

## Appendix 1

Parameters recorded and calculated in the Open field test:

DIST = distance (cm)

DISTln = distance, logarithmic transformation

DISTsq = distance, square root transformation

SPEED

SPEEDln = speed, logarithmic transformation

SPEEDsq = speed, square root transformation

REARun = rears unsupported

REARunsq = rears unsupported, square root transformation

REARs = rears supported (at wall)

REARssq = rears supported, square root transformation

REAR = number of all rears

REARsq = number of all rears, square root transformation

VISIT C = number of visits to the center of the arena

VISITsq C = number of visits to the center of the arena, square root transformation

TIME C = time spent in the center of the arena

TIMEar C = time spent in the center of the arena, arcsin transformation

REARu C = number of unsupported rears in the center of the arena

REARusq C = number of unsupported rears in the center of the arena, square root transformation

GROOM C = time spent grooming in the center of the arena

GROOMar C = time spent grooming in the center of the arena, arcsin transformation

SIT C = time spent sitting in the center of the arena

VISIT W = number of visits to "wall zones"

VISITsq W = number of visits to "wall zones", square root transformation

TIME W = time spent in "wall zones"

TIMEar W = time spent in "wall zones", arcsin transformation

REARu W = number of unsupported rears in "wall zones"

REARusq W = number of unsupported rears in "wall zones", square root transformation

REARs W = number of supported rears in "wall zones"

REARssq W = number of supported rears in "wall zones", square root transformation

GROOM W = time spent grooming in "wall zones"

GROOMar W = time spent grooming in "wall zones", arcsin transformation

SIT W = time spent sitting in "wall zones"

SITar W = time spent sitting in "wall zones", arcsin transformation

VISIT L = number of visits to "corner zones"

VISITsq L = number of visits to "corner zones", square root transformation

TIME L = time spent in "corner zones"

TIMEar L = time spent in "corner zones", arcsin transformation

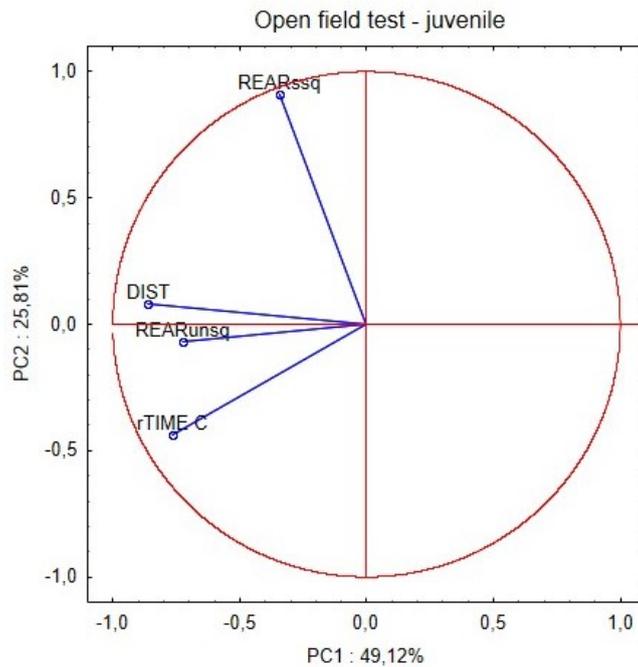
REARu L = number of unsupported rears in "corner zones"

REARusq L = number of unsupported rears in "corner zones", square root transformation

REARs L = number of supported rears in "corner zones"

REARssq L = number of supported rears in “corner zones”, square root transformation  
 GROOM L = time spent grooming in “corner zones”  
 GROOMar L = time spent grooming in “corner zones”, arcsin transformation  
 SIT L = time spent sitting in “corner zones”  
 SITar L = time spent sitting in “corner zones”, arcsin transformation  
 URI = urination  
 URIsq = urination, square root transformation  
 DEF = defecation  
 DEFsq = defecation, square root transformation  
 VISIT CT = number of visits center/thigmotactic zone (walls+corners)  
 VISITar CT = number of visits center/thigmotactic zone (walls+corners), arcsin transformation  
 TIME CT = time spent in center/thigmotactic zone (walls+corners)  
 TIMEar CT = time spent in center/thigmotactic zone (walls+corners), arcsin transformation  
 VISIT CA = number of visits center/whole arena  
 VISITar CA = number of visits center/whole arena, arcsin transformation  
 TIME CA = time spent in center/whole arena  
 TIMEar CA = time spent in center/whole arena, arcsin transformation  
 VISIT LA = number of visits corner/whole arena  
 VISITar LA = number of visits corner/whole arena, arcsin transformation  
 TIME LA = time spent in corner/whole arena  
 TIMEar LA = time spent in corner/whole arena, arcsin transformation  
 VISIT LT = number of visits corner/thigmotactic zone (walls+corners)  
 VISITar LT = number of visits corner/thigmotactic zone (walls+corners), arcsin transformation  
 TIME LT = time spent in corner/thigmotactic zone (walls+corners)  
 TIMEar LT = time spent in corner/thigmotactic zone (walls+corners), arcsin transformation  
 ACTIVE = time spent in active locomotion (incl. rearing)  
 ACTIVEar = time spent in active locomotion (incl. rearing), arcsin transformation  
 GROOM = time spent grooming  
 SIT = time spent sitting  
 GROOMar = time spent grooming, arcsin transformation  
 SITar = time spent sitting, arcsin transformation  
 rTIME C = relative time spent in the center (time in the center/size of the zone)  
 rTIME W = relative time spent in wall zone (time in wall zone/size of the zone)  
 rTIME L = relative time spent in corner zone (time in corner zone/size of the zone)  
 rVISIT C = number of visits to the center (time in the center/size of the zone)  
 rVISIT W = number of visits to the wall zone (time in wall zone/size of the zone)  
 rVISIT L = number of visits to the corner zone (time in corner zone/size of the zone)

