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CRIME AND DIVORCE. CAN ONE LEAD TO THE OTHER? USING MULTILEVEL MIXED MODELS

Abstract:

Cross-sectional and time-series studies of the influence of divorce on crime and the opposite are few in both developing and developed countries. Question is raised whether the divorce causes the crime, the opposite, or both effects are exist in Jordan.

The objectives are: Investigating the causal direction of the relationship between the divorce and crime, determining whether the clustering in the divorce and crime within-governorates is exist, and whether the divorce and crime are increased or decreased over time?

The study design was cross-sectional time-series analysis. The data of 12 governorates over 14 years (2000-2013) were obtained from several Jordanian Statistical Yearbooks and surveys issued by the Jordanian Statistics Department. The divorce rate (DR) and the crime rate (CR) were calculated. Multilevel mixed-effects linear regression was carried out. Three models for each of divorce and crime were estimated. Comparison between these models was explained in terms of the intra-class correlation (ICC), the proportional change in the variance of the response variable, and the deviance.

The $p < .0001$ of Wald   was found highly significant in all models. Using the CR as a predictor for the DR reduced the within-governorate variance by 9% and the between-governorates variance by 2%. Using the time as a predictor for the DR reduced the within-governorates variance by 83% and the between-governorates variance by 4%. Using the DR as a predictor for the CR reduced the within-governorate variance by 21% and inflated the between-governorates variance by 59%. Using the time as a predictor for the CR reduced the within-governorates variance by 31% and inflated the between-governorates variance by 3%. The ICC results in all models were found significantly more than 40%.

In terms of the statistical and social epidemiological concepts of contextual phenomena confirm that the rates of divorce and crime from the same governorate are more similar to each other than those from different governorates. Using the CR as a predictor for the DR reduced the within-governorate variance more than four times compared with the between-governorates variance. Using the DR as a predictor for the CR reduced the within-governorate variance and inflated the between-governorates variance. Using the time as a predictor for the DR reduced the within-governorate variance dramatically higher than the between-governorates variance and as a predictor for the CR reduced the within-governorates variance but inflated a little bit the between-governorates variance. We have concluded that both divorce and crime can lead to the other.

Keywords:

Multilevel modeling, Divorce, Crime, Time, Governorate, and Intra-class correlation

JEL Classification: C10, C19, A14