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Overdispersion

(49 entries)

Articles:

1. Clapham, A.R. 1936. Over-dispersion in grassland communities and the use of statistical methods in plant ecology. *J. Ecology* 24: 232 – 251.

2. Anscombe, F.J. 1949. Note on a problem in probit analysis. *The Annals of Applied Biology* 36: 203 – 205.

3. Griffiths, D.A. 1973. Maximum likelihood estimation for the beta-binomial distribution and an application to the household distribution of the total number of cases of a disease. *Biometrics* 29: 637 – 648.

4. Kleinman, J.C. 1973. Proportions with extraneous variance: single and independent samples. *Journal of the American Statistical Association* 68(341): 46 – 54.

5. Williams, D.A. 1975. The analysis of binary responses from toxicological experiments involving reproduction and teratogenicity. *Biometrics* 31: 949 – 952.

6. Altham, P.M.E. 1978. Two generalizations of the binomial distribution. *Appl. Statist.* 27(2): 162 – 167.

7. Kupper, L.L. and Haseman, J.K. 1978. The use of a correlated binomial model for the analysis of certain toxicological experiments. *Biometrics* 34: 69 – 76.

8. Johnson and Kotz. ( ). Poisson Distribution. Chapter 4.

9. White, G.C. 1980. Statistical analysis of deer and elk pellet-group data. *J. Wildl. Manage.* 44(1): 121 – 131.

10. Diggle, P. 1982. Some statistical aspects of spatial distribution models for plants and trees. *Studia Forestalia Suecica* 162: 47 p.

11. Williams, D.A. 1982. Extra-binomial variation in logistic linear models. *Appl. Statist.* 31(2): 144 – 148.

12. Cox, D.R. 1983. Some remarks on overdispersion. *Biometrika* 70(1): 269 – 274.

13. Frome, E.L. 1983. The analysis of rates using Poisson regression models. *Biometrics* 39: 665 – 674.

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14. Breslow, N.E. 1984. Extra-Poisson variation in log-linear models. *Appl. Statist.* 33(1): 38 – 44.

15. Esterby, S.R. and El-Shaarawi, A.H. 1984. Coliform concentrations in Lake Erie – 1966 to 1970. *Hydrobiologia* 111: 133 – 146.

16. Gourieroux, C., Monfort, A., Trognon, A. 1984. Pseudo maximum likelihood methods: applications to Poisson models. *Econometrica* 52(3): 701 – 720.

17. Rai, K. and Ryzin, J. V. 1985. A dose-response model for teratological experiments involving quantal responses. *Biometrics* 41: 1 – 9.

18. Cameron, A.C. and Trivedi, P.K. 1986. Econometric models based on count data: comparisons and applications of some estimators and tests. *Journal of Applied Econometrics* 1: 29 – 53.

19. Morton, R. 1987. A generalized linear model with nested strata of extra-Poisson variation. *Biometrika* 74(2): 247 – 257.

20. Williams, D.A. 1987. Dose-response models for teratological experiments (Reader reaction). *Biometrics* 43: 1013 – 1016.

21. Firth, D. 1988. Multiplicative errors: log-normal or gamma? *J.R. Statist. Soc. B.* 50(2): 266 – 268.

22. Zeger, S.L. 1988. A regression model for time series of counts. *Biometrika* 75(4): 621 – 629.

23. Dean, C. and Lawless, J.F. 1989. Tests for detecting overdispersion in Poisson regression models. Journal of the American Statistical Association 84(406): 467 – 472.

24. ColinCameron, A. and Trivedi, P.K. 1990. Regression-based tests for overdispersion in the Poisson model. *Journal of Econometrics* 46: 347 – 364.

25. Seaman, J.W. Jr. and Jaeger, R.G. 1990. Statisticae Dogmaticae: a critical essay on statistical practice in ecology. *Herpetologica* 46(3): 337 – 346.

