.076

Note:
Linear model: sc_swb.indv CNI; Quadratic model: sc_swb.indv CNI + CNI^2

```
make_swb.cni_heterosk_tbl <- \(mod_name) {
  list(
    model = mod_name,

    w_stat_linear = all_swb.cni_mods_heterosk[[mod_name]]$linear_heterosk$w_stat,
    p_value_linear = all_swb.cni_mods_heterosk[[mod_name]]$linear_heterosk$p_value,
    w_stat_quadratic = all_swb.cni_mods_heterosk[[mod_name]]$quadratic_heterosk$w_stat,
    p_value_quadratic = all_swb.cni_mods_heterosk[[mod_name]]$quadratic_heterosk$p_value
  )
}

swb.cni_heterosk_tbl <- map_dfr(convert_to_char(mindsetCNI_mod, ismCNI_mod, globeCNI_mod,fantcCNI_mod
  pty6CNI_mod, pty7CNI_mod), make_swb.cni_heterosk_tbl)
```

```
swb.cni_heterosk_tbl %>%
  mutate(model=str_extract(model, "^[^CNI]+")) %>%
  kable(booktabs = T,
        escape = F,
        format = "latex",
        col.names = c("Model", "W", "p", "W", "p")) %>%
  kable_styling() %>%
  add_header_above(c(" ", "Linear (b)" = 2, "Quadratic (b^2)" = 2)) %>%
   footnote(general = paste0(
    "Linear model: sc_swb.indv CNI; ",
    "Quadratic model: sc_swb.indv CNI + CNI^2"), general_title = "Note:", title_format = "italic",
    fixed_small_size = TRUE,
           footnote_as_chunk = FALSE,
           threeparttable = TRUE)
```

Table 37 reveals that the assumption of homoscedasticity is satisfied for the majority of the models under consideration. However, the Mindset and Isms CNI models exhibit evidence of heteroscedasticity, as indicated by their respective p-values ($p < .05$). Consequently, the findings pertaining to these two models should be interpreted with caution, as the violation of the homoscedasticity assumption may impact the reliability of the parameter estimates and statistical inferences drawn from these models.

```
heterosk_plot <- \(model){

    plot_it <- \(data){
      data %>%
  augment() %>%
sample_n(1000) %>%
ggplot(aes(x = CNI, y = .resid)) +
    geom_jitter(alpha = .3,
height = .1, width = 0) + labs(x = "Estimated CNI",
       y = "Residual") +
     # xlim(-0.8, 1) +
     # ylim(-8, 10) +
        theme_bw()}

    linear_plot <- all_swb.cni_mods_heterosk %>%
  pluck(model, "linear_lm") %>%
  plot_it()

    quadratic_plot <- all_swb.cni_mods_heterosk %>%
  pluck(model, "quadratic_lm") %>%
  plot_it()

   patch_plot <- linear_plot + quadratic_plot +
    plot_layout(axis_titles = "collect")+
   plot_annotation(tag_levels = list(c("Linear", "Quadratic"))) &
  theme(
    plot.tag.position = c("top"),
    plot.caption = element_markdown(size = 12),
    text = element_text("serif")
  )

return(patch_plot) }
```

5.3 To what extent can CNI predict Subjective well-being?

To assess the degree to which CNI affects mental health outcomes, both linear and curvilinear relationships are examined to elucidate the overall association as well as the relationship across specific levels of each variable.

```
compute_swb.cni_mods_lmer <- \(cni_mod){
  data <- coef(cni_mod)$pID %>%
  as.data.frame() %>%
  mutate(pID = rownames(.)) %>%
  select(-`(Intercept)`) %>%
  separate(pID, into = c("pID", "country")) %>%
  rename(CNI = z_ctry_response) %>%
  full_join(data1)

  linear.indv <- lmer(sc_swb.indv ~ CNI + (1 | country), data = data)

  linear.comm <- lmer(sc_swb.comm ~ CNI + (1 | country), data = data)
```

