Digit Napping with R

Code

Data import : holos format

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```
#install.packages("SensoMineR")
library(SensoMineR)
data("videos")
```

Analyse Holos Data with Napping Data

- Création d'un dossier avec les résultats :

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```
res.N <- analyse_holos(videos, method = "N", export.res = TRUE)
```

- Nombre d'étapes & durée du processus pour chaque individu :

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```
res.N$summary.task$nbstep.time
```

	subject <fctr>	number.step <fctr>	time <chr>
1	1	25	00:06:50
2	2	22	00:06:23
3	3	23	00:09:57
4	4	23	00:08:35
5	5	47	00:09:38
6	6	13	00:06:03
7	7	11	00:00:03
8	8	12	00:02:33
9	9	13	00:00:21
10	10	30	00:10:59

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- Nombre de fois qu'un individu à bouger chaque stimulus durant le processus :

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```
res.N$summary.task$freq[[1]]
```

	subject <dbl>	stimulus <chr>	freq <dbl>
1	1	Video A	1
2	1	Video B	2
3	1	Video C	2
4	1	Video D	3
5	1	Video E	1
6	1	Video F	2
7	1	Video G	2
8	1	Video H	4
9	1	Video I	2

	subject <dbl>	stimulus <chr>	freq <dbl>
10	1	Video J	6

1-10 of 10 rows

- Résultats de l'AFM (qu'on peut customiser avec la fonction *plot.MFA* de **FactoMineR**) :

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```
res.N$res.FA
```

```
**Results of the Multiple Factor Analysis (MFA)**
The analysis was performed on 10 individuals, described by 160 variables
*Results are available in the following objects :

  name                 description
1 "$eig"               "eigenvalues"
2 "$separate.analyses" "separate analyses for each group of variables"
3 "$group"             "results for all the groups"
4 "$partial.axes"      "results for the partial axes"
5 "$inertia.ratio"     "inertia ratio"
6 "$ind"               "results for the individuals"
7 "$quanti.var"        "results for the quantitative variables"
8 "$summary.quanti"    "summary for the quantitative variables"
9 "$global.pca"        "results for the global PCA"
```

- La BD de ***Digit-tracking*** d'un sujet

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```
res.N$datasets$digitdata[[1]]
```

	subject <int>	step <dbl>	stimulus <chr>	time <chr>	coordX <int>	coordY <int>
2	1	0	Video A	17:48:30	0	365
3	1	0	Video B	17:48:03	0	600
4	1	0	Video C	17:54:13	0	275
5	1	0	Video D	17:49:14	0	447
6	1	0	Video E	17:47:22	82	49
7	1	0	Video F	17:48:52	0	121
8	1	0	Video G	17:53:21	54	125
9	1	0	Video H	17:49:31	0	541
10	1	0	Video I	17:53:32	0	205
11	1	0	Video J	17:49:37	0	0

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- **Napping Data** *(panel level)* :

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```
res.N$datasets$finaldata
```

	S1_coordX <int>	S1_coordY <int>	S2_coordX <int>	S2_coordY <int>	S3_coordX <int>	S3_coordY <int>	S4_coordX <int>	S4_coordY <int>	S5_coordX <int>
Video A	910	560	869	590	344	68	869	538	0
Video B	464	600	836	50	115	231	374	600	149
Video C	210	111	625	113	752	316	119	192	175
Video D	309	600	569	425	715	44	326	600	878
Video E	865	60	130	381	187	514	424	600	245
Video F	382	52	205	212	799	390	130	593	377

	S1_coordX <int>	S1_coordY <int>	S2_coordX <int>	S2_coordY <int>	S3_coordX <int>	S3_coordY <int>	S4_coordX <int>	S4_coordY <int>	S5_coordX <int>
Video G	407	331	478	46	721	411	276	600	259
Video H	60	152	295	384	505	484	63	192	819
Video I	380	600	744	481	791	47	871	132	800
Video J	59	94	90	587	266	518	184	196	897

1-10 of 10 rows | 1-10 of 160 columns

Analyse Holos Data with Sorted Napping Data

- Création d'un dossier avec les résultats :

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```
res.S <- analyse_holos(videos, method = "S")
```

- Résultat de l'ACM (qu'on peut customiser avec la fonction *plot.MCA* de **FactoMineR**) :

