A.10 Probabilities of the Spearman Correlation

Tabled are values of $p^+ = P(r_s \geq r_s^*)$, for independent variates and potential observed values r_s^* of the Spearman correlation. Probabilities are presented for $n = 3, 4, \ldots, 10$ and the r_s^* values are selected to approximate common significance levels. Values of $p_- = P(r_s \leq r_s^*)$ may be obtained as $P(r_s \geq -r_s^*)$, and values of $p^{\pm} = P(|r_s| \geq |r_s^*|)$ may be obtained as $p\pm = 2\min\{p_-, p^+\}$. For $n > 10$, an approximate test of independence may be obtained from the fact that $r_s\sqrt{\frac{n-2}{1-r_s^2}}$ has approximately a t_{n-2} distribution under the assumption of independence.

n	r_s^*	$P(r_s \geq r_s^*)$
3	1.000	0.167
4	0.800	0.167
	1.000	0.042
5	1.000	0.008
	0.900	0.042
	0.800	0.067
	0.700	0.117
6	0.942	0.008
	0.885	0.017
	0.828	0.029
	0.771	0.051
	0.657	0.088
	0.600	0.121
7	0.928	0.003
	0.892	0.006
	0.857	0.012
	0.785	0.024
	0.714	0.044
	0.750	0.033
	0.678	0.055
	0.571	0.100

n	r_s^*	$P(r_s \geq r_s^*)$
8	0.857	0.005
	0.833	0.008
	0.809	0.011
	0.738	0.023
	0.714	0.029
	0.642	0.048
	0.619	0.057
	0.523	0.098
	0.500	0.108
9	0.816	0.005
	0.783	0.009
	0.766	0.011
	0.683	0.025
	0.600	0.048
	0.583	0.054
	0.483	0.097
	0.466	0.106
10	0.781	0.005
	0.733	0.010
	0.648	0.024
	0.636	0.027
	0.563	0.048
	0.551	0.052
	0.454	0.095
	0.442	0.102