

The Univariate Generalized Waring Distribution in Relation to Accident Theory: Proneness, Spells or Contagion?

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SUMMARY

The univariate generalized Waring distribution (UGWD) was derived by Irwin [1968, 1975, *Journal of the Royal Statistical Society, Series A* 131, 205-225 and 138, 18-31 (Part I), 204-227 (Part II), 374-384 (Part III)] as the distribution of accidents of an 'accident prone' population exposed to variable risk. This paper considers two further derivations of the UGWD in the context of accidents; these are based on a 'contagion' hypothesis and a 'spells' hypothesis, respectively. Both models assume that individuals are exposed to varying environmental risk. The problem of distinguishing between the three models is considered and some examples are given.