

What is the relationship between statistics and the T-table?

Authored by
stats writer

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Statistics is a branch of mathematics that deals with the collection, analysis, interpretation, and presentation of data. It involves using numerical data to draw conclusions about a population or a sample. The t-table, also known as the Student's t-distribution table, is a statistical tool used to determine critical values for the t-test, which is used to compare the means of two groups. The relationship between statistics and the t-table is that the t-table provides critical values or cutoff points for different levels of significance in statistical hypothesis testing. These critical values are used to determine the probability of obtaining a certain result by chance, and thus aid in drawing conclusions from the data. Therefore, the t-table is an essential tool in statistical analysis and plays a crucial role in determining the significance of results.

Statistics - T-table

The Student's t-distribution is similar to a normal distribution. But it is adjusted for uncertainty with smaller sample sizes.

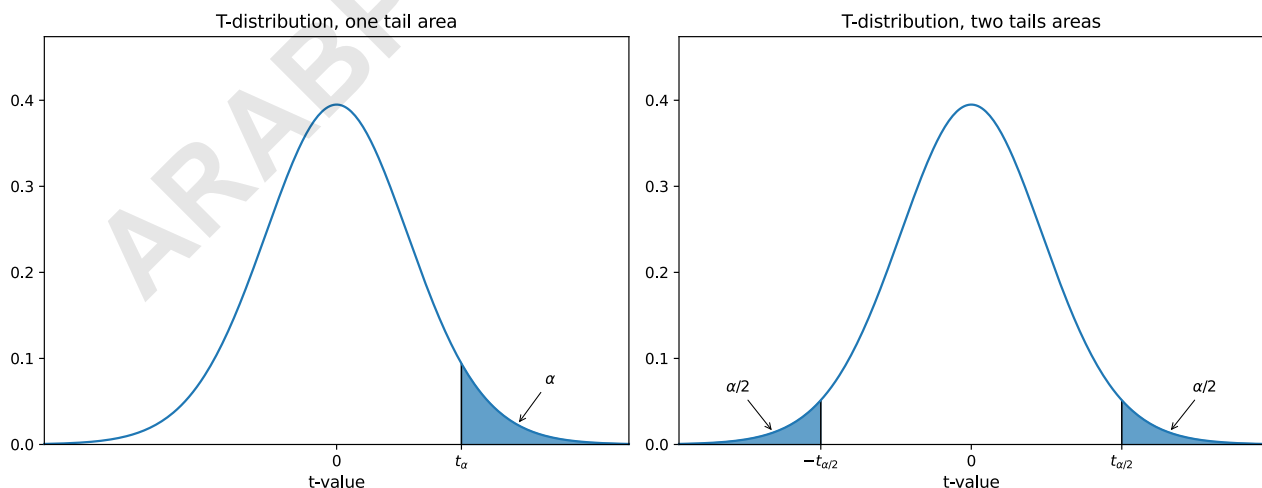
Smaller sample sizes give fewer degrees of freedom (df), which makes the tails larger.

T-Distribution and Table of Critical T-Values

The numbers in the table cells correspond to critical t-values for different tail-areas (α).

The tail areas are probabilities. For example, 0.05 is 5% percent probability.

Each row corresponds to different degrees of freedom (df).



One tail	0.05	0.025	0.01	0.005	0.0025	0.001	0.0005
Two tails	0.1	0.05	0.02	0.01	0.005	0.002	0.001

df							
1	6.3138	12.7062	31.8205	63.6567	127.3213	318.3088	636.6192
2	2.9200	4.3027	6.9646	9.9248	14.0890	22.3271	31.5991
3	2.3534	3.1824	4.5407	5.8409	7.4533	10.2145	12.9240
4	2.1318	2.7764	3.7469	4.6041	5.5976	7.1732	8.6103
5	2.0150	2.5706	3.3649	4.0321	4.7733	5.8934	6.8688
6	1.9432	2.4469	3.1427	3.7074	4.3168	5.2076	5.9588
7	1.8946	2.3646	2.9980	3.4995	4.0293	4.7853	5.4079
8	1.8595	2.3060	2.8965	3.3554	3.8325	4.5008	5.0413
9	1.8331	2.2622	2.8214	3.2498	3.6897	4.2968	4.7809
10	1.8125	2.2281	2.7638	3.1693	3.5814	4.1437	4.5869
11	1.7959	2.2010	2.7181	3.1058	3.4966	4.0247	4.4370
12	1.7823	2.1788	2.6810	3.0545	3.4284	3.9296	4.3178
13	1.7709	2.1604	2.6503	3.0123	3.3725	3.8520	4.2208
14	1.7613	2.1448	2.6245	2.9768	3.3257	3.7874	4.1405
15	1.7531	2.1314	2.6025	2.9467	3.2860	3.7328	4.0728
16	1.7459	2.1199	2.5835	2.9208	3.2520	3.6862	4.0150
17	1.7396	2.1098	2.5669	2.8982	3.2224	3.6458	3.9651
18	1.7341	2.1009	2.5524	2.8784	3.1966	3.6105	3.9216
19	1.7291	2.0930	2.5395	2.8609	3.1737	3.5794	3.8834
20	1.7247	2.0860	2.5280	2.8453	3.1534	3.5518	3.8495
21	1.7207	2.0796	2.5176	2.8314	3.1352	3.5272	3.8193
22	1.7171	2.0739	2.5083	2.8188	3.1188	3.5050	3.7921
23	1.7139	2.0687	2.4999	2.8073	3.1040	3.4850	3.7676
24	1.7109	2.0639	2.4922	2.7969	3.0905	3.4668	3.7454
25	1.7081	2.0595	2.4851	2.7874	3.0782	3.4502	3.7251
26	1.7056	2.0555	2.4786	2.7787	3.0669	3.4350	3.7066
27	1.7033	2.0518	2.4727	2.7707	3.0565	3.4210	3.6896
28	1.7011	2.0484	2.4671	2.7633	3.0469	3.4082	3.6739

