

ESTIMATING SUCCESS PROBABILITY OF A RUGBY GOAL KICK AND DEVELOPING A MEASURE FOR RANKING RUGBY UNION GOAL KICKERS

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ABSTRACT

The objective of this study was firstly to derive a formula to estimate the success probability of a particular rugby goal kick and, secondly to derive a goal kicker rating measure that could be used to rank rugby union goal kickers. Various factors that could influence the success of a particular goal kick were considered. A logistic regression analysis was performed to obtain the significant factors that were found to be the most important factors in the estimation of the success probability of a particular goal kick. The estimated success probability of the goal kick was then used to allocate a difficulty rating for the particular goal kick. The result of goal kicks attempted by the kicker along with the difficulty rating of these kicks was used to derive a measure for the ranking of rugby goal kickers. Goal kicker performances during the 2011 Rugby World Cup Tournament were used to illustrate the workings of the ranking system.

Key words: Goal kicker ranking; Rugby Union; Success probability; Difficulty rating.