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On Some Markov Models In Survey Sampling

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Abstract : Using the Bernoulli trials with dependence, a multivariate Markov chain model is considered in order to describe the exposure effect of advertising through k successive issues of r independent newspapers. Also, the Markov character of the "daily cumulated exposure" is investigated. For the estimation of the $2r$ parameters of the model, we propose a survey sampling technique which is simpler than the maximum likelihood method, and we prove the consistency and the asymptotic normality of the proposed estimators.
Key words and phrases : Bernoulli trials with dependence, Markov chain, simple random sampling, consistent estimation.
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