29	1.6991	2.0452	2.4620	2.7564	3.0380	3.3962	3.6594
30	1.6973	2.0423	2.4573	2.7500	3.0298	3.3852	3.6460
31	1.6955	2.0395	2.4528	2.7440	3.0221	3.3749	3.6335
32	1.6939	2.0369	2.4487	2.7385	3.0149	3.3653	3.6218
33	1.6924	2.0345	2.4448	2.7333	3.0082	3.3563	3.6109
34	1.6909	2.0322	2.4411	2.7284	3.0020	3.3479	3.6007
35	1.6896	2.0301	2.4377	2.7238	2.9960	3.3400	3.5911
36	1.6883	2.0281	2.4345	2.7195	2.9905	3.3326	3.5821
37	1.6871	2.0262	2.4314	2.7154	2.9852	3.3256	3.5737
38	1.6860	2.0244	2.4286	2.7116	2.9803	3.3190	3.5657
39	1.6849	2.0227	2.4258	2.7079	2.9756	3.3128	3.5581
40	1.6839	2.0211	2.4233	2.7045	2.9712	3.3069	3.5510
41	1.6829	2.0195	2.4208	2.7012	2.9670	3.3013	3.5442
42	1.6820	2.0181	2.4185	2.6981	2.9630	3.2960	3.5377
43	1.6811	2.0167	2.4163	2.6951	2.9592	3.2909	3.5316
44	1.6802	2.0154	2.4141	2.6923	2.9555	3.2861	3.5258
45	1.6794	2.0141	2.4121	2.6896	2.9521	3.2815	3.5203
46	1.6787	2.0129	2.4102	2.6870	2.9488	3.2771	3.5150
47	1.6779	2.0117	2.4083	2.6846	2.9456	3.2729	3.5099
48	1.6772	2.0106	2.4066	2.6822	2.9426	3.2689	3.5051
49	1.6766	2.0096	2.4049	2.6800	2.9397	3.2651	3.5004
50	1.6759	2.0086	2.4033	2.6778	2.9370	3.2614	3.4960
60	1.6706	2.0003	2.3901	2.6603	2.9146	3.2317	3.4602
70	1.6669	1.9944	2.3808	2.6479	2.8987	3.2108	3.4350
80	1.6641	1.9901	2.3739	2.6387	2.8870	3.1953	3.4163
90	1.6620	1.9867	2.3685	2.6316	2.8779	3.1833	3.4019
100	1.6602	1.9840	2.3642	2.6259	2.8707	3.1737	3.3905
200	1.6525	1.9719	2.3451	2.6006	2.8385	3.1315	3.3398
300	1.6499	1.9679	2.3388	2.5923	2.8279	3.1176	3.3233

400	1.6487	1.9659	2.3357	2.5882	2.8227	3.1107	3.3150
500	1.6479	1.9647	2.3338	2.5857	2.8195	3.1066	3.3101
600	1.6474	1.9639	2.3326	2.5840	2.8175	3.1039	3.3068
700	1.6470	1.9634	2.3317	2.5829	2.8160	3.1019	3.3045
800	1.6468	1.9629	2.3310	2.5820	2.8148	3.1005	3.3027
900	1.6465	1.9626	2.3305	2.5813	2.8140	3.0993	3.3014
1000	1.6464	1.9623	2.3301	2.5808	2.8133	3.0984	3.3003
10000	1.6450	1.9602	2.3267	2.5763	2.8077	3.0910	3.2915
∞	1.6449	1.9600	2.3263	2.5758	2.8070	3.0902	3.2905

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