

Path analysis:

[https://en.wikipedia.org/wiki/Path_analysis_\(statistics\)](https://en.wikipedia.org/wiki/Path_analysis_(statistics))

Knihy

<https://www.amazon.com/Latent-Variable-Models-John-Loehlin/dp/113891607>

<https://books.google.cz/books?id=q9zhGIIYw7kC>

<https://onlinelibrary.wiley.com/doi/book/10.1002/9781118619179>

<https://www.enbook.cz/catalog/product/view/id/399613?gclid=EAIaIQobChMI9>

Plán práce:

korelace

jednoduchá regrese (2 proměnné)

vícenásobná regrese (3 proměnné)

parciální korelace

faktorová analýza (1 faktor)

faktorová analýza (2 a více faktorů)

v Excelu

v dalších softwarech

explorační vs. konfirmační FA

strukturní modelování

2

[}N2Mv4yR9gIVVOJ3Ch1PeA5KEAQYASABEgJojvD_BwE](#)

i	pohl (P)	vyska (V)	hmot (H)	mV - Vi	mH - Hi	zVi	zHi	zVi * zHi
1	0	172	87	-1.33333	11.66667	-0.11572	0.604136	-0.06991
2	1	169	61	-4.33333	-14.3333	-0.3761	-0.74222	0.279148
3	0	170	63	-3.33333	-12.3333	-0.2893	-0.63866	0.184767
4	1	166	85	-7.33333	9.666667	-0.63647	0.50057	-0.3186
5	0	183	77	9.666667	1.666667	0.838984	0.086305	0.072409
6	0	168	58	-5.33333	-17.3333	-0.46289	-0.89757	0.415475
7	1	170	65	-3.33333	-10.3333	-0.2893	-0.53509	0.154805
8	0	190	90	16.66667	14.66667	1.446524	0.759485	1.098613
9	1	165	63	-8.33333	-12.3333	-0.72326	-0.63866	0.461917
10	1	152	51	-21.3333	-24.3333	-1.85155	-1.26005	2.333055
11	0	187	82	13.66667	6.666667	1.186149	0.34522	0.409483
12	0	185	125	11.66667	49.66667	1.012567	2.571892	2.604212
13	0	193	97	19.66667	21.66667	1.706898	1.121966	1.915082
14	0	163	61	-10.3333	-14.3333	-0.89684	-0.74222	0.66566
15	1	150	44	-23.3333	-31.3333	-2.02513	-1.62254	3.285852
16	1	173	68	-0.33333	-7.33333	-0.02893	-0.37974	0.010986
17	1	165	58	-8.33333	-17.3333	-0.72326	-0.89757	0.64918
18	1	171	65	-2.33333	-10.3333	-0.20251	-0.53509	0.108363
19	0	185	90	11.66667	14.66667	1.012567	0.759485	0.769029
20	0	172	72	-1.33333	-3.33333	-0.11572	-0.17261	0.019975
21	1	168	63	-5.33333	-12.3333	-0.46289	-0.63866	0.295627
22	0	194	113	20.66667	37.66667	1.793689	1.950496	3.498583
23	1	174	83	0.666667	7.666667	0.057861	0.397004	0.022971
24	0	175	87	1.666667	11.66667	0.144652	0.604136	0.08739