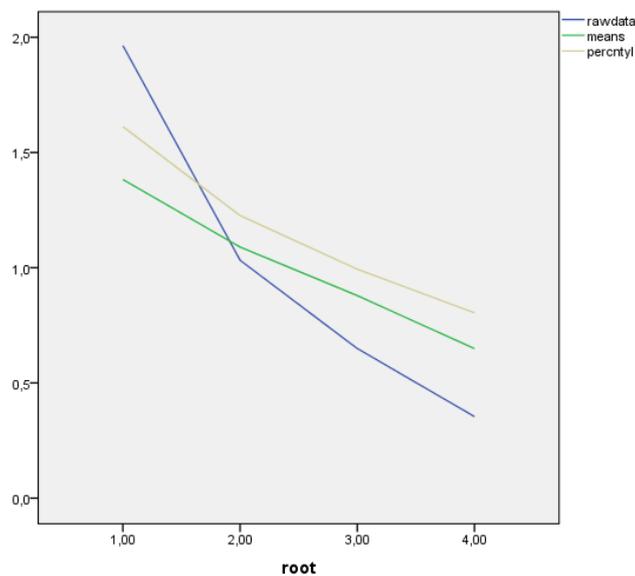
## Appendix 2



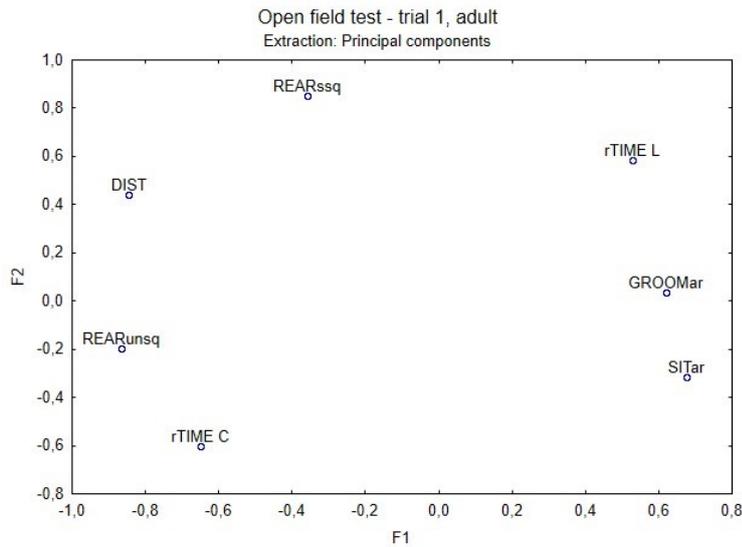
PCA analysis of behaviour in the Open field test conducted in juvenile age (DIST = distance (cm), REARunsq = rears unsupported square root transformation, REARssq = rears supported square root transformation, rTIME C = relative time spent in the center of the arena)

Parallel analysis of behaviour in the juvenile Open field test:

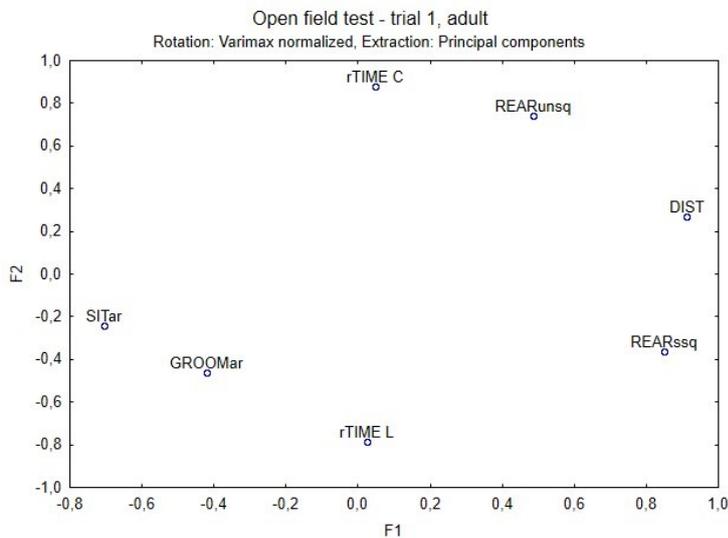
Raw Data Eigenvalues, & Mean & Percentile Random Data Eigenvalues				
Root	Raw Data	Means	Percentyle	
1,000000	1,964612	1,382652	1,612507	
2,000000	1,032339	1,089566	1,226303	
3,000000	,649232	,878919	,993493	
4,000000	,353817	,648863	,804265	