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```
res.S$res.FA
```

```
**Results of the Multiple Correspondence Analysis (MCA)**
The analysis was performed on 10 individuals, described by 80 variables
*The results are available in the following objects:

   name              description
1  "$eig"            "eigenvalues"
2  "$var"            "results for the variables"
3  "$var$coord"      "coord. of the categories"
4  "$var$cos2"       "cos2 for the categories"
5  "$var$contrib"    "contributions of the categories"
6  "$var$v.test"     "v-test for the categories"
7  "$ind"            "results for the individuals"
8  "$ind$coord"      "coord. for the individuals"
9  "$ind$cos2"       "cos2 for the individuals"
10 "$ind$contrib"    "contributions of the individuals"
11 "$call"           "intermediate results"
12 "$call$marge.col" "weights of columns"
13 "$call$marge.li"  "weights of rows"
```

- **Sorting Data** *(panel level)* :

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```
res.S$datasets
```

	S1_verb <chr>	S2_verb <chr>
Video A	cold without soul	young coloured fruity too much
Video B	modernity	intensity marine dark badboy
Video C	between seduction and nature	intensity marine dark badboy
Video D	modernity	young coloured fruity too much
Video E	force mystique	reuse wild intensity gentleman
Video F	seduction aestheticism	reuse wild intensity gentleman
Video G	city between modern and seduction	intensity marine dark badboy
Video H	nature	reuse wild intensity gentleman
Video I	modernity	young coloured fruity too much
Video J	nature	apart contrast ugly

1-10 of 10 rows | 1-3 of 80 columns

- Autres résultats possibles :

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```
sorting.data <- apply(res.S$datasets, 2, as.factor)
res.fast <- fast(sorting.data)
```

