Análise de Dados Clayson

NEAP

2022-09-20

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# Ativação dos pacotes

library(readxl)  
library(tidyverse)  
library(knitr)  
library(expss)  
library(psych)  
library(qgraph)

# Importação do banco de dados

df1 <-   
read.csv("clayson\_data\_analysis.csv",  
 stringsAsFactors = TRUE,  
 blank.lines.skip = TRUE,  
 encoding = "UTF-8")

# Limpeza do banco de dados

df1 <-   
df1 %>% rename\_with(.cols = 1:84,  
 .fn = ~c(c('id','tcle','genero','idade','estado\_civil','etnia',  
 'escolaridade','estado','cidade','ativ\_satisfação',  
 'frequência','profissional'),  
 paste("f",1:36,sep = ""),  
 paste("ice",1:34,sep = ""),  
 c("teste","email")))

# Propriedades psicométricas dos ICE-R

## Inversão dos itens negativos

df2 <- df1  
  
df1[,"ice3"]

## [1] 4 3 3 4 5 5 3 5 3 4 3 4 2 2 4 5 4 2 4 4 1 3 2 2 4 1 3 5 3 3 4 3 1 1 4 5 1  
## [38] 1 1 1 5 3 1 3 4 5 4 5 5 1 4 1 1 5 3 2 2 4 3 4 3 3 4 5 3 1 3 3 4 2 4 5 5 5  
## [75] 5 5 5 3 5 3 5 5 2 1 3 2 4 4 2 2 5 3 5 3 4 5 1 4 5 4 4 3 1 2 5 5 4 4 5 3 5  
## [112] 3 5 2 5 5 2 1 2 4 4 1 3 4 5 4 3 2 3 4 1 2 4 2 4 4 3 4 3 5 5 5 4 4 4 4 3 2  
## [149] 4 3 2 2 1 1 2 4 5 3 5 4 5 2 3 1 3 3 4 5 4 5 2 2 3 5 5 4 2 3 3 1 4 5 3 4 5  
## [186] 3 5 4 2 5 2 4 2 5 5 4 5 1 2 4 3 3 3 5 5 4 2 3

df1[,"ice16"]

## [1] 3 2 2 4 2 1 3 2 2 3 4 4 3 1 4 4 2 2 2 5 1 5 3 3 2 1 2 3 2 3 5 3 3 4 5 3 5  
## [38] 1 1 1 3 2 1 3 5 5 5 3 1 3 4 1 1 4 3 2 2 1 3 4 2 3 4 4 3 1 3 3 3 2 2 3 2 4  
## [75] 3 5 2 5 5 4 3 5 4 2 3 1 3 3 4 1 5 3 4 4 3 3 1 4 5 2 3 4 1 2 4 1 2 3 5 4 3  
## [112] 2 4 2 1 1 4 3 3 5 5 1 1 2 5 1 3 4 1 3 1 5 4 2 2 4 3 3 4 4 4 3 4 4 4 3 4 4  
## [149] 1 2 4 4 2 3 3 5 3 1 4 2 1 1 3 1 4 4 4 5 4 5 2 2 5 2 1 5 3 2 1 2 2 2 4 4 4  
## [186] 5 1 3 1 3 4 4 4 3 5 4 4 2 3 4 3 2 4 2 4 4 2 3

df1[,"ice28"]

## [1] 1 1 4 5 5 1 3 2 2 3 2 1 3 1 1 4 1 3 3 4 5 4 5 1 1 1 1 2 2 3 1 3 3 1 4 5 4  
## [38] 1 1 1 2 2 5 1 5 4 4 2 1 5 2 1 5 4 3 1 2 1 3 4 2 3 3 3 2 2 5 1 4 1 3 1 2 5  
## [75] 4 5 2 3 5 3 5 3 3 4 4 1 4 2 3 1 1 2 2 2 2 3 1 3 5 3 1 4 1 2 1 1 5 4 5 3 5  
## [112] 2 3 4 5 4 4 1 3 3 5 1 4 2 4 5 2 3 2 1 5 2 3 4 3 4 2 4 3 1 1 2 5 5 1 1 1 2  
## [149] 3 2 3 2 2 1 1 4 4 3 5 3 1 2 2 1 3 5 3 5 1 4 3 3 1 2 1 4 2 1 4 4 3 2 3 4 5  
## [186] 3 1 3 1 3 5 4 4 3 1 3 1 1 4 5 1 3 1 1 4 3 2 4

recode(df1[,c('ice3','ice16','ice28')]) <- c(1~5,2~4,3~3,4~2,5~1)  
  
df1[,"ice3"]

