

**MULTIPLE MEASURES OF DEPARTURE FROM MARGINAL  
HOMOGENEITY FOR COLLAPSED  $2 \times 2$  TABLES IN A SQUARE  
CONTINGENCY TABLE WITH ORDERED CATEGORIES**

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**ABSTRACT**

For the analysis of square contingency tables with *ordered* categories, Tomizawa, Miyamoto and Ashihara (2003) considered a measure to represent the degree of departure from the marginal homogeneity (*MH*). Consider the  $R-1$  ways of collapsing the  $R \times R$  table into a  $2 \times 2$  table by choosing cut points after the  $k$ -th row and after the  $k$ -th column for  $k=1, 2, \dots, R-1$ . The purpose of this note is (1) to propose the measure to represent the degree of departure from *MH* for each collapsed  $2 \times 2$  table, and (2) when the *MH* does not hold, to propose (as further approach to analysis) the use of these measures in order to diagnose which collapsed  $2 \times 2$  table influences more to the degree of departure from *MH* in an  $R \times R$  table.