## Appendix 3

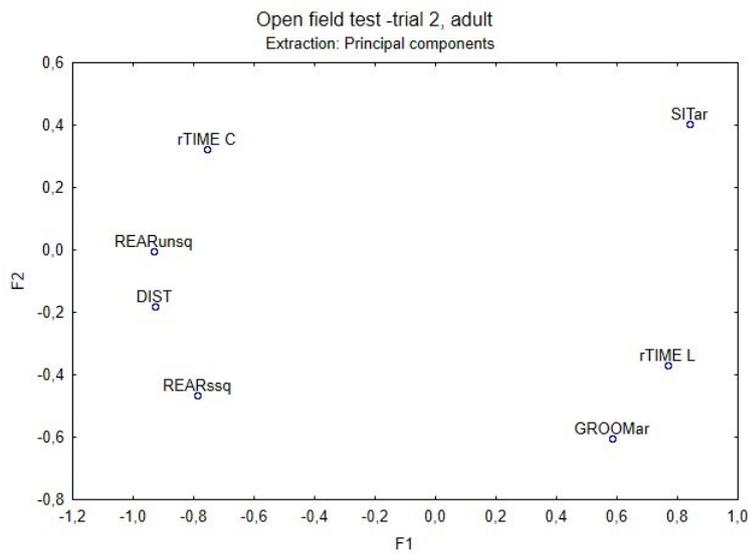


Factor Loadings		
Extraction: Principal components		
Variable	Factor 1	Factor 2
DIST	-0.844701	0.440056
REARunsq	-0.866635	-0.196536
REARssq	-0.359492	0.851544
GROOMar	0.621740	0.037972
SITar	0.675176	-0.315653
rTIME C	-0.648347	-0.599828
rTIME L	0.528264	0.583290
Expl. Var	3.135649	1.758502
Prp. Totl	0.447950	0.251215

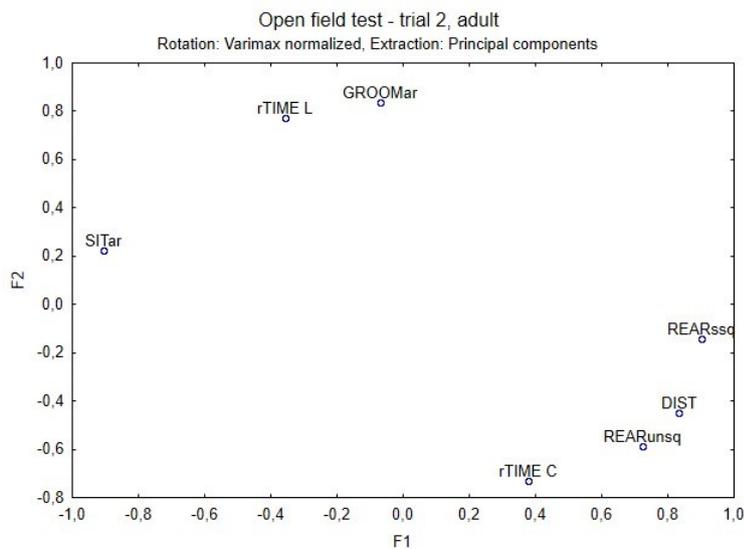


Factor Loadings		
Rotation: Varimax normalized		
Extraction: Principal components		
Variable	Factor 1	Factor 2
DIST	0.912925	0.271545
REARunsq	0.485808	0.744092
REARssq	0.850651	-0.361599
GROOMar	-0.420202	-0.459818
SITar	-0.704603	-0.242971
rTIME C	0.048435	0.881930
rTIME L	0.026320	-0.786509
Expl. Var	2.469123	2.425029
Prp. Totl	0.352732	0.346433

Factor analysis of behaviour in the first Open field test conducted in adult age (DIST = distance (cm), REARunsq = rears unsupported square root transformation, REARssq = rears supported square root transformation, GROOMar = time spent grooming arcsin transformation, SITar = time spent sitting arcsin transformation, rTIME C = relative time spent in the center of the arena, rTIME L = relative time spent in “corner zone”)

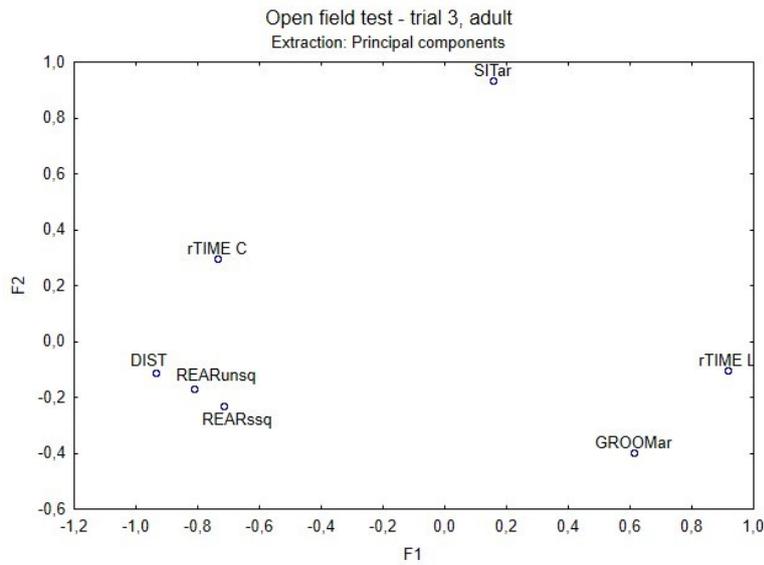


Factor Loadings Extraction: Principal components		
Variable	Factor 1	Factor 2
DIST	-0.929077	-0.181518
REARunsq	-0.930510	-0.005501
REARssq	-0.787217	-0.464667
GROOMar	0.584361	-0.602253
SITar	0.841611	0.403111
rTIME C	-0.755296	0.324388
rTIME L	0.766176	-0.367901
Expl.Var	4.556026	1.014680
Prp.Totl	0.650861	0.144954