Table 38: Prediciting SWB from CNI

CNI type	Term	Linear	Quadratic
Individual			
Mindset CNI	b	3.02(2,609.01) p < .001	-1.42(2,609.36) p = .397
	b^2		4.77(2,609.41) p = .007
Isms CNI	b	3.64(2,609.02) p < .001	-2.71(2,608.80) p = .231
	b^2		6.26(2,608.81) p = .004
Globe CNI	b	1.17(2,601.01) p = .014	0.45(2,601.21) p = .858
	b^2		0.90(2,601.23) p = .769
Fanaticism CNI	b	2.04(2,607.01) p < .001	0.03(2,606.82) p = .980
	b^2		2.23(2,606.87) p = .063
Personality 6 CNI	b	6.12(2,605.01) p < .001	2.49(2,604.40) p = .304
	b^2		4.12(2,604.40) p = .129
Personality 7 CNI	b	5.76(2,607.01) p < .001	1.68(2,606.49) p = .390
	b^2		4.60(2,606.50) p = .034
Country			
Mindset CNI	b	0.00(27.93) p > .999	0.00(206.64) p > .999
	b^2		0.00(206.64) p > .999
Isms CNI	b	0.00(28.16) p > .999	0.00(24.70) p > .999
	b^2		0.00(24.70) p > .999
Globe CNI	b	0.00(207.29) p > .999	0.00(15.87) p > .999
	b^2		0.00(15.87) p > .999
Fanaticism CNI	b	0.00(21.86) p > .999	0.00(219.44) p > .999
	b^2		0.00(219.44) p > .999
Personality 6 CNI	b	0.00(35.77) p > .999	0.00(176.84) p > .999
	b^2		0.00(176.84) p > .999
Personality 7 CNI	b	0.00(152.10) p > .999	0.00(24.32) p > .999
	b^2		0.00(24.32) p > .999

```
  quadratic.indv <- lmer(sc_swb.indv ~ CNI + I(CNI^2) + (1 | country), data = data)

   quadratic.comm <- lmer(sc_swb.comm ~ CNI + I(CNI^2) + (1 | country), data = data)

  return(lst(linear.indv,linear.comm,
             quadratic.indv, quadratic.comm))

}

all_swb.cni_mods <- map(
  lst(mindsetCNI_mod, ismCNI_mod, globeCNI_mod,fantcCNI_mod,
  pty6CNI_mod, pty7CNI_mod),
  compute_swb.cni_mods_lmer)
```

```
plot_swb_details <- tibble(cni_type = c("mindset", "ism", "globe", "fantc", "pty6", "pty7")) %>%
  mutate(cni_mod = paste0(cni_type, "CNI_mod"),
         caption = paste0("Association between ", cni_type, " CNI and Subjective Well-being at Indivi
```

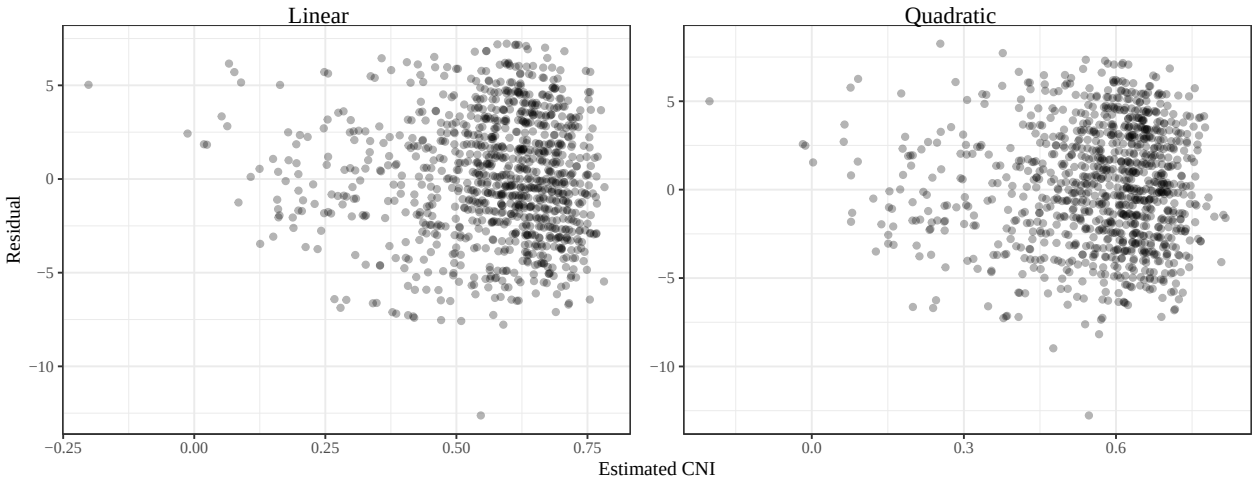

Figure 49: Association between mindset CNI and Subjective Well-being at Individual level

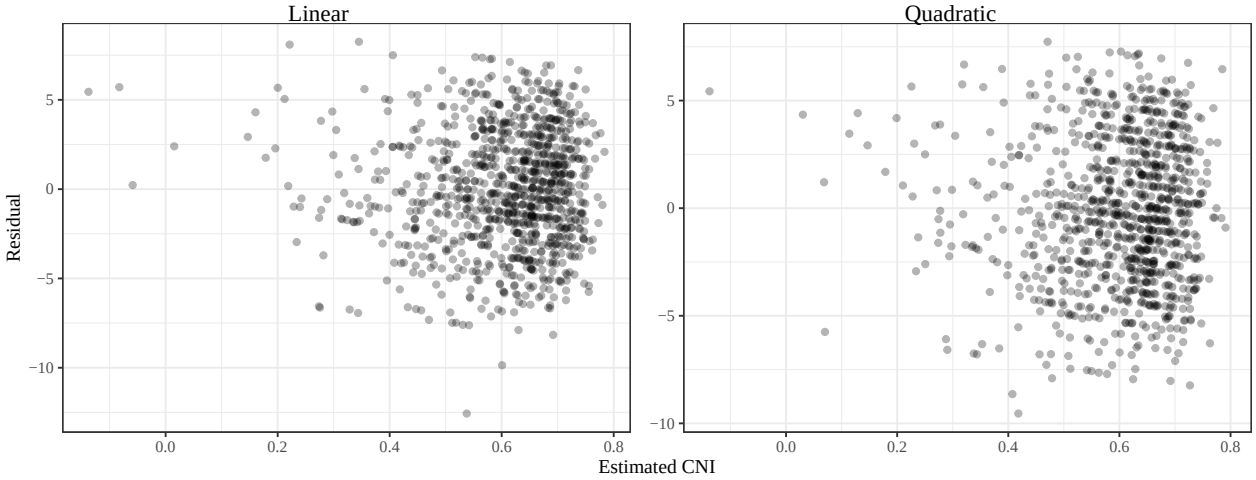

Figure 50: Association between ism CNI and Subjective Well-being at Individual level

