



Multistate models in soccer games

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In these lines an application of survival analysis in sports is proposed with the main objective of determining the risk and time associated with changes in the score of each game, in the framework of multi-state and proportional hazard models. Each possible change in the score represent a state. This type of study has very little history and has not been openly designed for individual soccer teams.

The modeling is first carried empirically and without considering covariates (Nelson-Aalen and Alen-Johansen estimators). Dependence of the changes of state variables associated with the match is then evaluated. A established prerequisite for these variables are variables that are easily accessible.

With this study, will be possible to know which are those minutes where the game turn into critical according to the state where the team is.

Keywords: Survival analysis; Cox model; multi-state model; Sports.