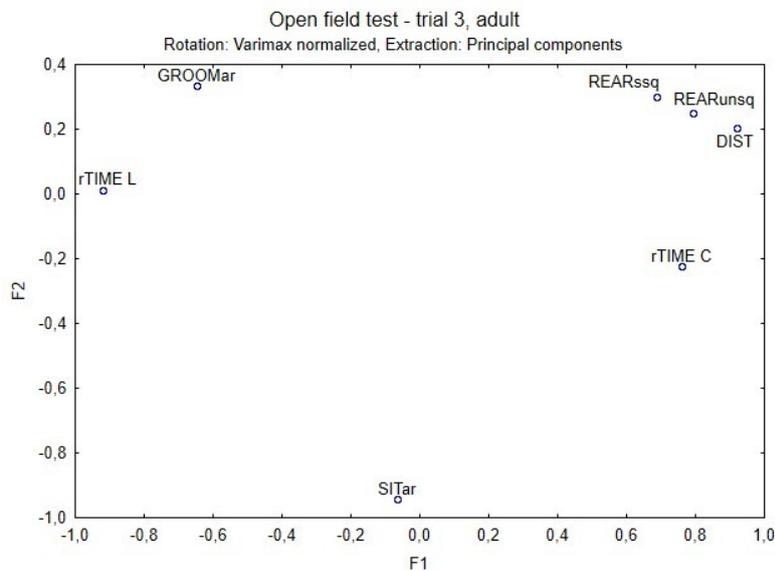


Factor Loadings Rotation: Varimax normalized Extraction: Principal components		
Variable	Factor 1	Factor 2
DIST	0.832838	-0.450015
REARunsq	0.722129	-0.586863
REARssq	0.903151	-0.141221
GROOMar	-0.068718	0.836340
SITar	-0.906056	0.223315
rTIME C	0.377247	-0.730332
rTIME L	-0.358008	0.770848
Expl.Var	3.126917	2.443790
Prp.Totl	0.446702	0.349113

Factor analysis of behaviour in the second Open field test conducted in adult age (DIST = distance (cm), REARunsq = rears unsupported square root transformation, REARssq = rears supported square root transformation, GROOMar = time spent grooming arcsin transformation, SITar = time spent sitting arcsin transformation, rTIME C = relative time spent in the center of the arena, rTIME L = relative time spent in “corner zone”)



Factor Loadings Extraction: Principal components		
Variable	Factor 1	Factor 2
DIST	-0.935767	-0.113319
REARunsq	-0.812308	-0.171216
REARssq	-0.714278	-0.231920
GROOMar	0.612871	-0.397785
SITar	0.156117	0.933256
rTIME C	-0.734442	0.297439
rTIME L	0.915682	-0.102908
Expl. Var	3.823560	1.224203
Prp. Totl	0.546223	0.174886

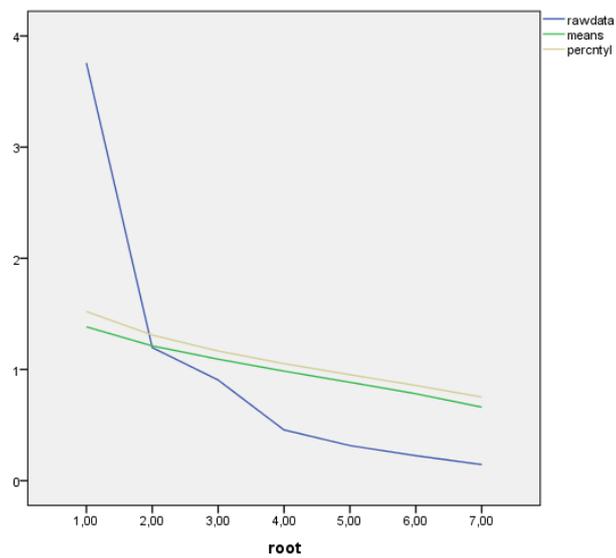


Factor Loadings Rotation: Varimax normalized Extraction: Principal components		
Variable	Factor 1	Factor 2
DIST	0.920307	0.203804
REARunsq	0.791802	0.249418
REARssq	0.688332	0.300298
GROOMar	-0.648657	0.336285
SITar	-0.064599	-0.944016
rTIME C	0.759891	-0.224590
rTIME L	-0.921350	0.013352
Expl. Var	3.798966	1.248797
Prp. Totl	0.542709	0.178400

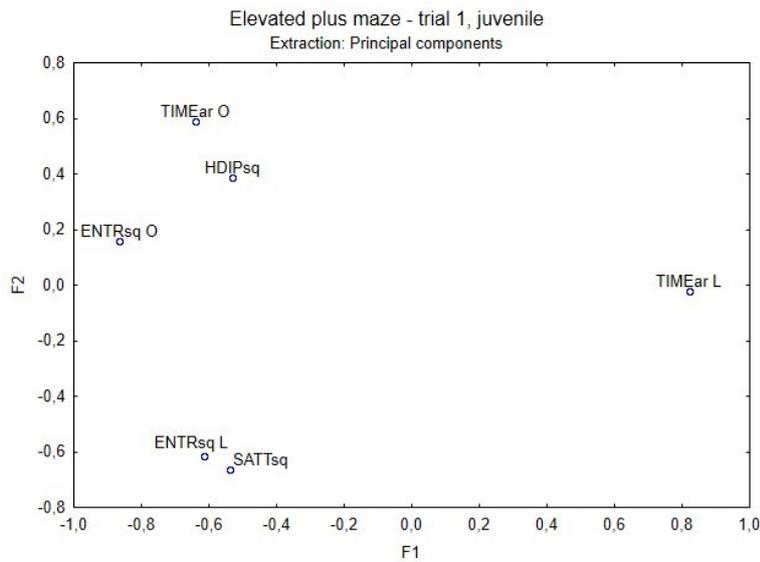
Factor analysis of behaviour in the third Open field test conducted in adult age (DIST = distance (cm), REARunsq = rears unsupported square root transformation, REARssq = rears supported square root transformation, GROOMar = time spent grooming arcsin transformation, SITar = time spent sitting arcsin transformation, rTIME C = relative time spent in the center of the arena, rTIME L = relative time spent in “corner zone”)

