approximations to δ^2/σ^2 when $n = 15, 20$. Table 5 is important; it contains $2D$ values of upper and lower 0.5%, 1.0%, 2.5%, and 5% points for the approximate distribution developed for δ^2/σ^2. Table 6 lists the results of some approximations to d/σ by $(\chi_\nu^2/c)^\alpha$ for $n = 5, 10, 20, 30, 50$. Finally, Table 7 furnishes $4D$ values of the β_1, β_2 differences that result from using a fixed λ for the $(\chi_\nu^2/c)^\alpha$ approximation to the distribution of δ_2^2/σ^2, and from using a fixed λ for the $(\chi_\nu^2/c)^\alpha$ approximation to the distribution of d_2/σ, for $n = 5, 7, 10(5)30, 40, 50$.

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60[K].—C. C. Sekar, S. P. Agarwala & P. N. Chakraborty, "On the power function of a test of significance for the difference between two proportions," *Sankhya*, v. 15, 1955, p. 381–390.

The authors determine the power function of the following statistical test: a sample of size n is drawn from each of two binomial distributions with unspecified probabilities of success p_1 and p_2, respectively. The null hypothesis is $H_0 : p_1 = p_2 = p$. For the two-sided test (alternative hypothesis: $p_1 < p_2$ or $p_1 > p_2$) at significance level α, the critical region is determined by the following conditions:

1) For a given total number r of successes in the two samples, the conditional probability of rejection under H_0 is $\leqq \alpha$.

2) If the partition $(a, r - a)$ of r successes is contained in the critical region and $0 < a < r - a$, then the partition $(a - 1, r - a + 1)$ is contained in the critical region.

3) If the partition $(a, r - a)$ is contained in the critical region, the partition $(r - a, a)$ is contained in the critical region.

A similar definition is used for the one-sided test of H_0 against the alternative $p_1 > p_2$. The critical region is determined using the exact conditional probabilities for these partitions given by S. Swaroop, [1].

The power function for the two-sided test is given to $5D$ for p_1 and $p_2 = .1(.1).9$; $n = 5(5)20(10)50, 100, 200$, and for $a = .05$. For the one-sided test the power function to $5D$ is given for the same levels of p_1, p_2 and n, and for $\alpha = .025$.

The critical region used by the authors is the one defined for the exact test by E. S. Pearson, [2]. However, for small sample sizes the power differs considerably from Patnaik's determinations, which are based on an approximately derived critical region and which use a normal distribution approximation of the probabilities.

Examples of the use of the tables are included.

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1. Satya Swaroop, "Tables of the exact values of probabilities for testing the significance of differences between proportions based on pairs of small samples," *Sankhya*, v. 4, 1938, p. 73–84.

2. E. S. Pearson, "The choice of statistical tests illustrated on the interpretation of data classed in a 2 x 2 table," *Biometrika*, v. 34, 1947, p. 139–167.

3. P. B. Patnaik, "The power function of the test between two proportions in a 2 x 2 table," *Biometrika*, v. 35, 1948, p. 157–175.