m 173.3333 75.33333 -9.5E-15 4.74E-15
sd 11.52188 19.31133

průměr 173.3333 75.33333
smoch 11.52188 19.31133

rVH

rVH

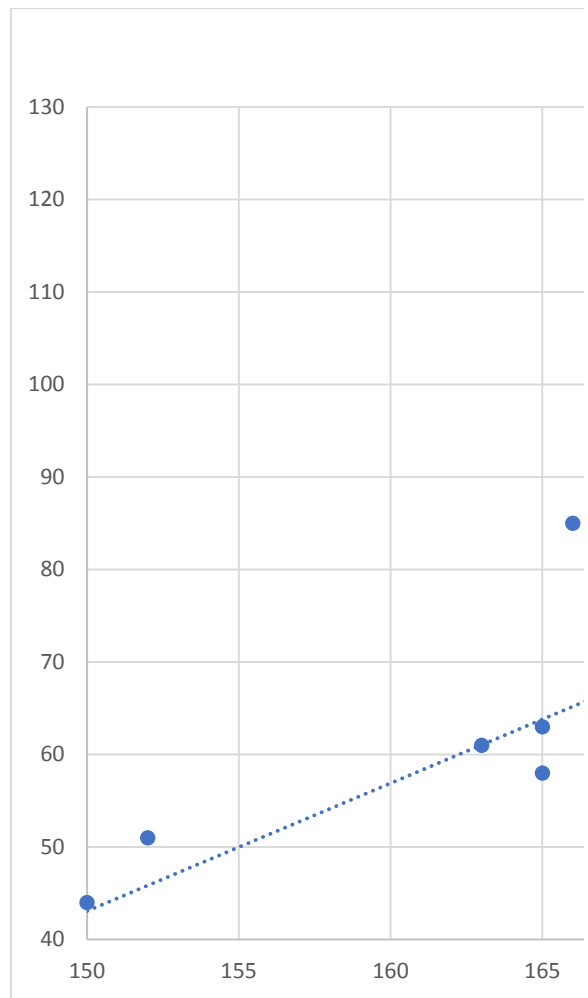
rPV

rPH

statistická \

$$t = \frac{r\sqrt{n}}{\sqrt{1-r^2}}$$

H.stř	e
73.49170306	13.50829694
69.34803493	-8.348034934
70.72925764	-7.729257642
65.20436681	19.79563319
88.68515284	-11.68515284
67.96681223	-9.966812227
70.72925764	-5.729257642
98.35371179	-8.35371179
63.8231441	-0.823144105
45.86724891	5.132751092
94.21004367	-12.21004367
91.44759825	33.55240175
102.4973799	-5.497379913
61.06069869	-0.06069869
43.10480349	0.895196507
74.87292576	-6.872925764
63.8231441	-5.823144105
72.11048035	-7.110480349
91.44759825	-1.447598253
73.49170306	-1.491703057
67.96681223	-4.966812227
103.8786026	9.12139738
76.25414847	6.745851528
77.63537118	9.364628821

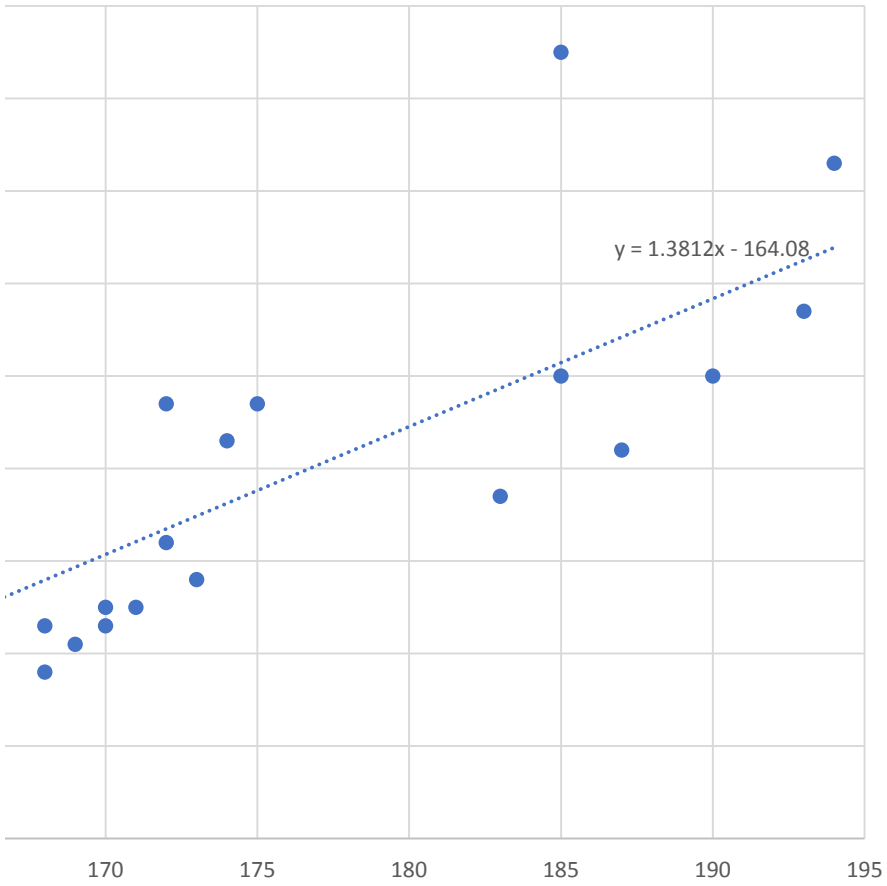


koeficient determinace		Matematický model	
0.824090059		H.stříška.i = a + b * V.i	
0.824090059	0.679124425	a	-164.079
-0.62030168	0.384774178	b	1.381223
-0.54261029	0.294425922		