## [1] 2 3 3 2 1 1 3 1 3 2 3 2 4 4 2 1 2 4 2 2 5 3 4 4 2 5 3 1 3 3 2 3 5 5 2 1 5  
## [38] 5 5 5 1 3 5 3 2 1 2 1 1 5 2 5 5 1 3 4 4 2 3 2 3 3 2 1 3 5 3 3 2 4 2 1 1 1  
## [75] 1 1 1 3 1 3 1 1 4 5 3 4 2 2 4 4 1 3 1 3 2 1 5 2 1 2 2 3 5 4 1 1 2 2 1 3 1  
## [112] 3 1 4 1 1 4 5 4 2 2 5 3 2 1 2 3 4 3 2 5 4 2 4 2 2 3 2 3 1 1 1 2 2 2 2 3 4  
## [149] 2 3 4 4 5 5 4 2 1 3 1 2 1 4 3 5 3 3 2 1 2 1 4 4 3 1 1 2 4 3 3 5 2 1 3 2 1  
## [186] 3 1 2 4 1 4 2 4 1 1 2 1 5 4 2 3 3 3 1 1 2 4 3

df1[,"ice16"]

## [1] 3 4 4 2 4 5 3 4 4 3 2 2 3 5 2 2 4 4 4 1 5 1 3 3 4 5 4 3 4 3 1 3 3 2 1 3 1  
## [38] 5 5 5 3 4 5 3 1 1 1 3 5 3 2 5 5 2 3 4 4 5 3 2 4 3 2 2 3 5 3 3 3 4 4 3 4 2  
## [75] 3 1 4 1 1 2 3 1 2 4 3 5 3 3 2 5 1 3 2 2 3 3 5 2 1 4 3 2 5 4 2 5 4 3 1 2 3  
## [112] 4 2 4 5 5 2 3 3 1 1 5 5 4 1 5 3 2 5 3 5 1 2 4 4 2 3 3 2 2 2 3 2 2 2 3 2 2  
## [149] 5 4 2 2 4 3 3 1 3 5 2 4 5 5 3 5 2 2 2 1 2 1 4 4 1 4 5 1 3 4 5 4 4 4 2 2 2  
## [186] 1 5 3 5 3 2 2 2 3 1 2 2 4 3 2 3 4 2 4 2 2 4 3

df1[,"ice28"]

## [1] 5 5 2 1 1 5 3 4 4 3 4 5 3 5 5 2 5 3 3 2 1 2 1 5 5 5 5 4 4 3 5 3 3 5 2 1 2  
## [38] 5 5 5 4 4 1 5 1 2 2 4 5 1 4 5 1 2 3 5 4 5 3 2 4 3 3 3 4 4 1 5 2 5 3 5 4 1  
## [75] 2 1 4 3 1 3 1 3 3 2 2 5 2 4 3 5 5 4 4 4 4 3 5 3 1 3 5 2 5 4 5 5 1 2 1 3 1  
## [112] 4 3 2 1 2 2 5 3 3 1 5 2 4 2 1 4 3 4 5 1 4 3 2 3 2 4 2 3 5 5 4 1 1 5 5 5 4  
## [149] 3 4 3 4 4 5 5 2 2 3 1 3 5 4 4 5 3 1 3 1 5 2 3 3 5 4 5 2 4 5 2 2 3 4 3 2 1  
## [186] 3 5 3 5 3 1 2 2 3 5 3 5 5 2 1 5 3 5 5 2 3 4 2