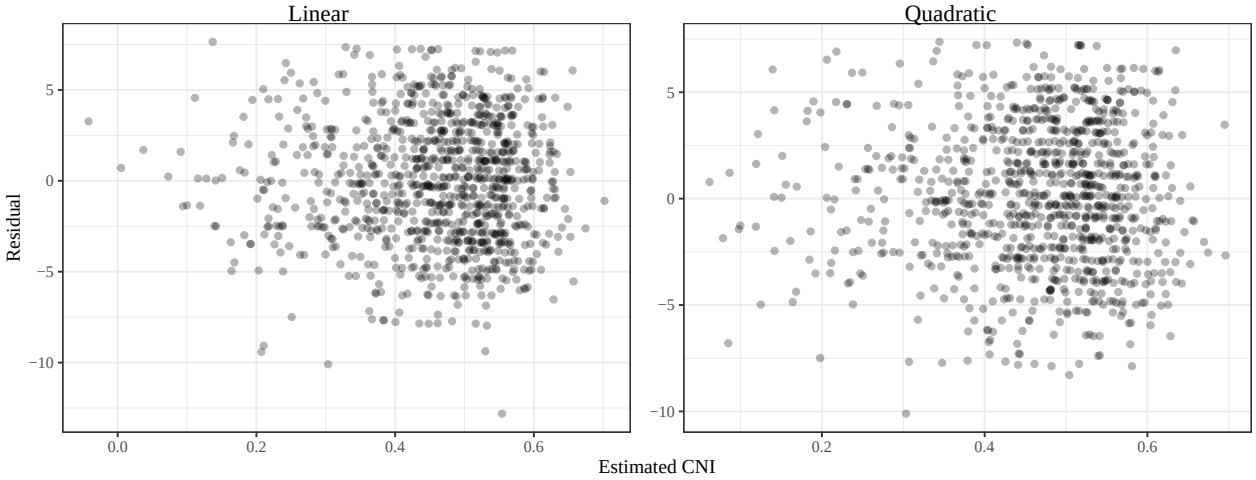

Figure 51: Association between globe CNI and Subjective Well-being at Individual level

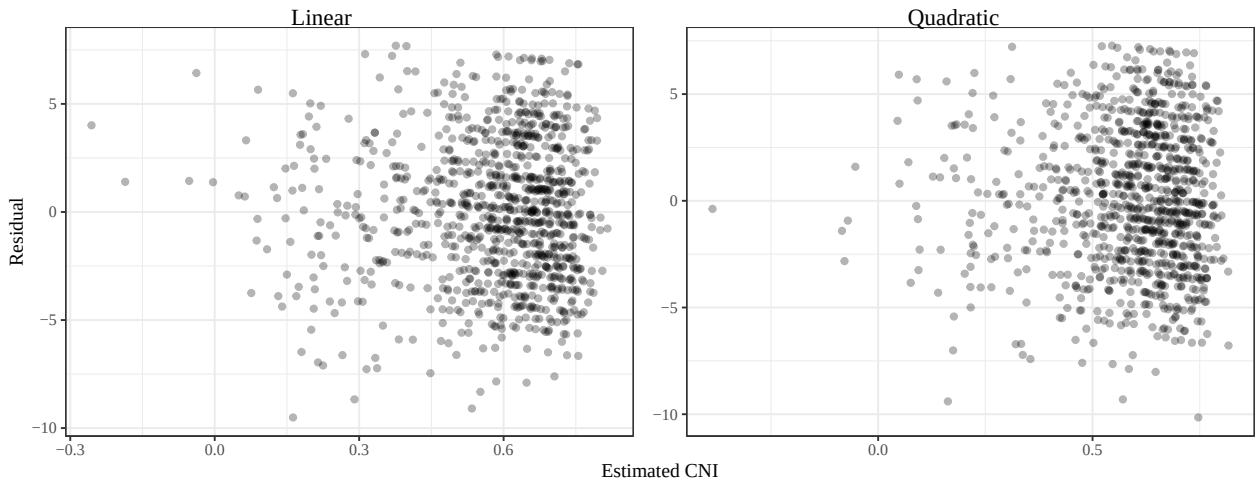

Figure 52: Association between fantc CNI and Subjective Well-being at Individual level

