

NJCS - Convergent, Criterion, Incremental Validity (Germany, Switzerland)

Anonymous

```
suppressMessages(library(tidyverse))
suppressMessages(library(Hmisc))
suppressMessages(library(psych))
suppressMessages(library(lavaan))
suppressMessages(library(readr))
suppressMessages(library(skimr))
df <- read_sav("data/data_w8_cleaned_18jun2022.sav")
df <- as_tibble(df)
```

NJCS - Confirmatory Factor Analysis

```
## Model specification - 6 factor
model <- '
    # Defining latent variables
    D =~ s210_01.8 + s210_02.8 + s210_03.8
    R =~ s210_04.8 + s210_05.8 + s210_06.8
    Au =~ s210_07.8 + s210_08.8 + s210_09.8
    Ma =~ s210_10.8 + s210_11.8 + s210_12.8
    Me =~ s210_13.8 + s210_14.8 + s210_15.8
    Af =~ s210_16.8 + s210_17.8 + s210_18.8
    ,

# Model estimation
fit1 <- cfa(model,
    data = df,
    estimator = "ML",
    std.lv = TRUE)

summary(fit1,
    rsquare = TRUE,
    standardized = TRUE,
    fit.measures = TRUE)
```

JCS - Confirmatory Factor Analysis

```
## Model specification - 4 factor
model <- '
    # Defining latent variables
    STR =~ s21_01.8 + s21_02.8 + s21_03.8 + s21_04.8 + s21_05.8
    SOR =~ s21_06.8 + s21_07.8 + s21_08.8 + s21_09.8 + s21_10.8
    HD =~ s21_11.8 + s21_12.8 + s21_13.8 + s21_14.8
```

```

      CD =~ s21_15.8 + s21_16.8 + s21_17.8
,

# Model estimation
fit1 <- cfa(model,
  data = df,
  estimator = "ML",
  std.lv = TRUE)

summary(fit1,
  rsquare = TRUE,
  standardized = TRUE,
  fit.measures = TRUE)

```

NJCS - Convergent validity

```

means1 <- df %>%
  dplyr::select(s101.8, s102r.8, s210.8, s21.8, s500.8, s210_de.8, s210_re.8, s210_au.8, s210_ma.8, s210_
    s21_str.8, s21_soz.8, s21_cd.8, s21_rd.8)
skim(means1)

jcs <- df %>%
  dplyr::select(s21_01.8, s21_02.8, s21_03.8, s21_04.8, s21_05.8, s21_06.8, s21_07.8, s21_08.8, s21_09.8,
    s21_12.8, s21_13.8, s21_14.8, s21_15.8, s21_16.8, s21_17.8, s21_18.8)

# Correlation matrix
mat <- cor(means1, method = "pearson", use = "complete.obs")
corrplot(mat, method = "number", type = "upper", tl.col = "black")
rcorr(as.matrix(means1), type = "pearson")

mat <- cor(jcs, method = "pearson", use = "complete.obs")
corrplot(mat, method = "number", type = "upper", tl.col = "black")

```

*** Cronbach's alpha***

```

njcs <- df %>%
  dplyr::select(s210_01.8, s210_02.8, s210_03.8)
alpha(njcs)

njcs <- df %>%
  dplyr::select(s210_04.8, s210_05.8, s210_06.8)
alpha(njcs)

njcs <- df %>%
  dplyr::select(s210_07.8, s210_08.8, s210_09.8)
alpha(njcs)

njcs <- df %>%
  dplyr::select(s210_10.8, s210_11.8, s210_12.8)
alpha(njcs)

njcs <- df %>%
  dplyr::select(s210_13.8, s210_14.8, s210_15.8)

```

```

alpha(njcs)

njcs <- df %>%
  dplyr::select(s210_16.8, s210_17.8, s210_18.8)
alpha(njcs)

jc <- df %>%
  dplyr::select(s21_01.8, s21_02.8, s21_03.8, s21_04.8, s21_05.8)
alpha(jc)

jc <- df %>%
  dplyr::select(s21_06.8, s21_07.8, s21_08.8, s21_09.8, s21_10.8)
alpha(jc)

jc <- df %>%
  dplyr::select(s21_11.8, s21_12.8, s21_13.8)
alpha(jc)

jc <- df %>%
  dplyr::select(s21_14.8, s21_15.8, s21_16.8, s21_17.8)
alpha(jc)

pp <- df %>%
  dplyr::select(s500_01.8, s500_02.8, s500_03.8, s500_04.8, s500_05.8, s500_06.8)
alpha(pp)

we <- df %>%
  dplyr::select(s32_01.8, s32_02.8, s32_03.8, s32_04.8, s32_05.8, s32_06.8, s32_07.8, s32_08.8, s32_09.8)
alpha(we)

de <- df %>%
  dplyr::select(s57_04.8, s57_05.8, s57_09.8)
alpha(de)

re <- df %>%
  dplyr::select(s57_01.8, s57_03.8, s57_06.8)
alpha(re)

bo <- df %>%
  dplyr::select(s206_01.8, s206_02.8, s206_03.8, s206_04.8, s206_05.8, s206_06.8, s206_07.8)
alpha(bo)

```

NJCS - Criterion validity

```

# Work engagement
mod <- lm(s32.8 ~ s210_de.8 + s210_re.8 + s210_au.8 + s210_ma.8 + s210_me.8 + s210_af.8 + s101.8 + s102.8)
summary(mod)
lm.beta(mod)

# Job satisfaction
mod <- lm(s27_02.8 ~ s210_de.8 + s210_re.8 + s210_au.8 + s210_ma.8 + s210_me.8 + s210_af.8 + s101.8 + s102.8)
summary(mod)
lm.beta(mod)

```

```

# Recovery: detachment + relaxation
mod <- lm(s57.8_dere ~ s210_de.8 + s210_re.8 + s210_au.8 + s210_ma.8 + s210_me.8 + s210_af.8 + s101.8 +
summary(mod)
lm.beta(mod)

# Burnout
mod <- lm(s206.8 ~ s210_de.8 + s210_re.8 + s210_au.8 + s210_ma.8 + s210_me.8 + s210_af.8 + s101.8 + s10
summary(mod)
lm.beta(mod)

```

NJCS - Incremental validity

```

# Work engagement
mod <- lm(s32.8 ~ s21.8, data = df)
mod <- lm(s32.8 ~ s210.8, data = df)
mod <- lm(s32.8 ~ s210.8 + s21.8, data = df)
summary(mod)
confint(mod)
lm.beta(mod)

# Job satisfaction
mod <- lm(s27_02.8 ~ s21.8, data = df)
mod <- lm(s27_02.8 ~ s210.8, data = df)
mod <- lm(s27_02.8 ~ s210.8 + s21.8, data = df)
summary(mod)
confint(mod)
lm.beta(mod)

# Recovery
mod <- lm(s57.8_dere ~ s21.8, data = df)
mod <- lm(s57.8_dere ~ s210.8, data = df)
mod <- lm(s57.8_dere ~ s210.8 + s21.8, data = df)
summary(mod)
confint(mod)
lm.beta(mod)

# Burnout
mod <- lm(s206.8 ~ s21.8, data = df)
mod <- lm(s206.8 ~ s210.8, data = df)
mod <- lm(s206.8 ~ s210.8 + s21.8, data = df)
summary(mod)
confint(mod)
lm.beta(mod)

```