26. Grogger, J.T. and Carson, R.T. 1991. Models for truncated counts. *Journal of Applied Econometrics* 6: 225 – 238.

27. Kodell, R.L., Howe, R.B., Chen, J.J., and Gaylor, D.W. 1991. Mathematical modeling of reproductive and developmental toxic effects for quantitative risk assessment. *Risk Analysis* 11(4): 583 – 589.

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28. Dean, C.B. 1992. Testing for overdispersion in Poisson and Binomial regression models. *Journal of the American Statistical Association* 87(418): 451 – 457.

29. Morgan, B.J.T. 1992. Analysis of quantal response data. QH 323.5 M67X.

30. Piegorsch, W.W. 1992. Complimentary log regression for generalized linear models. *The American Statistician* 46(2): 94 – 99.

31. Boos, D.D. 1993. Analysis of dose-response data in the presence of extrabinomial variation. *Appl. Statist.* 42(1): 173 – 183.

32. Liang, K. and McCullagh, P. 1993. The Consultant's Forum: Case studies in Binary dispersion. *Biometrics* 49: 623 – 630.

33. Congdon, P. 1994. Spatiotemporal analysis of area mortality. *The Statistician* 43(4): 513 – 528.

34. Gaylor, D.W. 1994. Dose-response modeling. In Development Toxicology (C.A. Kimmel & Buelke-Sam, J. eds.). Raven Press Ltd., New York

35. Haseman, J.K. and Piegorsch, W.W. 1994. Statistical Analysis of Developmental Toxicity data. In Development Toxicology (C.A. Kimmel & Buelke-Sam, J. eds.). Raven Press Ltd., New York.

36. Liang, K. and Hanfelt, J. 1994. On the use of quasi-likelihood method in teratological experiments. *Biometrics* 50: 872 – 880.

37. Luceno, A. 1995. A family of partially correlated Poisson models for overdispersion. *Computational Statistics and Data Analysis* 20: 511 – 520.

38. Aitkin, M. 1996. A general maximum likelihood analysis of overdispersion in generalized linear models. *Statistics and Computing* 6: 251 – 262.

39. Piegorsch, W.W. and Casella, G. 1996. Emperical Bayes estimation for logistic regression and extended parametric regression models. *Journal of Agricultural, Biological, and Environmental Statistics* 1(2): 231 – 247.

40. Tempelman, R.J. and Gianola, D. 1996. A mixed effects model for overdispersed count data in animal breeding. *Biometrics* 52: 265 – 279.

41. Welsh, A.H., Cunningham, R.B., Donnelly, C.F., and Lindenmayer, D.B. 1996. Modelling the abundance of rare species: statistical models for counts with extra zeros. *Ecological Modelling* 88: 297 – 308.

42. White, G.C. and Bennets, R.E. 1996. Analysis of frequency count data using the negative binomial distribution. *Ecology* 77(8): 2549 – 2557.

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43. Fitzmaurice, G.M., Heath, A.F., and Cox, D.R. 1997. Detecting overdispersion in large scale surveys: application to a study of education and social class in Britain. *Appl. Statist.* 46(4): 415 – 432.

44. Ten Have, T.R. and Chinchilli, V.M. 1998. Two-stage negative binomial and overdispersed Poisson models for clustered developmental toxicity data with random cluster size. *Journal of Agricultural, Biological, and Environmental Statistics* 3(1): 75 – 98.

45. Mullahy, J. 1998. Much ado about two: reconsidering retransformation and the two-part model in health econometrics. *Journal of Health Economics* 17: 247 – 281.

46. King, G. 1999. Binomial-beta hierarchical models for ecological inference. *Sociological Methods and Research* 28(1): 61- 90.

47. Lindsey, J.K. 1999. Response surfaces for overdispersion in the study of the conditions for fish eggs hatching. *Biometrics* 55: 149 – 155.

48. Rao, J.N.K. and Scott, A.J. 1999. A simple method for analyzing overdispersion in clustered Poisson data. *Statistics in Medicine* 18: 1373 – 1385.

49. Wiens, B.L. 1999. When log-normal and Gamma models give different results: a case study. *The American Statistician* 53(2): 89 – 93.

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