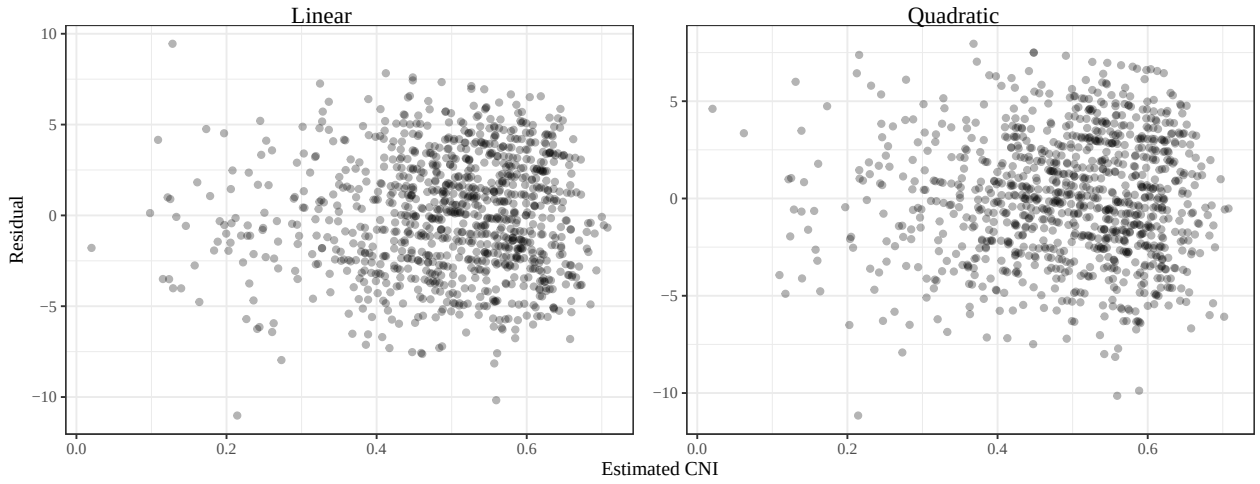

Figure 53: Association between pty6 CNI and Subjective Well-being at Individual level

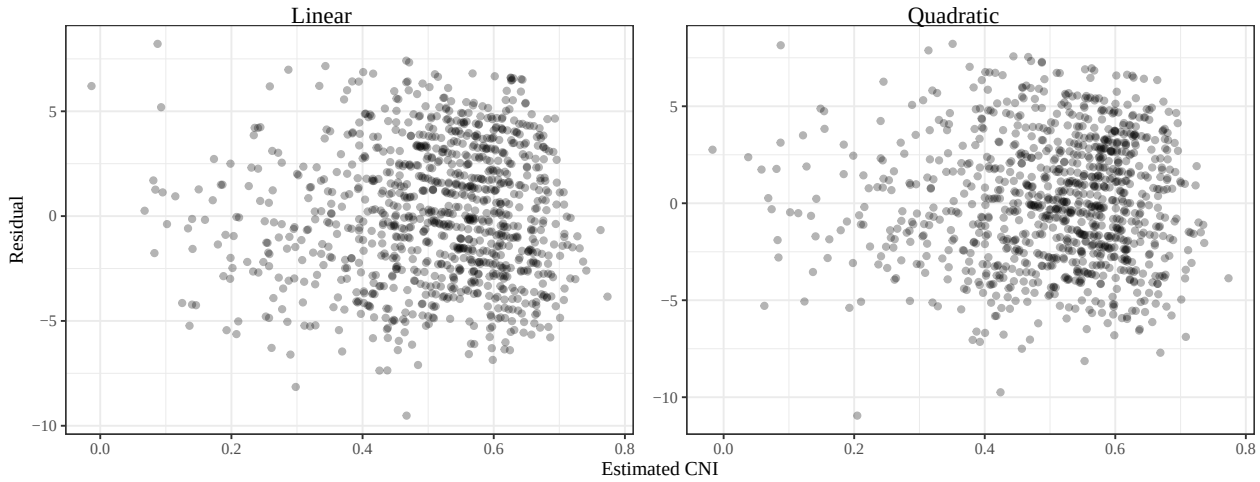

Figure 54: Association between pty7 CNI and Subjective Well-being at Individual level

```r
plot_swb.cni <- \(model) {
  library(sjPlot)

  # Extract the formula from the model
  model_formula <- formula(model)

  # Check if the term CNI^2 is present in the formula
  is_quadratic <- grepl("CNI\\^2", deparse(model_formula))

  # Set the color based on the type of model
  if (is_quadratic) {
    plot_color <- "#E97140"
  } else {
    plot_color <- "#cc254f"
  }

  # Generate the plot
  plot_model(model, type = "pred", terms = c("CNI[all]"), colors = plot_color) +
    scale_y_continuous(limits = c(14, 20)) +
    scale_x_continuous(limits = c(-.4, 1)) +
    theme_bw()+
    labs(x = "CNI", y = "SWB")+
    theme(plot.title = element_blank())
}

all_swb.cni_plots <- map_depth(
  .x = all_swb.cni_mods,
  .depth = 2,
  .f = plot_swb.cni)


plot_swb.cni_patch <- \(model){
  plots <- all_swb.cni_plots%>%
  pluck(model) %>%
  set_names(c("li", "lc", "qi", "qc"))

  # title <- str_extract(model, "^[^_]+")

  plots$li +
  plots$qi +
 # plot_layout(axis_titles = "collect")+
  plot_annotation(
  #  title = title ,
      tag_levels = list(c("Linear", "Quadratic"))) &
  theme(
    plot.tag.position = c("top"),
    plot.caption = element_markdown(size = 12),
    text = element_text("serif")
  )
}
```