## fidedignidade

rely\_icer\_reou <- df1 %>% select(ice1,ice5,ice8,ice9,ice15,ice23,ice26,ice29,ice31) %>%   
 omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
  
rely\_icer\_rebp <- df1 %>% select(ice4,ice11,ice14,ice16,ice21,ice24,ice27) %>%   
 omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
  
rely\_icer\_expr <- df1 %>% select(ice6,ice18,ice28,ice32) %>%   
 omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
  
rely\_icer\_perc <- df1 %>% select(ice2,ice7,ice10,ice12,ice19,ice22,ice33) %>%   
 omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
  
rely\_icer\_reap <- df1 %>% select(ice3,ice13,ice17,ice20,ice25,ice30,ice34) %>%   
 omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
  
rely\_icer\_icer <- df1 %>% select(ice1:ice34) %>%   
 omega(poly=TRUE,two.ok = TRUE,plot =FALSE)

Bueno, Correia e Peixoto (2021) encontraram uma estrutura com cinco fatores para o ICE-R. Essa estrutura encontrada nesse estudo anterior foi tomada como base para a verificação dos índices de fidedignidade com a amostra atual. Esses índices são apresentados na Tabela XX.

# Cálculo das pontuações nos fatores do ICE-R

df1$reou <- df1 %>% select(ice1,ice5, ice8, ice9,ice15,ice23,ice26,ice29,ice31) %>% rowMeans()  
df1$rebp <- df1 %>% select(ice4,ice11,ice14,ice16,ice21,ice24,ice27) %>% rowMeans()  
df1$expr <- df1 %>% select(ice6,ice18,ice28,ice32) %>% rowMeans()  
df1$perc <- df1 %>% select(ice2,ice7, ice10,ice12,ice19,ice22,ice33) %>% rowMeans()  
df1$reap <- df1 %>% select(ice3,ice13,ice17,ice20,ice25,ice30,ice34) %>% rowMeans()  
df1$icer <- df1 %>% select(reou, rebp, expr, perc, reap) %>% rowMeans()

# Estatísticas descritivas do ICE-R

data.frame(Fatores = c("Regulação de Emoções em Outras Pessoas (reou)",  
 "Regulação de Emoções de Baixa Potência (rebp)",  
 "Expressividade Emocional (expr)",  
 "Percepção de Emoções (perc)",  
 "Regulação de Emoções de Alta Potência (reap)",  
 "Competências Emocionais - Geral (icer)"),  
 "Média" = c(round(mean(df1$reou,na.rm = TRUE),digits = 2),  
 round(mean(df1$rebp,na.rm = TRUE),digits = 2),  
 round(mean(df1$expr,na.rm = TRUE),digits = 2),  
 round(mean(df1$perc,na.rm = TRUE),digits = 2),  
 round(mean(df1$reap,na.rm = TRUE),digits = 2),  
 round(mean(df1$icer,na.rm = TRUE),digits = 2)),  
 DesvPad = c(round(sd(df1$reou,na.rm = TRUE),digits = 2),  
 round(sd(df1$rebp,na.rm = TRUE),digits = 2),  
 round(sd(df1$expr,na.rm = TRUE),digits = 2),  
 round(sd(df1$perc,na.rm = TRUE),digits = 2),  
 round(sd(df1$reap,na.rm = TRUE),digits = 2),  
 round(sd(df1$icer,na.rm = TRUE),digits = 2)),  
 "Ômega de McDonald" = c(round(rely\_icer\_reou$omega.tot,digits = 2),  
 round(rely\_icer\_rebp$omega.tot,digits = 2),  
 round(rely\_icer\_expr$omega.tot,digits = 2),  
 round(rely\_icer\_perc$omega.tot,digits = 2),  
 round(rely\_icer\_reap$omega.tot,digits = 2),  
 round(rely\_icer\_icer$omega.tot,digits = 2)),  
 "Alfa de Cronbach" = c(round(rely\_icer\_reou$alpha,digits = 2),  
 round(rely\_icer\_rebp$alpha,digits = 2),  
 round(rely\_icer\_expr$alpha,digits = 2),  
 round(rely\_icer\_perc$alpha,digits = 2),  
 round(rely\_icer\_reap$alpha,digits = 2),  
 round(rely\_icer\_icer$alpha,digits = 2))) %>% kable()

