

All recorded, live births in the USA, 1965-1974

Ho: No difference between the observed frequencies and the expected frequencies if the male:female ratio in the population is 1:1.

	f_i	\hat{f}_i	$\frac{(f_i - \hat{f}_i - 0.5)^2}{\hat{f}_i}$
Male ♂	17,857,857	17,416,025.5	11,208.908
Female ♀	16,974,194	17,416,025.5	11,208.908
Σ	34,832,051	34,832,051	22,417.817

$$\chi_c^2 = 22,417.817$$

$$DF = k-1 = 2 - 1 = 1$$

$$p < 0.001$$

Critical value of χ^2 at DF=1, p=0.05 is 3.841

Reject Ho:

Males and Females are not equally frequent at birth

About 51.3% are male

About 48.7% are female

Note: A small but steady decline in the male:female ratio has been occurring in the USA and Japan since 1970 (Science. 2007. 316:523).