## Parallel analysis of behaviour in adult Open field tests:

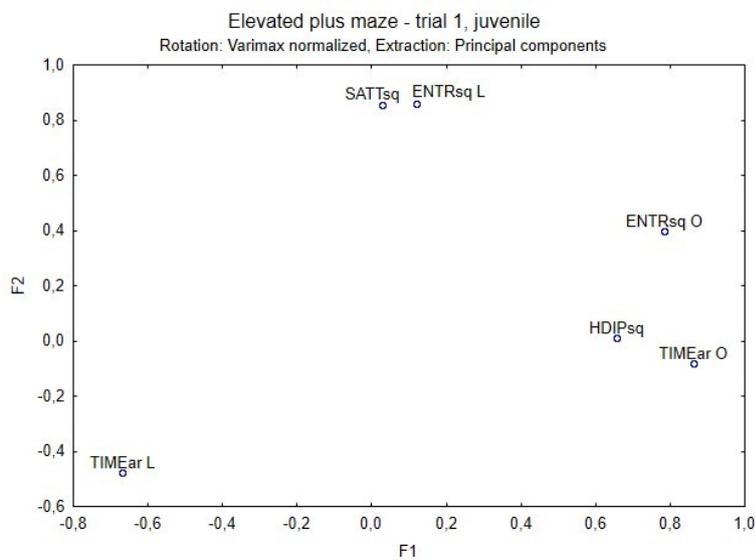
Raw Data Eigenvalues, & Mean & Percentile Random Data Eigenvalues			
Root	Raw Data	Means	Percentyle
1,000000	3,758091	1,383357	1,521274
2,000000	1,196799	1,211917	1,309690
3,000000	,904651	1,092318	1,165912
4,000000	,456227	,985073	1,052795
5,000000	,315405	,884709	,952711
6,000000	,224659	,781374	,856470
7,000000	,144168	,661253	,752252



## Appendix 4



Factor Loadings		
Extraction: Principal components		
Variable	Factor 1	Factor 2
TIMEEar L	0.821249	-0.023585
TIMEEar O	-0.638442	0.587374
ENTRsq L	-0.615521	-0.613773
ENTRsq O	-0.864811	0.156350
HDIPsq	-0.530382	0.386471
SATTsq	-0.538868	-0.662079
Expl. Var	2.780506	1.334435
Prp. Totl	0.463418	0.222406

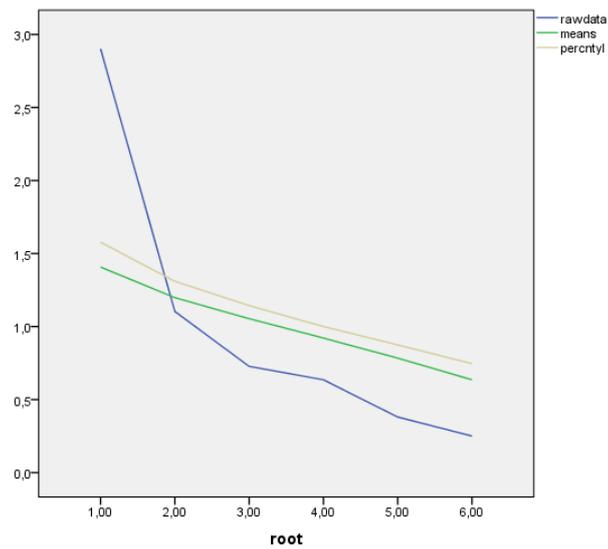


Factor Loadings		
Rotation: Varimax normalized		
Extraction: Principal components		
Variable	Factor 1	Factor 2
TIMEEar L	-0.668790	-0.477205
TIMEEar O	0.863598	-0.082551
ENTRsq L	0.119883	0.860936
ENTRsq O	0.783695	0.397700
HDIPsq	0.656135	0.012308
SATTsq	0.029615	0.853141
Expl. Var	2.253023	1.861917
Prp. Totl	0.375504	0.310320