| Fatores | Média | DesvPad | Ômega.de.McDonald | Alfa.de.Cronbach |
| --- | --- | --- | --- | --- |
| Regulação de Emoções em Outras Pessoas (reou) | 4.09 | 0.67 | 0.96 | 0.93 |
| Regulação de Emoções de Baixa Potência (rebp) | 3.75 | 0.76 | 0.92 | 0.89 |
| Expressividade Emocional (expr) | 3.84 | 0.81 | 0.78 | 0.76 |
| Percepção de Emoções (perc) | 4.30 | 0.55 | 0.90 | 0.86 |
| Regulação de Emoções de Alta Potência (reap) | 3.58 | 0.64 | 0.85 | 0.76 |
| Competências Emocionais - Geral (icer) | 3.91 | 0.51 | 0.96 | 0.95 |

# Análise do DFS-BR (Fidedignidade)

# Challenge Skill Balance (CSB); Autotelic Experience (AE); Transformation of Time (TT); Lost of Self-Consciousness (LSC); Sense of Control (SC); Concentration on the Task at Hands (CTH); Unambiguous Feedback (UF); Clear Goals (CG); and Merging of Action and Awareness (MAA).  
  
rely\_dfs\_csb <- df1 %>% select("f1","f10","f19","f28") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_aex <- df1 %>% select("f9","f18","f27","f36") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_tti <- df1 %>% select("f8","f17","f26","f35") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_lsc <- df1 %>% select("f7","f16","f25","f34") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_sct <- df1 %>% select("f6","f15","f24","f33") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_cth <- df1 %>% select("f5","f14","f23","f32") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_ufb <- df1 %>% select("f4","f13","f22","f31") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_cgo <- df1 %>% select("f3","f12","f21","f30") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)  
rely\_dfs\_maa <- df1 %>% select("f2","f11","f20","f29") %>% omega(poly=TRUE,two.ok = TRUE,plot =FALSE)

# Cálculo das pontuações no DFS-BR

df1$dfs\_csb <- df1 %>% select("f1","f10","f19","f28") %>% rowMeans()  
df1$dfs\_aex <- df1 %>% select("f9","f18","f27","f36") %>% rowMeans()  
df1$dfs\_tti <- df1 %>% select("f8","f17","f26","f35") %>% rowMeans()  
df1$dfs\_lsc <- df1 %>% select("f7","f16","f25","f34") %>% rowMeans()  
df1$dfs\_sct <- df1 %>% select("f6","f15","f24","f33") %>% rowMeans()  
df1$dfs\_cth <- df1 %>% select("f5","f14","f23","f32") %>% rowMeans()  
df1$dfs\_ufb <- df1 %>% select("f4","f13","f22","f31") %>% rowMeans()  
df1$dfs\_cgo <- df1 %>% select("f3","f12","f21","f30") %>% rowMeans()  
df1$dfs\_maa <- df1 %>% select("f2","f11","f20","f29") %>% rowMeans()

# Estatísticas descritivas da DFS-BR

# Challenge Skill Balance (CSB); Autotelic Experience (AE); Transformation of Time (TT); Lost of Self-Consciousness (LSC); Sense of Control (SC); Concentration on the Task at Hands (CTH); Unambiguous Feedback (UF); Clear Goals (CG); and Merging of Action and Awareness (MAA).  
  
