Analysing sports performance using methods inspired by genetic analytics

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INTRODUCTION:

Sports performance analysts have many metrics they can use to investigate athletic performance. The multifactorial nature of sport performance means that interactions between these metrics are potentially important. Methods typically used by sports performance analysts cannot handle many variables and their interactions - especially with the often small sample sizes that are available. Methods borrowed from genetics research can measure the association of large numbers of metrics with relatively few observations.

METHOD

The Backward Dropping Algorithm is a non-parametric method to evaluate the association between inputs and a binary outcome. The method measures the *influence* of metrics based on their overall peformance in interactions with other metrics.

RESULTS

The method provides a list of metric combinations from which the importance of individual metrics can be determined.

DISCUSSION & CONCLUSION

The Backward Dropping Algorithm can provide evidence for important metrics and metric combinations. The findings can be used to support or challenge existing practices and have the potential to inform new tactics.