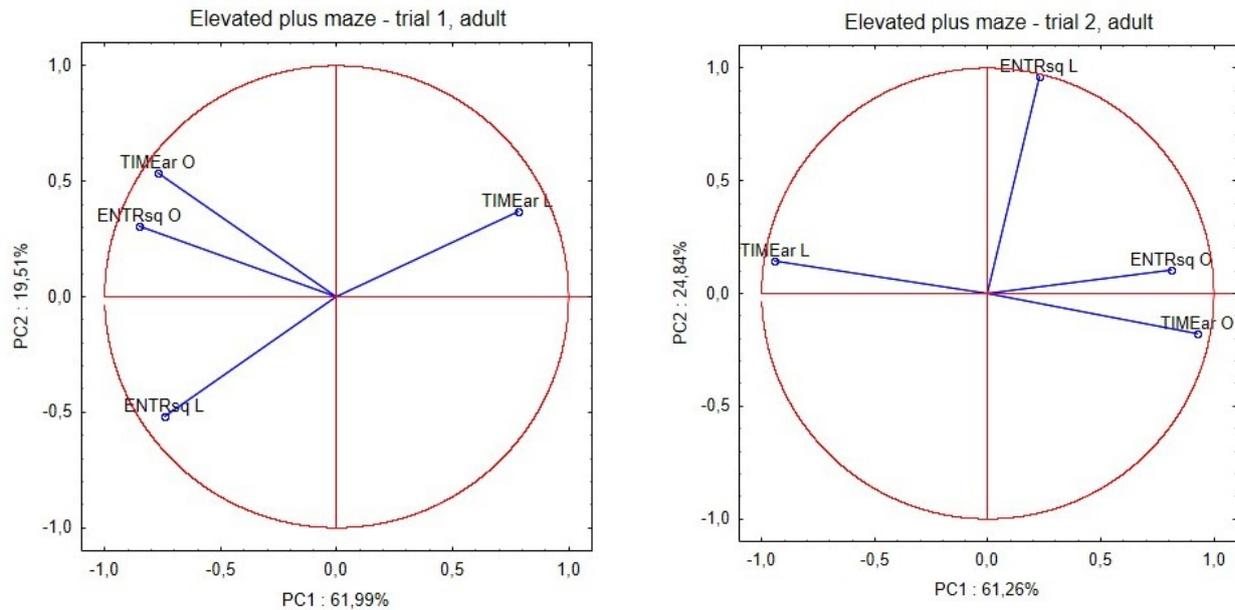
Factor analysis of behaviour in the first Elevated plus maze test conducted in juvenile age (TIMEEar L = time spent in closed arms arcsin transformation, TIMEEar O = time spent in open arms arcsin transformation, ENTRsq L = number of entrances to closed arms arcsin transformation, ENTRsq O = number of entrances to open arms arcsin transformation, HDIPsq = number of head-dips square root transformation, SATTsq = number of stretched attend postures)

Parallel analysis of behaviour in juvenile Elevated plus maze tests:

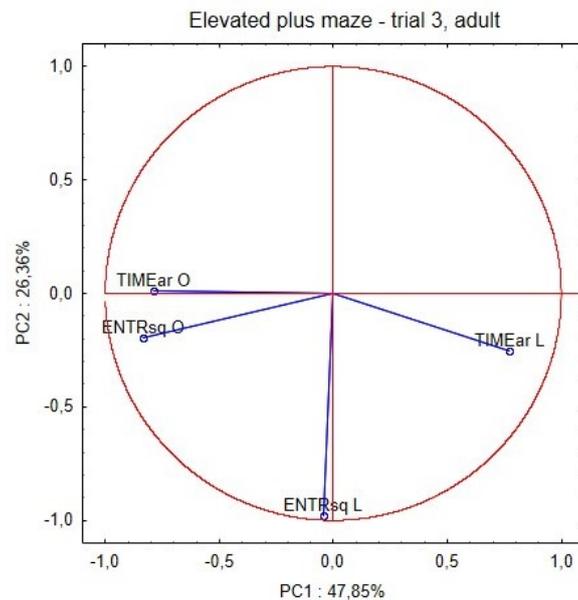
Raw Data Eigenvalues, & Mean & Percentile Random Data Eigenvalues			
Root	Raw Data	Means	Prcntyle
1,000000	2,902510	1,407068	1,578169
2,000000	1,103343	1,198188	1,309461
3,000000	,727547	1,053863	1,143636
4,000000	,635676	,921455	1,000203
5,000000	,380285	,783941	,874275
6,000000	,250639	,635485	,746677



## Appendix 5



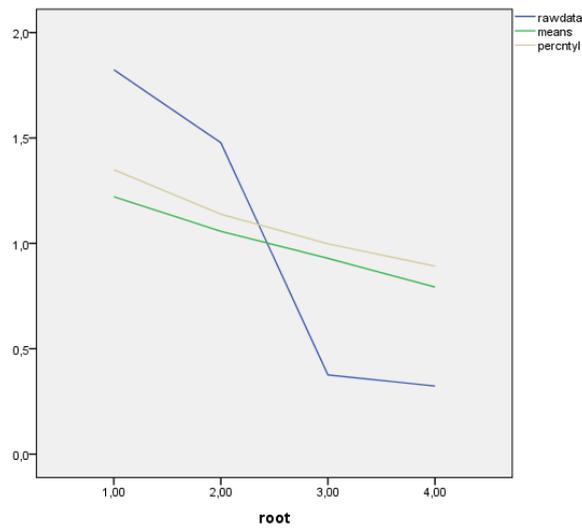
PCA of behaviour in the first and the second Elevated plus maze test conducted in adult age (TIMEar L = time spent in closed arms arcsin transformation, TIMEar O = time spent in open arms arcsin transformation, ENTRsq L = number of entrances to closed arms arcsin transformation, ENTRsq O = number of entrances to open arms arcsin transformation)