významnost korelace

$\bar{-2}$	t	6.823665
$\bar{-r^2}$	df	22
	p	8.3E-07

hmot (H)



i	pohl (P)	vyska (V)	hmot (H)	mV - Vi	mH - Hi	zVi	zHi	zVi * zHi
1	0	172	87	-1.33333	11.66667	-0.11572	0.604136	-0.06991
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8	0	190	90	16.66667	14.66667	1.446524	0.759485	1.098613
9	1	165	63	-8.33333	-12.3333	-0.72326	-0.63866	0.461917
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12	0	185	125	11.66667	49.66667	1.012567	2.571892	2.604212
13	0	193	97	19.66667	21.66667	1.706898	1.121966	1.915082
14	0	163	61	-10.3333	-14.3333	-0.89684	-0.74222	0.66566
15	1	150	44	-23.3333	-31.3333	-2.02513	-1.62254	3.285852
16	1	173	68	-0.33333	-7.33333	-0.02893	-0.37974	0.010986
17	1	165	58	-8.33333	-17.3333	-0.72326	-0.89757	0.64918
18	1	171	65	-2.33333	-10.3333	-0.20251	-0.53509	0.108363
19	0	185	90	11.66667	14.66667	1.012567	0.759485	0.769029
20	0	172	72	-1.33333	-3.33333	-0.11572	-0.17261	0.019975
21	1	168	63	-5.33333	-12.3333	-0.46289	-0.63866	0.295627
22	0	194	113	20.66667	37.66667	1.793689	1.950496	3.498583
23	1	174	83	0.666667	7.66667	0.057861	0.397004	0.022971
24	0	175	87	1.666667	11.66667	0.144652	0.604136	0.08739

m 173.3333 75.33333 -9.5E-15 4.74E-15
sd 11.52188 19.31133

průměr 173.3333 75.33333
smoch 11.52188 19.31133

rVH

rVH

rPV

rPH

statistická v

$$t = \frac{r\sqrt{n}}{\sqrt{1-r^2}}$$

Parciální korelace

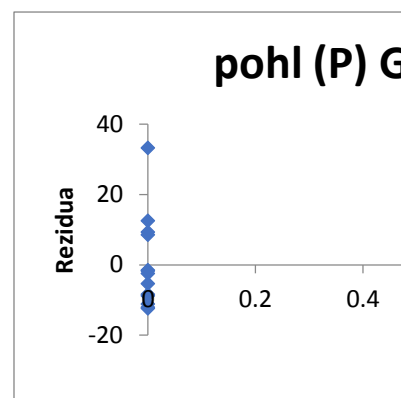
rVH.P

rPV.H

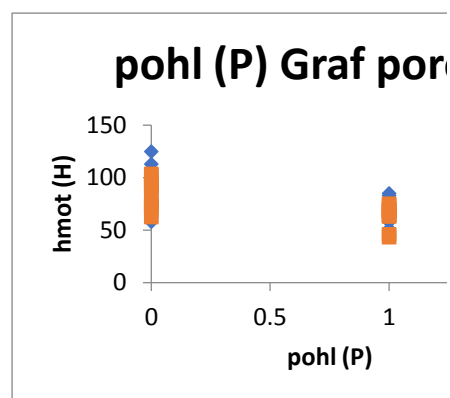
rPH.V

11
12
13
14
15
16
17
18
19
20
21
22
23
24

0.68073



statistika
0.825063
0.68073
0.650323
11.41947
24



Rozdíl	SS	MS	F	významnost F
2	5838.845	2919.423	22.38749	6.22E-06
21	2738.488	130.4042		
23	8577.333			