data.frame(Fatores = c("Challenge Skill Balance (CSB)",  
 "Autotelic Experience (AEx)",  
 "Transformation of Time (TTi)",  
 "Lost of Self-Consciousness (LSC)",  
 "Sense of Control (SC)",  
 "Concentration on the Task at Hands (CTH)",  
 "Unambiguous Feedback (UFb)",  
 "Clear Goals (CG)",  
 "Merging of Action and Awareness (MAA)"),  
 "Média" = c(round(mean(df1$dfs\_csb,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_aex,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_tti,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_lsc,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_sct,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_cth,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_ufb,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_cgo,na.rm = TRUE),digits = 2),  
 round(mean(df1$dfs\_maa,na.rm = TRUE),digits = 2)),  
 DesvPad = c(round(sd(df1$dfs\_csb,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_aex,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_tti,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_lsc,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_sct,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_cth,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_ufb,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_cgo,na.rm = TRUE),digits = 2),  
 round(sd(df1$dfs\_maa,na.rm = TRUE),digits = 2)),  
 "Ômega de McDonald" = c(round(rely\_dfs\_csb$omega.tot,digits = 2),  
 round(rely\_dfs\_aex$omega.tot,digits = 2),  
 round(rely\_dfs\_tti$omega.tot,digits = 2),  
 round(rely\_dfs\_lsc$omega.tot,digits = 2),  
 round(rely\_dfs\_sct$omega.tot,digits = 2),  
 round(rely\_dfs\_cth$omega.tot,digits = 2),  
 round(rely\_dfs\_ufb$omega.tot,digits = 2),  
 round(rely\_dfs\_cgo$omega.tot,digits = 2),  
 round(rely\_dfs\_maa$omega.tot,digits = 2)),  
 "Alfa de Cronbach" = c(round(rely\_dfs\_csb$alpha,digits = 2),  
 round(rely\_dfs\_aex$alpha,digits = 2),  
 round(rely\_dfs\_tti$alpha,digits = 2),  
 round(rely\_dfs\_lsc$alpha,digits = 2),  
 round(rely\_dfs\_sct$alpha,digits = 2),  
 round(rely\_dfs\_cth$alpha,digits = 2),  
 round(rely\_dfs\_ufb$alpha,digits = 2),  
 round(rely\_dfs\_cgo$alpha,digits = 2),  
 round(rely\_dfs\_maa$alpha,digits = 2))) %>% kable()

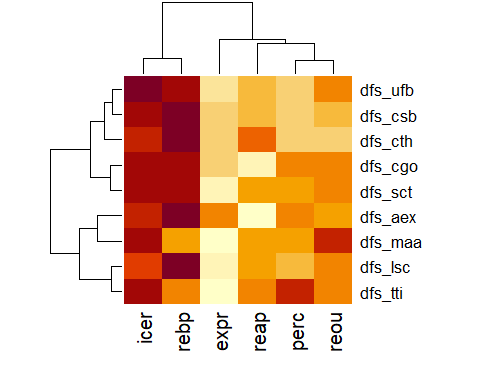
| Fatores | Média | DesvPad | Ômega.de.McDonald | Alfa.de.Cronbach |
| --- | --- | --- | --- | --- |
| Challenge Skill Balance (CSB) | 4.20 | 0.70 | 0.89 | 0.84 |
| Autotelic Experience (AEx) | 4.64 | 0.55 | 0.94 | 0.93 |
| Transformation of Time (TTi) | 4.21 | 0.77 | 0.86 | 0.85 |
| Lost of Self-Consciousness (LSC) | 3.72 | 1.04 | 0.93 | 0.90 |
| Sense of Control (SC) | 4.11 | 0.79 | 0.95 | 0.93 |
| Concentration on the Task at Hands (CTH) | 4.15 | 0.77 | 0.90 | 0.86 |
| Unambiguous Feedback (UFb) | 4.26 | 0.71 | 0.93 | 0.91 |
| Clear Goals (CG) | 4.39 | 0.69 | 0.92 | 0.91 |
| Merging of Action and Awareness (MAA) | 3.64 | 0.92 | 0.86 | 0.83 |

# Correlações

cor\_matrix <- corr.test(df1[,91:99],df1[,85:90],)  
cor\_matrix$stars %>% pander::pander()