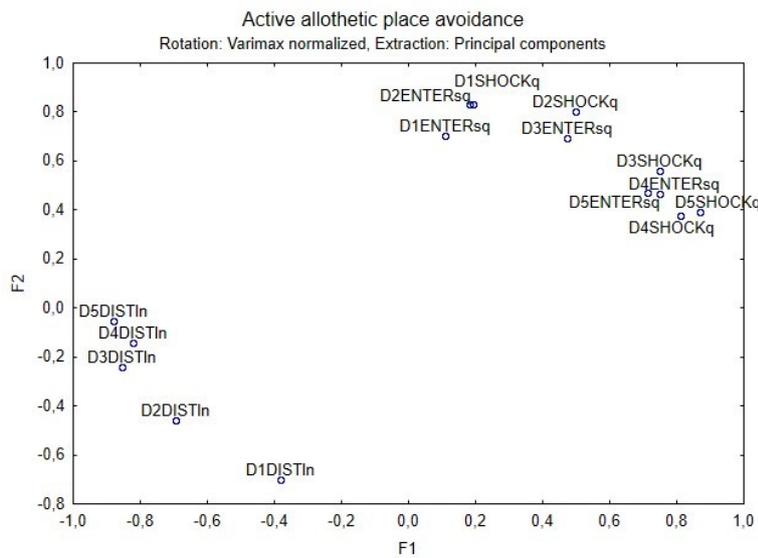
PCA of behaviour in the third Elevated plus maze test conducted in adult age (TIMEar L = time spent in closed arms arcsin transformation, TIMEar O = time spent in open arms arcsin transformation, ENTRsq L = number of entrances to closed arms arcsin transformation, ENTRsq O = number of entrances to open arms arcsin transformation)

Parallel analysis of behaviour in Elevated plus maze tests conducted in adult age:

Raw Data Eigenvalues, & Mean & Percentile Random Data Eigenvalues			
Root	Raw Data	Means	Prcntyle
1,000000	1,823728	1,221453	1,349214
2,000000	1,477499	1,057078	1,138265
3,000000	,375803	,928876	,997820
4,000000	,322970	,792594	,891767



## Appendix 6



Factor Loadings		
Extraction: Principal components		
Rotation: Varimax normalized		
Variable	Factor 1	Factor 2
D1ENTERSsq	0.110444	<b>0.701650</b>
D1SHOCKsq	0.193210	<b>0.833331</b>
D1DISTln	-0.383243	<b>-0.700125</b>
D2ENTERSsq	0.181876	<b>0.831570</b>
D3DISTln	<b>-0.854318</b>	-0.241632
D2SHOCKsq	0.498441	<b>0.800520</b>
D2DISTln	-0.693541	-0.460814
D3ENTERSsq	0.472157	0.694293
D3SHOCKsq	<b>0.747608</b>	0.558184
D4ENTERSsq	<b>0.714560</b>	0.468857
D4SHOCKsq	<b>0.812338</b>	0.376119
D4DISTln	<b>-0.821142</b>	-0.143162
D5ENTERSsq	<b>0.749901</b>	0.468237
D5SHOCKsq	<b>0.870567</b>	0.392365
D5DISTln	<b>-0.881661</b>	-0.051661
Expl. Var	6.412963	4.831271
Prp. Totl	0.427531	0.322085

Factor analysis of behaviour in the Active allothetic place avoidance task (D = day of the test, ENTERSsq = number of entrances into aversive sector square root transformation, SHOCKsq = number of shocks square root transformation, DISTln = distance travelled square root transformation). The first line therefore represents number of entrances into aversive sector on the first day of the experiment.

## Appendix 7

Factor Loadings			
Extraction: Principal components			
Rotation: Varimax normalized			
Variable	Factor 1	Factor 2	Factor 3
1D1TIMEln	-0.500310	0.082643	-0.108088
1D1DISTln	-0.497698	0.086679	-0.124551
1D2TIMEln	0.058963	0.224112	-0.272969
1D2DISTln	0.037764	0.093498	-0.224088
1D3TIMEln	0.352921	0.183413	0.087880
1D3DISTln	0.412612	0.217286	-0.028135
1D4TIMEln	0.291939	-0.085996	-0.054578
1D4DISTln	0.197584	-0.165223	-0.061530
1D5TIMEln	-0.098957	<b>0.723032</b>	-0.073527
1D5DISTln	-0.116649	<b>0.754680</b>	0.036916
2D1TIMEln	0.275592	-0.329092	0.386626
2D1DISTln	0.236739	-0.445765	0.274182
2D2TIMEln	0.099129	0.361936	0.177110
2D2DISTln	0.219263	0.324877	0.159317
2D3TIMEln	0.171051	0.029160	0.458095
2D3DISTln	0.404783	0.018347	0.414857
2D4TIMEln	<b>0.796674</b>	-0.157014	0.102306
2D4DISTln	<b>0.746371</b>	-0.178158	0.134586
2D5TIMEln	0.244890	0.362277	-0.355751
2D5DISTln	0.270373	0.361815	-0.317980
3D1TIMEln	0.053193	0.073259	0.574989
3D1DISTln	0.036492	-0.067275	0.483909
3D2TIMEln	0.416814	0.294564	0.344260
3D2DISTln	0.459397	0.424870	0.383248
3D3TIMEln	0.381763	0.125141	-0.267669
3D3DISTln	0.416986	0.100943	-0.200487
3D4TIMEln	0.603615	0.224980	-0.214944
3D4DISTln	0.631530	0.317544	-0.182932
3D5TIMEln	0.093431	<b>0.711180</b>	-0.129927
3D5DISTln	0.124103	0.698670	-0.126995