Koeficienty	ba stř. hodr.	t Stat	Hodnota P	Dolní 95%	Horní 95%	Dolní 95,0%	Horní 95,0%
-153.985	47.47069	-3.2438	0.003887	-252.706	-55.2646	-252.706	-55.2646
-1.93805	5.964391	-0.32494	0.748443	-14.3417	10.46558	-14.3417	10.46558
1.328117	0.263476	5.040746	5.44E-05	0.780188	1.876045	0.780188	1.876045

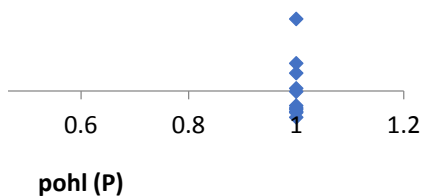
PRAVDĚPODOBNOST

řávané hmo	Residua	novaná rezidua	Percentil	hmot (H)
74.45079	12.54921	1.150072	2.083333	44
68.52838	-7.52838	-0.68994	6.25	51
71.79455	-8.79455	-0.80598	10.41667	58
64.54403	20.45597	1.874686	14.58333	58
89.06007	-12.0601	-1.10524	18.75	61
69.13832	-11.1383	-1.02077	22.91667	61
69.8565	-4.8565	-0.44507	27.08333	63
98.35689	-8.35689	-0.76587	31.25	63
63.21592	-0.21592	-0.01979	35.41667	63
45.9504	5.049601	0.46277	39.58333	65

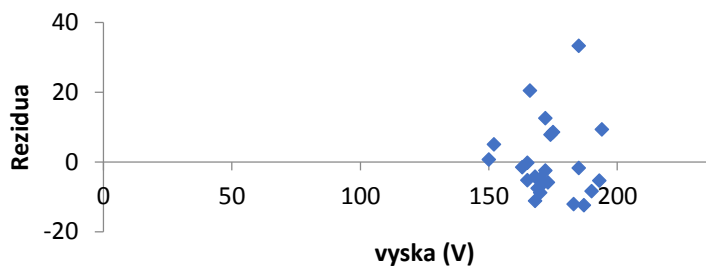
hmot (H)

94.37254	-12.3725	-1.13388	43.75	65
91.7163	33.2837	3.050282	47.91667	68
102.3412	-5.34124	-0.4895	52.08333	72
62.49774	-1.49774	-0.13726	56.25	77
43.29417	0.705834	0.064686	60.41667	82
73.84085	-5.84085	-0.53528	64.58333	83
63.21592	-5.21592	-0.47801	68.75	85
71.18461	-6.18461	-0.56679	72.91667	87
91.7163	-1.7163	-0.15729	77.08333	87
74.45079	-2.45079	-0.2246	81.25	90
67.20027	-4.20027	-0.38493	85.41667	90
103.6694	9.330648	0.855107	89.58333	97
75.16896	7.831035	0.717675	93.75	113
78.43514	8.564864	0.784926	97.91667	125

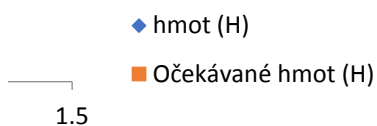
Graf s rezidui



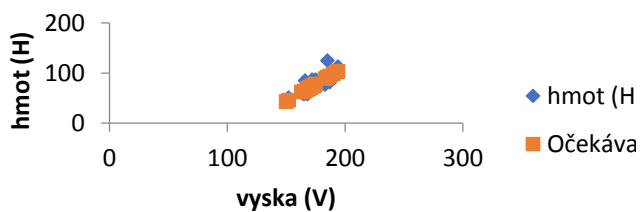
vyska (V) Graf s rezidui



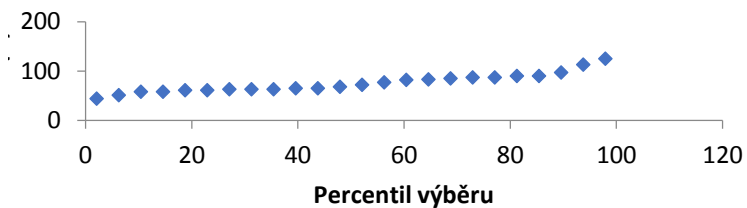
Porovnání hodnot



vyska (V) Graf porovnání hodnot



Graf s rozdělením pravděpodobnosti





l)
iné hmot (H)