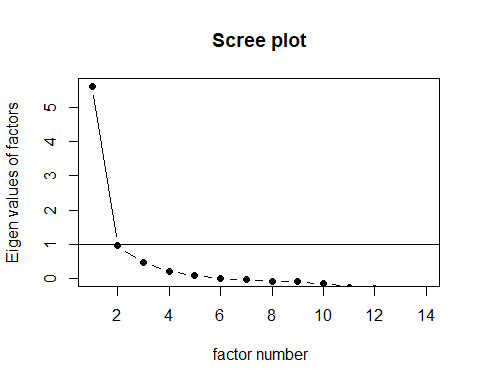
|  | reou | rebp | expr | perc | reap | icer |
| --- | --- | --- | --- | --- | --- | --- |
| **dfs\_csb** | 0.32\*\*\* | 0.49\*\*\* | 0.3\*\*\* | 0.31\*\*\* | 0.32\*\*\* | 0.47\*\*\* |
| **dfs\_aex** | 0.27\*\*\* | 0.45\*\*\* | 0.3\*\*\* | 0.3\*\*\* | 0.14\* | 0.4\*\*\* |
| **dfs\_tti** | 0.14\* | 0.14\* | 0.09 | 0.17\* | 0.14\* | 0.18\* |
| **dfs\_lsc** | 0.14\* | 0.24\*\*\* | 0.06 | 0.12 | 0.14 | 0.18\* |
| **dfs\_sct** | 0.43\*\*\* | 0.57\*\*\* | 0.28\*\*\* | 0.41\*\*\* | 0.4\*\*\* | 0.57\*\*\* |
| **dfs\_cth** | 0.27\*\*\* | 0.47\*\*\* | 0.25\*\*\* | 0.25\*\*\* | 0.36\*\*\* | 0.43\*\*\* |
| **dfs\_ufb** | 0.41\*\*\* | 0.5\*\*\* | 0.3\*\*\* | 0.34\*\*\* | 0.34\*\*\* | 0.52\*\*\* |
| **dfs\_cgo** | 0.46\*\*\* | 0.56\*\*\* | 0.34\*\*\* | 0.44\*\*\* | 0.3\*\*\* | 0.58\*\*\* |
| **dfs\_maa** | 0.32\*\*\* | 0.26\*\*\* | 0.18\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.34\*\*\* |

heatmap(cor\_matrix$r)



# Análise fatorial

df1 %>% select(85:89,91:99) %>% scree(pc = FALSE)

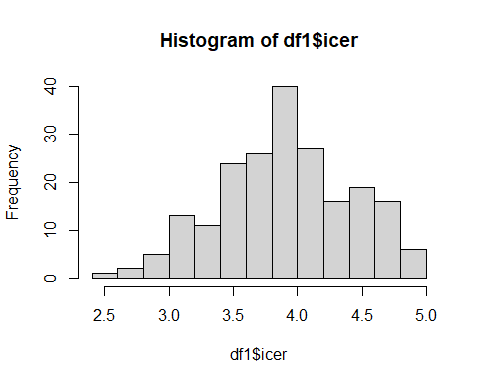


df1 %>% select(85:89,91:99) %>% fa(nfactors = 1, fm = "wls", rotate = "promax")

## Factor Analysis using method = wls  
## Call: fa(r = ., nfactors = 1, rotate = "promax", fm = "wls")  
## Standardized loadings (pattern matrix) based upon correlation matrix  
## WLS1 h2 u2 com  
## reou 0.58 0.33 0.67 1  
## rebp 0.69 0.48 0.52 1  
## expr 0.44 0.19 0.81 1  
## perc 0.53 0.29 0.71 1  
## reap 0.49 0.24 0.76 1  
## dfs\_csb 0.69 0.48 0.52 1  
## dfs\_aex 0.69 0.48 0.52 1  
## dfs\_tti 0.35 0.13 0.87 1  
## dfs\_lsc 0.45 0.20 0.80 1  
## dfs\_sct 0.84 0.70 0.30 1  
## dfs\_cth 0.73 0.53 0.47 1  
## dfs\_ufb 0.82 0.67 0.33 1  
## dfs\_cgo 0.82 0.67 0.33 1  
## dfs\_maa 0.49 0.24 0.76 1  
##   
## WLS1  
## SS loadings 5.63  
## Proportion Var 0.40  
##   
## Mean item complexity = 1  
## Test of the hypothesis that 1 factor is sufficient.  
##   
## The degrees of freedom for the null model are 91 and the objective function was 7.18 with Chi Square of 1446.13  
## The degrees of freedom for the model are 77 and the objective function was 1.73   
##   
## The root mean square of the residuals (RMSR) is 0.1   
## The df corrected root mean square of the residuals is 0.1   
##   
## The harmonic number of observations is 208 with the empirical chi square 344.14 with prob < 1.9e-35   
## The total number of observations was 208 with Likelihood Chi Square = 348.34 with prob < 3.7e-36   
##   
## Tucker Lewis Index of factoring reliability = 0.763  
## RMSEA index = 0.13 and the 90 % confidence intervals are 0.117 0.145  
## BIC = -62.65  
## Fit based upon off diagonal values = 0.95  
## Measures of factor score adequacy   
## WLS1  
## Correlation of (regression) scores with factors 0.96  
## Multiple R square of scores with factors 0.92  
## Minimum correlation of possible factor scores 0.85

