

## Exploratory Factor Analysis: application of data on crimes against women in 141 municipalities in the state of Mato Grosso in the year 2016

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**Abstract:** *Multivariate analysis is a set of statistical techniques that allows the analysis and interpretation of quantitative data sets with a large number of variables in a simplified way. Exploratory factorial analysis (EFA) is a technique within the factorial analysis whose broad objective is to identify the underlying relationships between the measured variables. AFE is a statistical technique that studies correlations between a large number of variables grouping them into factors. Thus, the main objective of this work is to present the main aspects of this technique, and a practical application on the data of crimes against women in the State of Mato Grosso in the year 2016. This work is also intended to help researchers of diverse areas using AFE with greater theoretical and methodological discernment. It was possible to identify two factors by the Principal Component method, which explained approximately 80.56% of the total variance found, it can be affirmed that this method was effective and fulfilled the proposed objectives that are the ones of summary and reduction of the data besides interpretation.*

**Keywords:** Multivariate analysis; principal component analysis; Varimax rotation.

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