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November 21, 2025

## References

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### Cochran: The $\chi^2$ test of goodness of fit

Cochran-1952

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William G. Cochran. "The  $\chi^2$  test of goodness of fit". In: *The Annals of Mathematical Statistics* 23.3 (Sept. 1952), pp. 315–345. doi: [10.1214/aoms/1177729380](https://doi.org/10.1214/aoms/1177729380).

Abstract: This paper contains an expository discussion of the chi square test of goodness of fit, intended for the student and user of statistical theory rather than for the expert. Part I describes the historical development of the distribution theory on which the test rests. Research bearing on the practical application of the test—in particular on the minimum expected number per class and the construction of classes—is discussed in Part II. Some varied opinions about the extent to which the test actually is useful to the scientist are presented in Part III. Part IV outlines a number of tests that have been proposed as substitutes for the chi square test (the  $\omega^2$  test, the smooth test, the likelihood ratio test) and Part V a number of supplementary tests (the run test, tests based on low moments, subdivision of chi square into components).

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### Johnson et al.: The Johnson-Neyman technique, its theory and application

Johnson-Fay-1950

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Palmer O. Johnson and Leo C. Fay. "The Johnson-Neyman technique, its theory and application". In: *Psychometrika* 15.4 (Dec. 1950), pp. 349–367. ISSN: 1860-0980. doi: [10.1007/bf02288864](https://doi.org/10.1007/bf02288864).

Abstract: The theoretical basis for the Johnson-Neyman Technique is here presented for the first time in an American journal. In addition, a simplified working procedure is outlined, step-by-step, for an actual problem. The determination of significance is arrived at early in the analysis; and where no significant difference is found, the problem is complete at this point. The plotting of the

region of significance where a significant difference does exist has also been simplified by using the procedure of rotation and translation of axes.