# Identificação de grupos de pessoas com alta e baixa IE

hist(df1$icer)



mean(df1$icer, na.rm = TRUE)

## [1] 3.910776

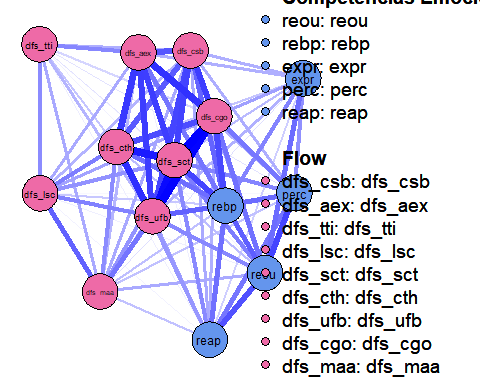
sd(df1$icer, na.rm = TRUE)

## [1] 0.5111183

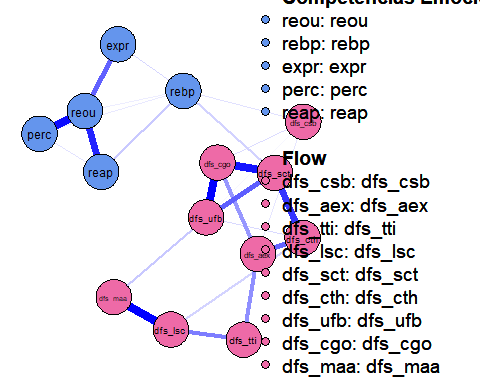
df1$ie\_cod <- ifelse(df1$icer < mean(df1$icer, na.rm = TRUE) - sd(df1$icer, na.rm = TRUE),1,  
 ifelse(df1$icer > mean(df1$icer, na.rm = TRUE) + sd(df1$icer, na.rm = TRUE),2,NA))

# Análise de redes

# heatmap  
# cor.plot(cor\_auto(df1[,c(85:89,91:99)]))  
  
# arranjo para pintar o ice e o fds de cores diferentes  
color <- c("blue","pink")  
groups <- list("Competências Emocionais" = 1:5,  
 Flow = 6:14)  
  
# rede com base em correlação  
ie\_flow\_g <- qgraph(cor\_auto(df1[,c(85:89,91:99)]),  
 nodeNames = colnames(df1[c(85:89,91:99)]),  
 groups = groups,  
 color = c("cornflowerblue", "hotpink2"),  
 posCol = "blue",  
 labels = colnames(df1[c(85:89,91:99)]),  
 layout = "spring",  
 graph = "cor",  
 sampleSize = 207,  
 treshold = TRUE,  
 minimum = 0.1,  
 lambda.min.ratio = .002)



# rede com base em correlações parciais (método glasso)  
ie\_flow\_g <- qgraph(cor\_auto(df1[,c(85:89,91:99)]),  
 nodeNames = colnames(df1[c(85:89,91:99)]),  
 groups = groups,  
 color = c("cornflowerblue", "hotpink2"),  
 posCol = "blue",  
 labels = colnames(df1[c(85:89,91:99)]),  
 layout = "spring",  
 graph = "glasso",  
 sampleSize = 207,  
 treshold = TRUE,  
 minimum = 0.1,  
 lambda.min.ratio = .002)



writexl::write\_xlsx(df1,"df1.xlsx")

# Descrição sociodemográfica da amostra

names(df1)

