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> setwd("C:/DBA/Dr,Hosam/Statistics N1")#setting our working directory
> datast<-read.csv("m105r.csv", header=TRUE)# importing data
> dataFin<-datast[,1:26]
> library(polycor)#performing ploychoric correlation
> datacor<-hetcor(dataFin, use="complete.obs")
> datacor2<-datacor$correlations#extract the correlation matrix from list named datacor
> #standardizing the data
> datastand<-data.frame(scale(datacor2, center=TRUE, scale=TRUE))
> #evaluating the sampling adequacy
> library(psych)
> adequacy<-KMO(dataFin)
> adequacy

```

Kaiser-Meyer-Olkin factor adequacy

Call: KMO(r = dataFin)

Overall MSA = 0.86

MSA for each item =

MDR1	MDR2	MDR3	MDR4	MDR5	MDR6	MDR7	MDR8	MDR9
0.88	0.82	0.83	0.88	0.80	0.89	0.91	0.91	0.76

MDR10	MDR11	SMEF1	SMEP1	SMEP2	SMEP3	SMEP4	SMEF2	MDR12
0.41	0.73	0.82	0.91	0.88	0.80	0.36	0.90	0.53

SMEP5	SMEF3	SMEP6	SMEF4	SMEP7	SMEF5	SMEP8	SMEF6
0.93	0.74	0.71	0.91	0.92	0.91	0.67	0.77

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> library(REdaS)
> #Bartlett's Test of Sphericity
> bart_spher(dataFin,use="complete.obs")

```

Bartlett's Test of Sphericity

Call: bart_spher(x = dataFin, use = "complete.obs")

X2 = 1122.365

df = 325

p-value < 2.22e-16

> #visualizing correlation matrix

> library(corrplot)

> par(oma=c(0.5,0.5,1.5,0.5), xpd=TRUE)#for outermargin:oma

> corrplot(cor(datastand,use="complete.obs"), order="hclust",tl.col='black',tl.cex=0.85)

> save.image("C:/DBA/research paper,/German med paper/Data/data set/R software 4.1.1
(21) results.RData")

> save.image("C:/DBA/research paper,/German med paper/Data/workspace.RData")