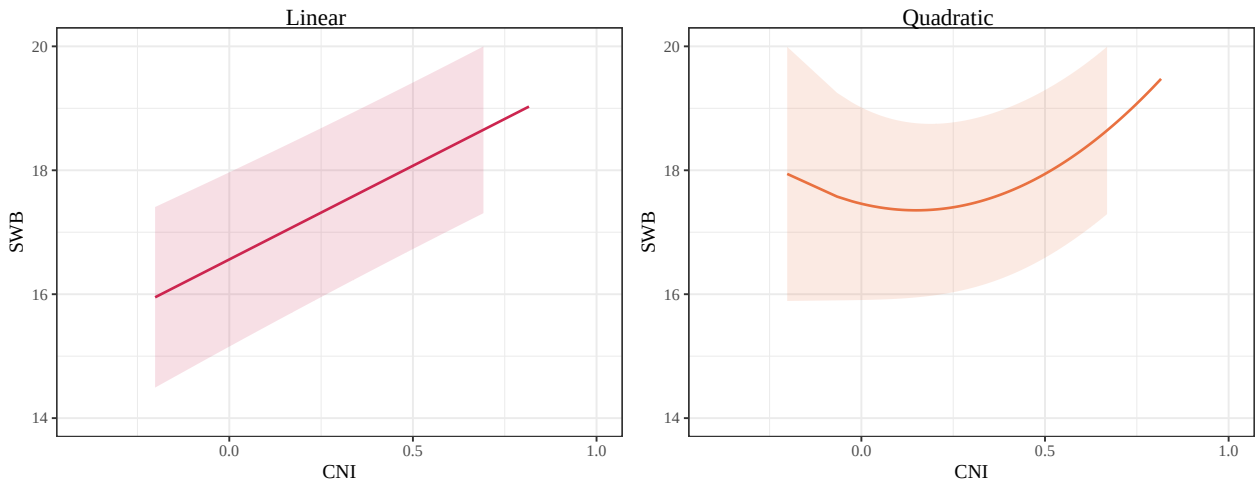

Figure 55: Association between mindset CNI and Subjective Well-being at Individual level

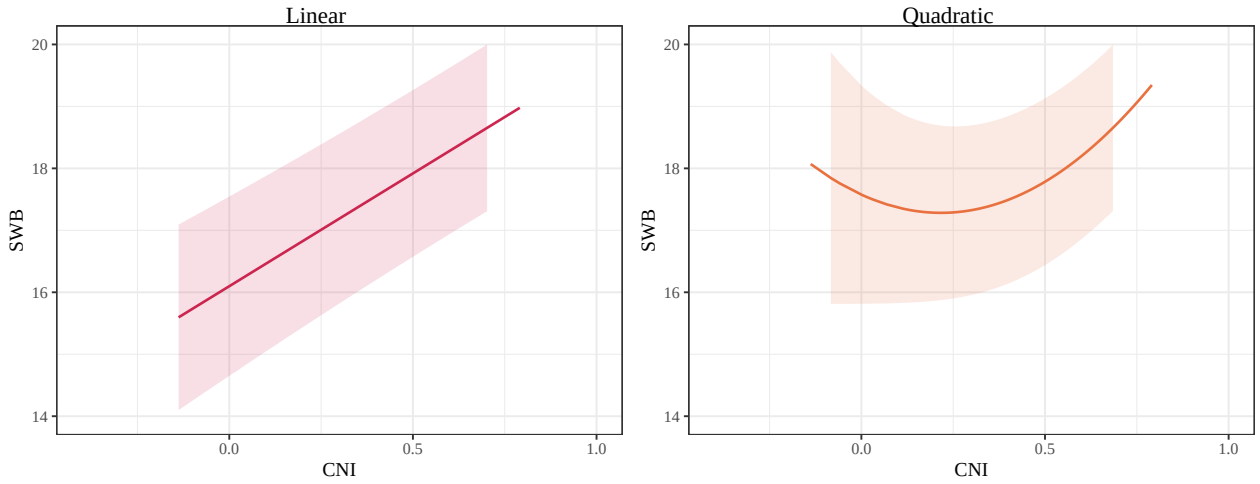

Figure 56: Association between ism CNI and Subjective Well-being at Individual level