```
Number of different words :  472
```

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```
ConsensualWords(res.fast)
```

```
$Centroids
                 Dim 1       Dim 2        Dim 3        Dim 4        Dim 5
nature      -1.005686933  0.86390678  0.114316400 -0.456626455  0.169351680
wild        -0.825085354  0.49684532  0.077641512  0.067269897  0.696938659
man         -0.367676295 -0.17347444  0.005075127  0.047250115 -0.105314953
seduction   -0.171567194 -1.00400021  0.243671383 -0.078732764  0.161408779
young        1.268228443  0.39463862 -1.132735400 -0.415762171  0.028421623
sensual     -0.231373732 -0.61365347  0.261296328 -0.035815897 -0.149955929
sensuality  -0.272506840 -0.83216996  0.279795286 -0.159862340 -0.163880367
class        0.205635381 -0.76505857  0.194235867  0.019792772  0.074625184
dynamic      1.057721067  0.05907710 -0.256335630 -0.247171206  0.052021697
animal      -0.987343878  0.97395738 -0.093238180  0.284401174  1.421348830
the          0.092146875  0.15126586  0.606134056  0.086555276  0.002442788
music        0.251601620  0.21724515 -0.425598810  0.668945215 -0.207236041
power       -0.561831633  0.01459313  0.127442671 -0.439277098 -0.546280446
woman        0.006748691 -1.19071714  0.179316635 -0.065279640  0.229372099
virility    -0.435363469  0.04327309 -0.220954806  1.038642009 -0.347762684
modern       0.712775689 -0.28951563  0.046190411 -0.081357754  0.043946679
male        -0.558620261  0.09235652 -0.072707999  0.665234015 -0.152201196
sexy        -0.144629506 -0.99876061  0.216416966 -0.185988571  0.016460181
and         -0.390113372 -0.11102910 -0.028124106 -0.185746041 -0.025147496
simple       1.720638671  0.96909097  1.322527224  0.085556582  0.032400034
of          -0.069425093  0.61385822  0.502354656  0.067597229  0.243015341
party        1.184702124  0.32198262 -1.762107268 -0.514091845  0.047188392
force       -0.587244722  0.20669063 -0.079771626  0.619478598 -0.604068887
original     0.590243556  0.57824492  0.090648407  0.065633032  0.275390457
dark        -0.380109862 -0.40392353  0.153094204 -0.269949693 -0.490454555
atmosphere  -0.088068269 -0.10965826 -0.369001152 -0.053720026 -0.232187394
body        -0.641596317  0.10121519  0.180085478 -0.460028121 -0.483742737
strength    -0.791752100  0.45335744  0.135587180 -0.446535662 -0.803917547
money        0.211659706 -0.97789562 -0.191407104 -0.115833100  0.168328029
masculine   -0.272536291  0.36012946  0.306473712  0.183046425 -0.793788671
freedom     -0.958750488  0.70002897  0.226064476 -0.816060984 -0.928120030
sport        0.631341285  0.72911117  1.009474378  0.152612218 -0.140134908
perfume      0.794971244  0.09154459  0.580999682  0.159380722 -0.024395835
manly       -0.433455771 -0.17945419 -0.064478915  0.676343936 -0.677899379
fun          1.028831237  0.57501161 -1.257758264 -0.299265542  0.259336864
to           0.085324566  0.45251945  0.302628230 -0.213863526 -0.101040363
rock         0.709969889 -0.37228957 -1.015316497 -0.407370442  0.118349470
mystery     -0.382633509 -0.37099470  0.072815587  0.073893492 -0.416630466
fashion      0.233297968 -0.09830637  0.312146273  0.149044437 -0.003718448
muscle      -0.461251415  0.42155336  0.131113550  0.534841244 -1.058950519
macho        0.350311966 -0.29945838 -0.347446607  0.595662257 -0.139873821
luxury       0.127624289 -0.63485740 -0.382771124  0.434928394 -0.061349226
story       -0.499468409 -0.12911922  0.072292687  0.160671221  0.512425663
simplicity   1.813691365  1.00932346  1.539295185  0.140765463 -0.059172748
serious     -0.464615014 -0.30599066  0.201688127 -0.138705454  0.146201630
love        -0.283573601 -1.04441128  0.410042377 -0.177756888 -0.054387824
couple      -0.089743770 -1.25873139  0.307431809 -0.059533530  0.250541706
adventure   -1.038423317  0.86831238  0.209513614 -0.836950276 -0.420515467
success      0.081672672 -1.13150420  0.014064935 -0.093590709  0.152928368
dejante      1.382819600  0.39508126 -1.916732244 -0.704005564  0.013064582
character    0.424515035  0.52904281  0.759399447  0.239554221  0.199614661
attraction  -0.316201096 -0.72133050  0.193713770 -0.138947279 -0.235445161
wealth       0.376574005 -0.81649952 -0.434585846 -0.211375883  0.127775444
sweat       -0.740536618  0.56892776 -0.132888759  0.773139110 -0.852476039
not         -0.080296132 -0.28441369 -0.356379147  0.361357960 -0.244164676
good        -0.208520517  0.19439635  0.091411137  0.695288976 -0.259762047
classic      0.552660468  0.54414379  0.511471626  1.261561665 -0.437466245
black        0.376574005 -0.81649952 -0.434585846 -0.211375883  0.127775444
alone       -0.195920329  0.88288397  0.494689360  0.017504126 -0.094311953
white        1.003189559 -0.08897721  0.223360174 -0.084144696  0.102991933
sea         -0.570002860  0.66273168  0.495050266 -0.648726640 -1.129873407
mysterious  -0.342471364 -0.22554673  0.006458712 -0.468209686  0.034794371
madness      1.081361813  0.49133230 -1.943284661 -0.123169711 -0.184985608
look        -0.396116511 -0.50906770  0.145217174  0.184364631  0.069987989
intense     -0.693066895  0.18936101  0.113908942  0.150851520  0.190343191
fight       -0.584980554  0.59816919 -0.510265247  1.981096514 -0.581107791
festive      1.421123281  0.42048471 -1.667228640 -0.631574441  0.014636135
chic         0.529417281 -0.38413657  0.640470795  0.259295852  0.005208770
brand        2.030942453  1.08574294  1.899119643  0.256435966  0.034809279
actor       -0.124015981 -1.26598424  0.338205472 -0.030875573  0.279768307
```

```
a            0.367032600  0.97362452  0.331748104 -0.498700552  0.098319290
youth        1.072290258  0.36634686 -1.002434932  0.064354699 -0.124843411
with         0.243108433 -0.86134720  0.557545487  0.014093526  0.218980684
water       -0.875754184  0.45632019  0.274798582 -0.625820953 -0.323086692
strong      -0.368472941 -0.53731400  0.236744112  0.018582571 -0.384067283
sporty       0.289980004  0.29077746  0.270398491  0.575148147 -0.542510117
sober        1.720452231  1.04798077  1.387195629  0.156804464  0.232342455
romantic    -0.428338363 -0.43204174  0.211807437  0.016145030  1.016582000
no           1.187861073  0.84796515  0.334522773  0.078108874 -0.217374217
name         0.298087636  0.21252004  0.780858893 -0.003221884  0.257003442