4D1TIMEln	-0.161209	0.179694	<b>0.798548</b>
4D1DISTln	-0.073910	0.162523	<b>0.745945</b>
4D2TIMEln	0.515591	-0.233486	-0.167595
4D2DISTln	0.526196	-0.158842	-0.199537
4D3TIMEln	0.033071	-0.034487	0.205440
4D3DISTln	0.115607	0.011337	0.149567
4D4TIMEln	0.547094	0.003058	-0.386314
4D4DISTln	0.578749	-0.063703	-0.471380
4D5TIMEln	0.081133	0.311280	-0.287214
4D5DISTln	0.096936	0.259187	-0.375096
5D1TIMEln	-0.152970	0.309596	0.478024
5D1DISTln	-0.184296	0.243699	0.272633
5D2TIMEln	-0.228878	0.254973	0.265483
5D2DISTln	-0.286235	0.158539	0.308356
5D3TIMEln	-0.301985	0.517508	-0.024848
5D3DISTln	-0.281258	0.574226	0.024044
5D4TIMEln	0.375987	0.222472	0.156556
5D4DISTln	0.355552	0.359321	0.132492
5D5TIMEln	0.053777	0.508056	0.228847
5D5DISTln	0.026961	0.479151	0.142309
6D1TIMEln	-0.141976	0.264503	0.695214
6D1DISTln	-0.163074	0.099276	0.640029
Expl.Var	6.068099	5.489827	5.546733
Prp.Totl	0.116694	0.105574	0.106668

Factor analysis of behaviour in the Morris water maze (number of trial-D-day of the test, TIMEln = latency to reach the platform logarithmic transformation, DISTln = distance travelled logarithmic transformation). The first line therefore represents latency to reach the platform in the first sail on the first day of the experiment.

## Appendix 8

All repeatable parameters were analysed in order to assess which factors best explain variability in the data (Linear models with hierarchically organised random effects, Rstudio).

### Bar holding test

Latency to hold on to the bar - cohort explained less than 1%, litter explained 8% and identity of the individual explained 10% of variability in the data, 82% of variability was residual.

### Jumping test

Latency to jump from the platform - cohort explained 30%, litter explained 5% and identity of the individual explained 7% of variability in the data, 59% of variability was residual.

### Adult Open field test

Distance travelled – cohort explained 24%, litter explained less than 1% and identity of the individual explained 17% of variability in the data, 59% of variability was residual.

Speed - cohort explained 25%, litter explained less than 1% and identity of the individual explained 18% of variability in the data, 57% of variability was residual.

Number of unsupported rears - cohort explained 25%, litter explained 3% and identity of the individual explained 3% of variability in the data, 71% of variability was residual.

Number of supported rears - cohort explained 21%, litter explained less than 1% and identity of the individual explained 22% of variability in the data, 75% of variability was residual.

Number of visits to the “wall zone” - cohort explained 17%, litter explained less than 1% and identity of the individual explained 10% of variability in the data, 72% of variability was residual.

Number of unsupported rears in the “corner zone” - cohort explained 3%, litter explained 15% and identity of the individual explained 10% of variability in the data, 70% of variability was residual.

Number of supported rears in the “corner zone - cohort explained less than 1%, litter explained 2% and identity of the individual explained 30% of variability in the data, 69% of variability was residual.

Time spent grooming in the “corner zone” - cohort explained 35%, litter explained 3% and identity of the individual explained less than 1% of variability in the data, 61% of variability was residual.

Time spent sitting in the “corner zone” - cohort explained 6%, litter explained less than 1% and identity of the individual explained 14% of variability in the data, 80% of variability was residual.

Time spent in active movement - cohort explained 31%, litter explained less than 1% and identity of the individual explained 10% of variability in the data, 58% of variability was residual.

Time spent grooming - cohort explained 29%, litter explained 2% and identity of the individual explained 5% of variability in the data, 65% of variability was residual.

Time spent sitting - cohort explained 3%, litter explained 2% and identity of the individual explained 21% of variability in the data, 75% of variability was residual.

#### Adult Elevated plus maze test

Time spent in closed arms - cohort explained 5%, litter explained 2% and identity of the individual explained 2% of variability in the data, 74% of variability was residual.

Time spent in open arms - cohort explained 13%, litter explained 5% and identity of the individual explained 12% of variability in the data, 69% of variability was residual.

Relative time spent in closed/open arms - cohort explained 7%, litter explained 10% and identity of the individual explained 15% of variability in the data, 69% of variability was residual.

#### Active allothetic place avoidance task

Number of entrances into aversive sector - cohort explained less than 1%, litter explained 1% and identity of the individual explained 3% of variability in the data, 60% of variability was residual.

Number of shocks - cohort explained less than 1%, litter explained 9% and identity of the individual explained 35% of variability in the data, 55% of variability was residual.

Distance travelled - cohort explained 4%, litter explained 18% and identity of the individual explained 34% of variability in the data, 44% of variability was residual.

#### Morris water maze

Distance travelled - cohort explained less than 1%, litter explained 2% and identity of the individual explained less than 1% of variability in the data, 98% of variability was residual.

Swimming speed - cohort explained less than 1%, litter explained 3% and identity of the individual explained 9% of variability in the data, 88% of variability was residual.

Spontaneous alternation

Latency to enter closed arm - cohort explained less than 1%, litter explained 1% and identity of the individual explained 18% of variability in the data, 80% of variability was residual.