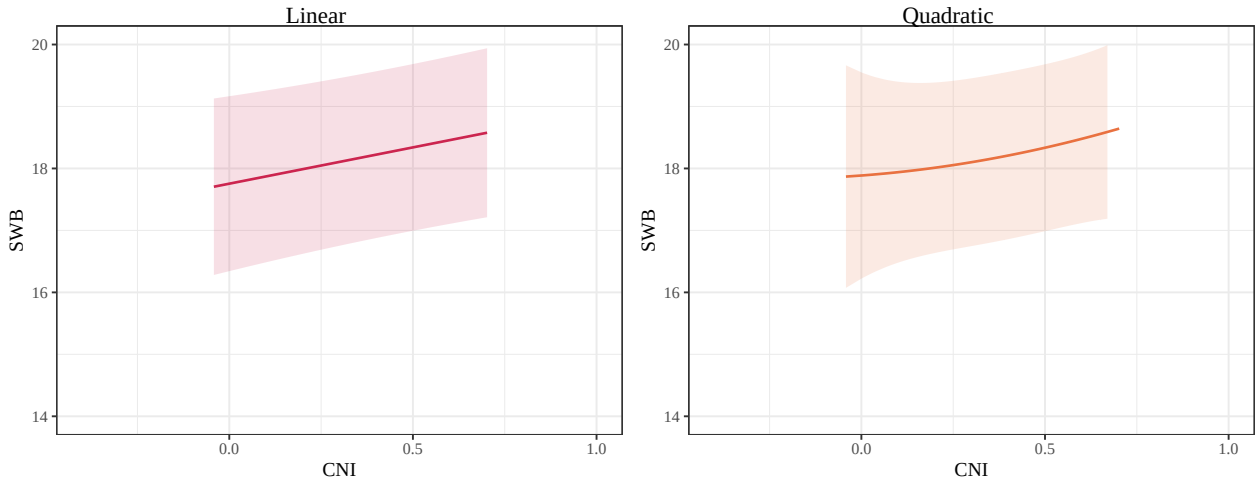

Figure 57: Association between globe CNI and Subjective Well-being at Individual level

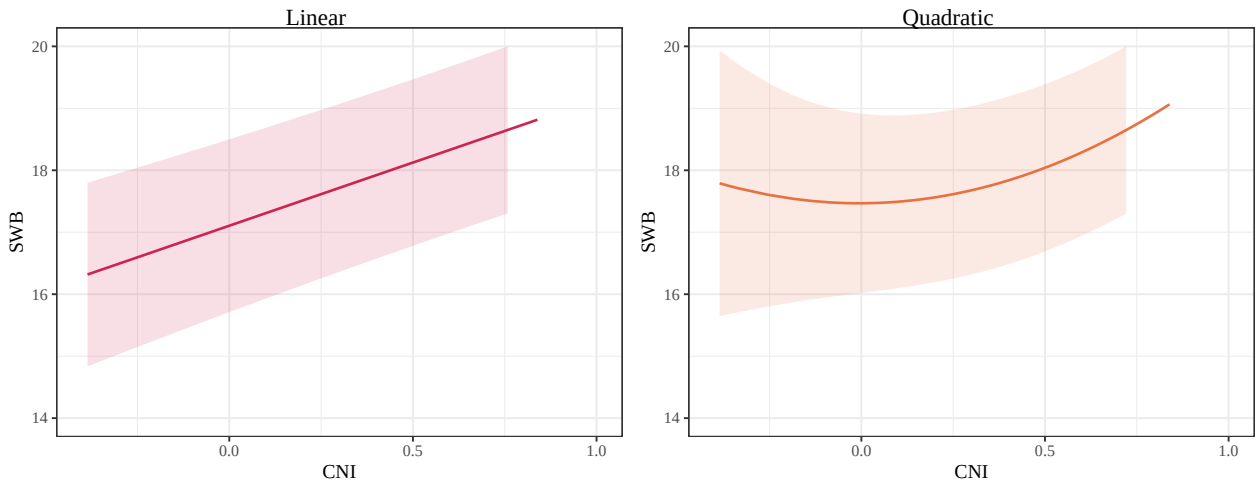

Figure 58: Association between fantc CNI and Subjective Well-being at Individual level

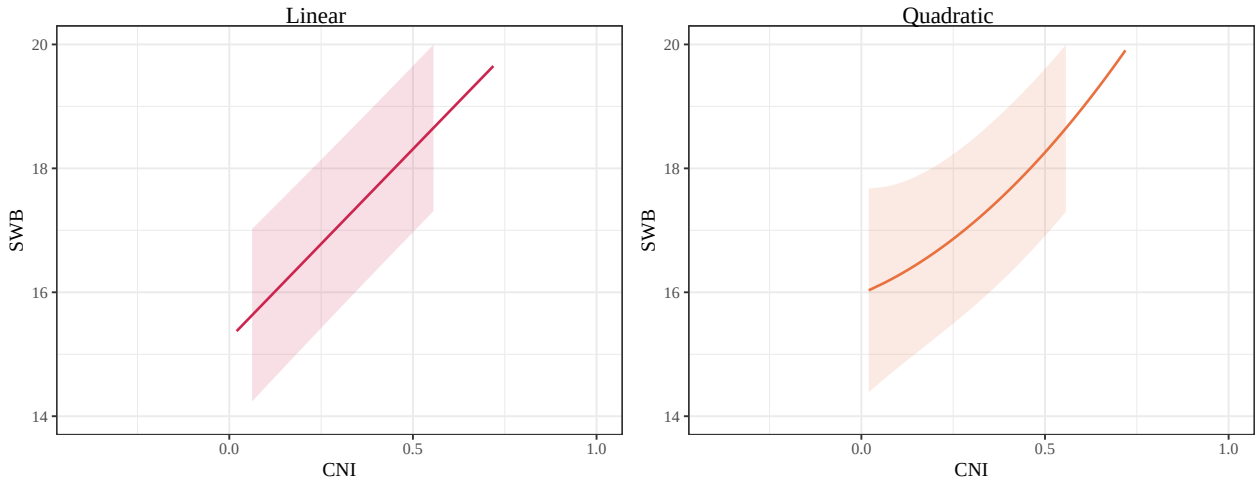

Figure 59: Association between pty6 CNI and Subjective Well-being at Individual level