much         0.418463359 -0.37112487 -0.245489234  0.355352561 -0.040257188
instinct    -0.755199852  0.25807354  0.120799017 -0.045242529  1.059832064
group        0.761924527  0.30443001 -1.556004438  0.234321304 -0.231973140
freshness   -0.237486366  0.83804052  0.646098510 -0.469181393 -0.462406502
elements    -0.878355075  0.54343933  0.203261048 -0.459595906 -0.755208336
city        -0.147324588 -1.32336218  0.285196782 -0.161397293  0.096698413
celebrity   -0.074548944 -1.22953287  0.272150185 -0.030762132  0.272086527
sports      -0.359491260  0.64885551  0.403485269 -0.015434102 -1.021551810
shifts      -0.396686837  0.49551787 -0.394841684 -0.146491789 -0.030284709
physical    -0.594938232  0.46622326 -0.339232849  1.582722644 -1.084814579
between     -0.390155876 -0.72607556  0.316021152 -0.258884157 -0.373438144
strange      0.443331252  0.43189060 -1.119227218 -0.888191480 -0.298629179
practice     1.769270759  0.76338797  1.505750564  0.202440080  0.051971037
old         -0.171804030 -1.34207934  0.583079551 -0.013378627  0.399535014
jungle      -1.016246669  1.09748887 -0.177761272  0.548057021  1.884110260
erotic      -0.165262369 -1.34367020  0.447368775 -0.098177234  0.240037405
crazy        1.297587263  0.27188251 -1.963339889 -0.688823332  0.020231247
aesthetics  -0.846392004  0.72109197 -0.035341868  0.085769035 -1.022337162
superficial -0.192287725 -0.58027005  0.051800007 -0.258430393 -0.404165262
mixed        1.464922258  0.49593639 -2.263788901 -0.813080128 -0.003278469
funny       -1.128920010  1.22240345 -0.081059986  0.130374033  2.443295144
for          1.296693625  0.27646885  1.460439613  0.166497768  0.156384524
classical   -0.452879969  0.47291597 -0.661267699  2.636471960 -0.911814164

$Within.inertia
            nb.times within.inertia
nature            46          1.872
wild              45          2.963
man               27          2.515
seduction         29          0.827
young             35          1.802
sensual           17          1.196
sensuality        15          0.719
class             18          1.583
dynamic           16          2.579
animal            18          2.107
the                8          3.178
music             14          3.870
power             13          1.999
woman              8          0.169
virility           9          2.082
modern            10          2.423
male               9          3.039
sexy              11          0.841
and                9          2.666
simple            14          1.717
of                 8          3.787
party             13          0.980
force              9          2.780
original          11          4.186
dark               6          1.528
atmosphere         6          3.012
body               5          1.916
strength           7          1.081
money              7          0.659
masculine          7          3.087
freedom            7          0.655
sport              6          3.795
perfume            6          3.925
manly              6          2.414
fun                8          3.716
to                 6          4.324
rock               6          2.679
```

```
mystery          4         1.949
fashion          5         3.790
muscle           6         1.475
macho            4         1.206
luxury           5         2.474
story            4         2.927
simplicity       8         0.956
serious          4         2.207
love             5         0.337
couple           4         0.095
adventure        5         1.218
success          3         0.021
dejante          6         0.897
character        5         5.044
attraction       3         1.204
wealth           3         1.273
sweat            3         0.601
not              4         4.316
good             3         4.096
classic          5         5.700
black            3         1.273
alone            4         4.950
white            3         5.097
sea              4         1.027
mysterious       5         2.720
madness          5         1.423
look             3         1.404
intense          3         1.411
fight            5         1.557
festive          5         1.116
chic             5         3.257
brand            6         0.000
actor            3         0.003
a                3         5.540
youth            3         1.774
with             3         1.134
water            3         1.861
strong           3         2.381
sporty           4         4.344
sober            4         1.635
romantic         3         4.098
no               4         5.161
name             3         5.202
much             3         1.998
instinct         3         3.644
group            3         1.825
freshness        4         4.427
elements         3         1.834
city             4         0.008
celebrity        3         0.104
sports           3         2.978
shifts           3         4.667
physical         3         0.948
between          3         2.123
strange          3         4.396
practice         3         0.991
old              4         0.000
jungle           3         1.574
erotic           4         0.068
crazy            3         0.553
aesthetics       3         5.428
superficial      3         2.357
mixed            3         0.000
funny            3         0.000
for              3         4.228
classical        3         0.000

$Results.Bootstrap
```

	nb.times	within.inertia	prob
	<dbl>	<dbl>	<dbl>
nature	46	1.872	0.000

	nb.times <dbl>	within.inertia <dbl>	prob <dbl>
man	27	2.515	0.000
seduction	29	0.827	0.000
young	35	1.802	0.000
sensual	17	1.196	0.000
sensuality	15	0.719	0.000
class	18	1.583	0.000
animal	18	2.107	0.000
woman	8	0.169	0.000
sexy	11	0.841	0.000

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```
$Consensual.words
 [1] "actor"      "adventure"  "animal"     "brand"      "celebrity"  "city"       "class"      "classical"  "coup
le"      "crazy"
[11] "dark"       "dejante"    "dynamic"    "erotic"     "festive"    "fight"      "freedom"    "funny"      "love
"       "macho"
[21] "madness"    "man"        "mixed"      "modern"     "money"      "muscle"     "nature"     "old"        "part
y"       "physical"
[31] "power"      "sea"        "seduction"  "sensual"    "sensuality" "sexy"       "simple"     "simplicity" "stre
ngth"   "success"
[41] "sweat"      "virility"   "wild"       "woman"      "young"
```