

JOURNAL OF QUANTITATIVE ANALYSIS IN SPORTS

EDITORS-IN-CHIEF

Jim Albert, *Bowling Green State University, USA*

EDITORIAL BOARD

Ben Baumer, *Smith College, USA*

Roland Carlstedt, *American Board of Sport Psychology, USA*

James J Cochran, *Louisiana Tech University, USA*

Phillip Everson, *Swarthmore College, USA*

Gil Fellingham, *Brigham Young University, USA*

Mike Fry, *University of Cincinnati, USA*

Mark Glickman, *Boston University, USA*

Will Hopkins, *Auckland University of Technology, New Zealand*

Armann Ingolfsson, *University of Alberta, USA*

Albyn Jones, *Reed College, USA*

Ruud Koning, *University of Groningen, The Netherlands*

Charlie Maher, *Cleveland Indians/Rutgers University, USA*

Ian McHale, *University of Salford, United Kingdom*

Jeff Ohlmann, *University of Iowa, USA*

Phil Scarf, *University of Salford, United Kingdom*

Michael Schuckers, *St. Lawrence University, USA*

Dylan Small, *University of Pennsylvania, USA*

Ray Stefani, *California State University, Long Beach, USA*

Chris Stride, *University of Sheffield, United Kingdom*

Tim Swartz, *Simon Fraser University, Canada*

Andrew Thomas, *Carnegie-Mellon University, USA*

Paul van Staden, *University of Pretoria, South Africa*

Jan Vecer, *The Frankfurt School of Finance and*

Management, Germany

Keith Willoughby, *University of Saskatchewan, Canada*

DE GRUYTER

An official journal of the American Statistical Association, *Journal of Quantitative Analysis in Sports (JQAS)* publishes timely, peer-reviewed research on the quantitative aspects of professional and collegiate sports. Articles come from a wide variety of sports and perspectives and deal with such subjects as measurements of player performance, tournament structure, and the frequency and occurrence of records. Additionally, the journal serves as an outlet for professionals in the sports world to raise issues and ask questions that relate to quantitative sports analysis. JQAS brings together sports professionals and scholars from across the disciplines of statistics, operations research, economics, psychology, sports management, and business. The expert editorial board includes David Annis (SportsQuant.com), Roland A. Carlstedt (American Board of Sport Psychology), Phillip Everson (Swarthmore College), Paraag Marathe (San Francisco 49ers), and Jan Vecer (Columbia University).

All information regarding notes for contributors, subscriptions, Open Access, back volumes and orders is available online at www.degruyter.com/jqas.

ISSN 2194-6388 · e-ISSN 1559-0410

RESPONSIBLE EDITOR Jim Albert, Department of Mathematics and Statistics, Bowling Green State University, Bowling Green, OH 43403, USA.
Email: albertcb1@gmail.com

JOURNAL MANAGER Theresa Haney, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany.
Tel.: +49 (0)30 260 05-375, Fax: +49 (0)30 260 05-250,
Email: Theresa.Haney@degruyter.com

RESPONSIBLE FOR ADVERTISEMENTS Panagiota Herbrand, De Gruyter, Rosenheimer Straße 143, 81671 München, Germany.
Tel.: +49 (0)89 769 02-394, Fax: +49 (0)89 769 02-350
Email: panagiota.herbrand@degruyter.com

© 2014 Walter de Gruyter GmbH, Berlin/Boston

TYPESETTING Compuscript Ltd., Shannon, Ireland

PRINTING Franz X. Stücker Druck und Verlag e.K., Ettenheim
Printed in Germany

COVER ILLUSTRATION © Petr Nad/iStock/Thinkstock



Offenlegung der Inhaber und Beteiligungsverhältnisse gem. § 7a Abs. 1 Ziff. 1, Abs. 2 Ziff. 3 des Berliner Pressegesetzes: Die Gesellschafter der Walter de Gruyter GmbH sind: Cram, Gisela, Rentnerin, Berlin; Cram, Elsbeth, Pensionärin, Rosengarten-Alvesen; Cram, Margret, Studienrätin i.R., Berlin; Cram, Dr. Georg-Martin, Unternehmens-Systemberater, Stadtbergen; Cram, Maïke, Berlin; Cram, Jens, Mannheim; Cram, Ingrid, Betriebsleiterin, Tuxpan / Michoacan (Mexiko); Cram, Sabina, Mexico, DF (Mexiko); Cram, Silke, Wissenschaftlerin, Mexico DF (Mexiko); Cram, Björn, Aachen; Cram, Ella Anita, Rentnerin, Berlin; Cram, Berit, Greifswald; Cram-Gomez, Susanne, Mexico DF (Mexiko); Cram-Heydrich, Walter, Mexico DF (Mexiko); Duvenbeck, Brigitta, Oberstudienrätin i.R., Bad Homburg; Fund, Dr. Sven, geschäftsführender Gesellschafter, Berlin; Gädeke, Gudula, M.A., Atemtherapeutin/Lehrerin, Tübingen; Gädeke, Martin, Einzelunternehmer, Würzburg; Lubasch, Dr. Annette, Ärztin, Berlin; Schütz, Dr. Christa, Ärztin, Mannheim; Schütz, Sonja, Berlin; Schütz, Juliane, Berlin; Schütz, Antje, Berlin; Schütz, Valentin, Berlin; Seils, Dorothee, Apothekerin, Stuttgart; Seils, Gabriele, Journalistin, Berlin; Seils, Dr. Clara-Eugenie, Oberstudienrätin i.R., Reppenstedt; Seils, Christoph, Journalist, Berlin; Siebert, John-Walter, Pfarrer, Oberstenfeld; Walter de Gruyter Stiftung, Berlin.

Contents

Theodoro Koulis, Saman Muthukumarana and Creagh Dyson Briercliffe

A Bayesian stochastic model for batting performance evaluation in one-day cricket — 1

Harsha Perera, Paramjit S. Gill and Tim B. Swartz

Declaration guidelines in test cricket — 15

Manuel Ruiz, Jose A. Martinez, Fernando A. López-Hernández and Almudena Castellano

The relationship between concentration of scoring and offensive efficiency in the NBA — 27

Jonathan A. Jensen and Brian A. Turner

What if statisticians ran college football? A re-conceptualization of the football bowl subdivision — 37

R. Drew Pasteur and Kyle Cunningham-Rhoads

An expectation-based metric for NFL field goal kickers — 49

James Graham and John Mayberry

Measures of tactical efficiency in water polo — 67

Dean G. Higham, Will G. Hopkins, David B. Pyne and Judith M. Anson

Relationships between rugby sevens performance indicators and international tournament outcomes — 81