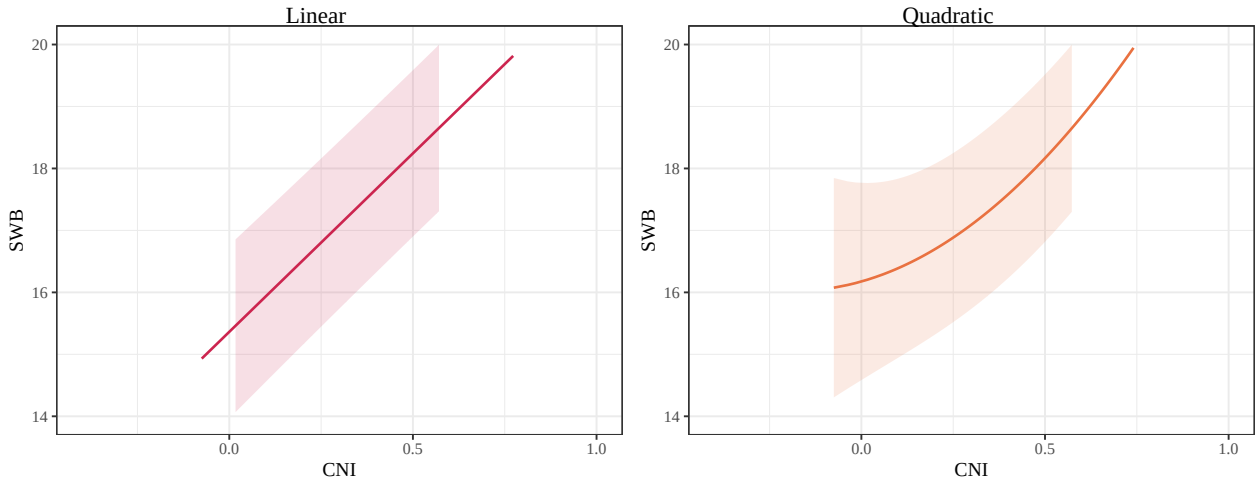

Figure 60: Association between pty7 CNI and Subjective Well-being at Individual level

6 RQ4: Does personality CNI perform better than mindset CNI?

In order to assess which of the CNI's are preferable for predicting well-being outcomes, Anova Type III SS tests were computed to observe the effect of each predictor after accounting for all other predictors in the model.

```
# Create a tibble with all combinations of two CNI types
cni_combinations <- combn(names(all_swb.cni_mods), 2) %>%
  t() %>%
  as_tibble(.name_repair = "minimal") %>%
  set_names(c("mod1", "mod2"))

join_with_data <- \(cni_mod){
mod_name <- deparse(substitute(cni_mod))
cni_type <- gsub("_mod$", "", mod_name)

 join_data <- coef(cni_mod)$pID %>%
    as.data.frame() %>%
    rownames_to_column("pID") %>%
    select(-`(Intercept)`) %>%
    separate(pID, into = c("pID", "country")) %>%
    rename_with(~ cni_type, .cols = z_ctry_response) %>%
    full_join(data1, by = c("pID", "country")) %>% select(all_of(cni_type), pID, country, contains("s
   as_tibble()

 return(join_data)
}

fit_combined_model <- function(mod1, mod2) {
  mod1_name <- deparse(substitute(mod1))
  mod2_name <- deparse(substitute(mod2))

  mod1_data <- join_with_data(mod1)
  mod2_data <- join_with_data(mod2)

  mod1_cni <- gsub("_mod$", "", mod1_name)
  mod2_cni <- gsub("_mod$", "", mod2_name)

  combined_data <- mod1_data %>%
    full_join(mod2_data, by = c("pID", "country", "sc_swb.indv", "sc_swb.comm")) %>%
  rename(!!mod1_cni := mod1,
           !!mod2_cni := mod2) %>%
    na.omit()


  formula_combined <- as.formula(paste("sc_swb.indv ~", mod1_cni, "+", mod2_cni, "+ (1 | country)"))


   combined_model <- lmer(formula_combined, data = combined_data)

  fit <- Anova(combined_model, type = "III") %>%
    tidy() %>%
    rename(chisq = statistic)
```

```
  return(fit)
}

all_cni_mods <- lst(mindsetCNI_mod, ismCNI_mod, globeCNI_mod,fantcCNI_mod,
   pty6CNI_mod, pty7CNI_mod)

cni.swb_all_models <- map2_dfr(cni_combinations$mod1, cni_combinations$mod2, ~ {
  # Fetch model objects from the environment
  mod1_obj <- get(.x, envir = .GlobalEnv)
  mod2_obj <- get(.y, envir = .GlobalEnv)

  # Fit the combined model
  model_result <- fit_combined_model(mod1_obj, mod2_obj)

  # Add the model names to the result
 model_result <- model_result %>%
    mutate(term = case_when(
      term == "mod1_obj" ~ .x,
      term == "mod2_obj" ~ .y,
      TRUE ~ term),
      model = paste("SWB = ",.x, "+", .y))
  return(model_result)
}) %>%
  filter(!str_detect(term, "Intercept")) %>%
  mutate(across(where(is.character), ~ str_replace_all(., "_mod", "")))


all_cni_mods <- lst(mindsetCNI_mod, ismCNI_mod, globeCNI_mod, fantcCNI_mod,
                    pty6CNI_mod, pty7CNI_mod)

cni.swb_all_models <- map2_dfr(cni_combinations$mod1, cni_combinations$mod2, ~ {
  model_result <- eval(call("fit_combined_model", as.name(.x), as.name(.y)))

  # Add the model names to the result
  model_result <- model_result %>%
    mutate(term = case_when(
      term == .x ~ .x,
      term == .y ~ .y,
      TRUE ~ term),
      model = paste("SWB ~", .x, "+", .y))
  return(model_result)
}) %>%
  filter(!str_detect(term, "Intercept")) %>%
  mutate(across(where(is.character), ~ str_replace_all(., "_mod", "")))
```

