

THONGDEE YAMSUAN : A STUDY OF SAMPLING DISTRIBUTIONS, ABILITY TO CONTROL TYPE I ERROR, AND POWER OF TEST STATISTICS FOR SPEARMAN'S - RANK, KENDALL TAU, AND CRAMER'S V CORRELATION COEFFICIENTS. THESIS ADVISOR : DEREK SRISUKHO, Ph.D. 124 pp.

The purposes of this research were to study (1) the distributions of Spearman's rank correlation, Kendall tau, and Cramer's Y, (2) the ability to control type I error and (3) power of the test statistics (t-test, Z-test, and chi-square test) employed for testing the significant of the above statistics. The study was designed for the nature of relationship of 5 X 5 ordered-contingency table when the population of the bivariate normal distribution having correlation coefficient of 0,0, 0,1, ..., 0,9, Monte Carlo Simulation employed for the study for the sample size of 150, 200, and 250.

The findings could be summarized as follow :

1. The Spearman's rank correlation coefficient can estimate the population correlation coefficient closer than the other two methods,
2. The test statistics employed to test the significant of Spearman's rank correlation, Kendall tau, and Cramer's Y can control type I error when specified for ,05 and ,01,
3. The power of t-test employed to test the significant of Spearman's rank correlation coefficient is higher than other two test statistics.