## [1] "id" "tcle" "genero" "idade"   
## [5] "estado\_civil" "etnia" "escolaridade" "estado"   
## [9] "cidade" "ativ\_satisfação" "frequência" "profissional"   
## [13] "f1" "f2" "f3" "f4"   
## [17] "f5" "f6" "f7" "f8"   
## [21] "f9" "f10" "f11" "f12"   
## [25] "f13" "f14" "f15" "f16"   
## [29] "f17" "f18" "f19" "f20"   
## [33] "f21" "f22" "f23" "f24"   
## [37] "f25" "f26" "f27" "f28"   
## [41] "f29" "f30" "f31" "f32"   
## [45] "f33" "f34" "f35" "f36"   
## [49] "ice1" "ice2" "ice3" "ice4"   
## [53] "ice5" "ice6" "ice7" "ice8"   
## [57] "ice9" "ice10" "ice11" "ice12"   
## [61] "ice13" "ice14" "ice15" "ice16"   
## [65] "ice17" "ice18" "ice19" "ice20"   
## [69] "ice21" "ice22" "ice23" "ice24"   
## [73] "ice25" "ice26" "ice27" "ice28"   
## [77] "ice29" "ice30" "ice31" "ice32"   
## [81] "ice33" "ice34" "teste" "email"   
## [85] "reou" "rebp" "expr" "perc"   
## [89] "reap" "icer" "dfs\_csb" "dfs\_aex"   
## [93] "dfs\_tti" "dfs\_lsc" "dfs\_sct" "dfs\_cth"   
## [97] "dfs\_ufb" "dfs\_cgo" "dfs\_maa" "ie\_cod"

library(janitor)  
library(pander)  
  
df1 %>% select(idade) %>% summary()

## idade   
## Min. :21.00   
## 1st Qu.:33.00   
## Median :41.00   
## Mean :42.55   
## 3rd Qu.:50.25   
## Max. :72.00

df1 %>%   
 tabyl(genero) %>%   
 adorn\_totals() %>%  
 pander()

| genero | n | percent |
| --- | --- | --- |
| Feminino | 126 | 0.6058 |
| Masculino | 81 | 0.3894 |
| Não binário | 1 | 0.004808 |
| Total | 208 | 1 |

df1 %>%   
 tabyl(escolaridade) %>%   
 adorn\_totals() %>%   
 pander()

| escolaridade | n | percent |
| --- | --- | --- |
| Ensino Fundamental Completo ou Incompleto | 3 | 0.01442 |
| Ensino Médio Completo ou Incompleto | 23 | 0.1106 |
| Graduação Completa ou Incompleta | 65 | 0.3125 |
| Pós-Graduação Completa ou Incompleta | 117 | 0.5625 |
| Total | 208 | 1 |

df1 %>%   
 tabyl(estado\_civil) %>%   
 adorn\_totals() %>%   
 pander()

| estado\_civil | n | percent |
| --- | --- | --- |
| Casado/a | 79 | 0.3798 |
| Convivo com meu companheiro | 1 | 0.004808 |
| Divorciado/a | 22 | 0.1058 |
| juntos | 1 | 0.004808 |
| Sep.Judicialmente | 1 | 0.004808 |
| Separada | 1 | 0.004808 |
| Solteiro/a | 93 | 0.4471 |
| união estável | 1 | 0.004808 |
| União estável | 3 | 0.01442 |
| União Estável | 1 | 0.004808 |
| União estável / Viúva | 1 | 0.004808 |
| Viúvo/a | 4 | 0.01923 |
| Total | 208 | 1 |

df1 %>%   
 tabyl(etnia) %>%   
 adorn\_totals() %>%   
 pander()

| etnia | n | percent |
| --- | --- | --- |
| Amarela | 2 | 0.009615 |
| Branco | 104 | 0.5 |
| Indefinida | 1 | 0.004808 |
| Indígena | 4 | 0.01923 |
| Mestiça | 1 | 0.004808 |
| Mestiço | 1 | 0.004808 |
| Negro (Pretos e Pardos) | 93 | 0.4471 |
| Pardo | 1 | 0.004808 |
| Sou de fato multirracial, mas socialmente branca ou parda. | 1 | 0.004808 |
| Total | 208 | 1 |