Table 39: Comparing predictive capacity of CNI

Model		Term	Chisq	df	p
SWB	mindsetCNI + ismCNI	mindsetCNI	10.27	1.00	.001
		ismCNI	8.11	1.00	.004
		mindsetCNI	65.00	1.00	$< .001$

SWB	mindsetCNI + globeCNI	globeCNI	7.64	1.00	.006
SWB	mindsetCNI + fantcCNI	mindsetCNI	33.20	1.00	< .001
		fantcCNI	5.18	1.00	.023
SWB	mindsetCNI + pty6CNI	mindsetCNI	2.80	1.00	.094
		pty6CNI	133.66	1.00	< .001
SWB	mindsetCNI + pty7CNI	mindsetCNI	0.74	1.00	.391
		pty7CNI	145.84	1.00	< .001
SWB	ismCNI + globeCNI	ismCNI	54.97	1.00	< .001
		globeCNI	0.00	1.00	.990
SWB	ismCNI + fantcCNI	ismCNI	29.54	1.00	< .001
		fantcCNI	3.52	1.00	.060
SWB	ismCNI + pty6CNI	ismCNI	14.35	1.00	< .001
		pty6CNI	145.86	1.00	< .001
SWB	ismCNI + pty7CNI	ismCNI	10.62	1.00	.001
		pty7CNI	158.31	1.00	< .001
SWB	globeCNI + fantcCNI	globeCNI	0.08	1.00	.772
		fantcCNI	30.29	1.00	< .001
SWB	globeCNI + pty6CNI	globeCNI	1.59	1.00	.208
		pty6CNI	191.38	1.00	< .001
SWB	globeCNI + pty7CNI	globeCNI	3.99	1.00	.046
		pty7CNI	211.18	1.00	< .001
SWB	fantcCNI + pty6CNI	fantcCNI	0.02	1.00	.895
		pty6CNI	160.67	1.00	< .001
SWB	fantcCNI + pty7CNI	fantcCNI	0.26	1.00	.613
		pty7CNI	175.97	1.00	< .001
SWB	pty6CNI + pty7CNI	pty6CNI	2.14	1.00	.144
		pty7CNI	18.98	1.00	< .001

7 Auxiliary Question

This question brought forth the possibility of an overlap between the Big Six affecting the relationship between CNI and well-being. The correlation effects were small indicating that there is low overlap between Personality-CNI variables and predictors such as well-being affect the observed results.

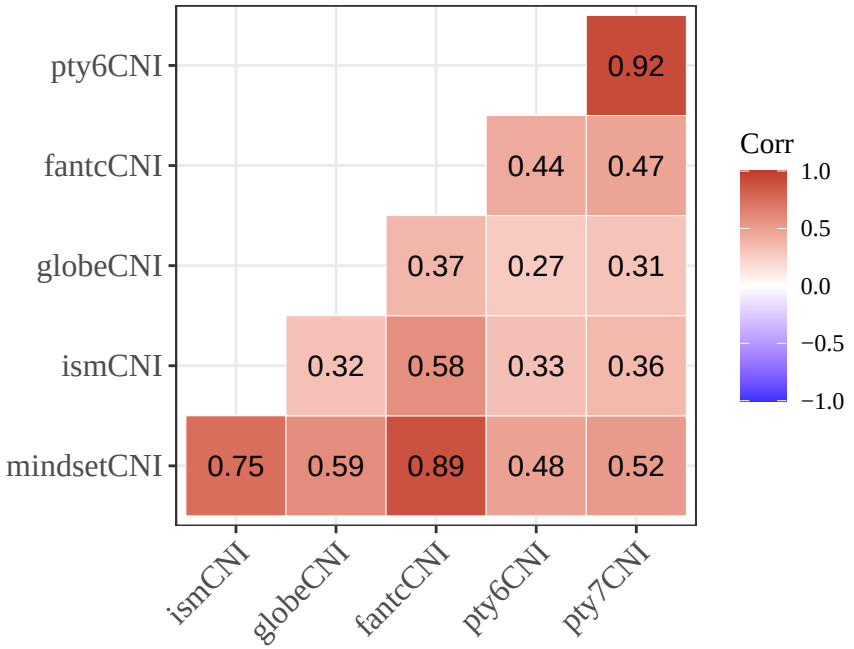

Figure 61: Correlations between CNI types

Table 40: Correlation between Subjective Well-being and Big Six and Disintegration

Variable	Cor with SWB
Extraversion	0.27
Disintegration	-0.25
Virtuosity/Openness	0.25
Resiliency	0.21
Conscientiousness	0.12
Agreeableness	0.07
Honesty	0.05

Note: Correlation between scale scores for Big Six and Subjective Well-being at the individual level