**Biographical Sketch**

**󠇛 Hyongjun Choi Ph. D.**

*Associate Professor in the Department of Physical Education at Dankook University.*

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**󠇛 Introduction**

*A talented, innovative and creative sport scientist with substantial experience of performance analysis of sport within practical and academic environment. Qualified to Doctor of Philosophy on performance analysis of sport, commonly known as Notational analysis of sport. Technically proficient in the expected performance indicator design and packages for performance analysis of sport. Keen to develop skills in systematic design of computerized performance analysis system in football and associated languages.*

*Competent in team sport analysis i.e basketball & football match analysis with performance analysis techniques. Recently, involved in 2018 Pyeongchang Paralympics that worked for the TEAM KOREA of para-ice hockey as performance analyst.*

**󠇛 Academic degrees**

*\*B.A. Myongji University, Physical Education, Leisure and dance, Korea*

*\*M.A. University of Wales Institute, Cardiff, U.K.*

*\*Ph.D. University of Wales Institute, Cardiff, U.K.*

**󠇛 Employment history**

*\*2018 – present Associate Professor, Dankook University,*

 *Worked as Associate Professor at Dankook University, South Korea. Multiple roles as the assistant professor, teaching performance analysis of sport, Swimming, Life-guard training, Sports Statistics, and other sporting modules.*

*\*2012 – 2017 Assistant Professor, Dankook University,*

 *Worked as Assistant Professor at Dankook University, South Korea. Multiple roles as the assistant professor, teaching performance analysis of sport, Swimming, Life-guard training, Sports Statistics, and other sporting modules. Used to be a Chair of Department of Physical Education, College of Education.*

*\*2005 – 2008 Sport Science Technician (0.5 FTE), UWIC,*

 *Hampshire Multi-media designer within a team of 15 web designers and application developers. Multiple projects experience, working upon team based and individual accounts in web design, e-commerce and web development environment. Responsible for executing projects to clients' specifications, presenting ideas and ensuring successful solutions.*

*\*2007 – 2008 Director of Performance Analyst team for senior basketball (DIV1), UWIC,*

 *The job has numbers of roles to support the UWIC Archers senior women basketball team with 3 student assistants (2 masters and 1 undergraduate). Multiple projects experience within the team, designing real-time analysis system with Sports Code, production of videos for the Performance analysis session in practical a week and motivational video occasionally using iMovie & iDVD packages.*

*\*2007.8 – 200.9 Private Football Performance Analyst, worked with a Korean Football Club coach*

 *A project with a Korean Football Club manager, Woe-Ryong Chang (Incheon United FC) to analyse U17 and U20 Korean football team performances in U17 World cup Korea and U20 Worldcup Canada. Based on qualitative analysis with SportsCode package. Final products of DVD format and video clips with analysis notes.*

*\*2004 – 2006 Performance Analyst for senior basketball (DIV2), @ UWIC,*

 *Worked for Performance Analyst in UWIC women basketball, England Senior Women South Division 2 for 2 years since 2004. Experienced within real-time data collection & analysis, lapsed-time analysis for practical feedback. CyberSports for Basketball package was used in real-time and lapsed-time analysis. Production of analysed video clips and motivational video using MS movie maker and Adobe Premier. Winners of England Senior Women Basketball 2005-2006 League and Play-offs (DIV2)*

**󠇛 Academic Activities**

*\*2009 – present General-Secretary, International Society of Performance Analysis of Sport Asia*

*\*2009 – 2018 General-Secretary, International Society of Performance Analysis of Sport*

*\*2008 – 2012 Project coordinator, Korean Broadcast System (KBS) & SRAC (Sport Recording and Analysis Centre, South Korea)*

 *This project was designed to produce the informative statistics for broadcast during Germany Football World cup 2006. The national broadcast company (KBS) has offered to work with SRAC in Myongji University. The role of job was to produce the creative information from the database and football match analysis software developed by SRAC 2005.*

*\*2004 – 2006 Video Technician, Cardiff City Football Club, with Steve Brown*

 *For home game analysis, experienced with performance analyst in the football club filming the match regarding to offensive and defensive team performance analysis*

*\*2001 – 2003 Project Assistant & Research assistant, Korean Broadcast System (KBS) & SRAC (Sport Recording and Analysis Centre, South Korea),*

 *Developing the football match analysis package for broadcast during Korean-Japan Football World cup 2002.*

**󠇛 Academic Activities**

*\*Software packages*

*SportsCode, Dartfish, SiliconCoach, Quintic, Focus X2, Photoshop, Dreamweaver, Flash (including Actionscript), Powerpoint, Excel, Word, Access and etc.*

*\*Other iMovie, iDVD, MS Movie maker and other applications for video editing*

*Some SQL. Server/database experience.*

 *Some ASP, PHP and Javascript experience.*

**󠇛 Books**

*\*Choi, H. & Shin, H. Sport Licensing. W Media (2017).*

*\*Shin, H. & Choi, H. Sport Organization and Facility Management. Hayangin (2015).*

*\*Shin, H. & Choi, H. Strategic Sport Marketing. Whybooks (2015).*

**󠇛 Journal articles**

*\*Eom, H. J., Kim, J. A. & Choi, H. (2020). (Correspond Author) Definition and Clarification of the Input Variables in Volleyball Information System and the Analysis of Skill Efficiency in Transition Play: KOVO Women’s Matches in 2018-2019 Season, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 22(4), 137~161.*

*\*Lee, S. H. & Choi, H. (2020). (Correspond Author) Analysis of accuracy on the GPS system based on the Motion Capture System, Korean Journal of Sport Studies, 59(6), 485-494.*

*\*Lee, K. W. & Choi, H. (2020). (Correspond Author) Analysis of Keyword Trends for the Summer Olympics Based on Social Network(SNS) Data, The Korean Society of Sports Science, 29(5), 1251-1260.*

*\*Choi, E. Y. & Choi, H. (2020). (Correspond Author) Analysis of the Difference Depending on the Competition Situation of Women's field hockey using GPS, The Korean Society of Sports Science, 29(5), 1213~1221.*

*\*Choi, H. & Han, D. (2020). The Performance Evaluation System for the Modern Pentathlon based on the Concept of Performance Analysis of Sport, Journal of The Korea Society of Computer and Information, 25(9), 117~123.*

*\*Choi, H. & Eom, H. J. (2020). The issues and prospects of Performance Analysis of Sport, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 22(3), 105~113.*

*\*Han, D., Hawkins, M. & Choi, H. (2020). Analysis of different types of turnovers between winning and losing performances in men’s NCAA basketball, Journal of The Korea Society of Computer and Information, 25(7), 135~142.*

*\*Han, D. & Choi, H. (2020). The identification of optimal data range for the discrimination between won and lost, Journal of The Korea Society of Computer and Information, 25(7), 103~111.*

*\*Choi, H. & Lee, Y. S. (2020). Prediction of characteristics on the performance analysis data of Grand Slam tennis, The Korean Society of Sports Science, 29(3), 1021~1030.*

*\*Choi, H. & Yang, M. J. (2020). The comparision of predicted classification on distance categories, players and ranks within the performance data of 100m free-style swimming, The Korean Society of Sports Science, 29(3), 989~998.*

*\*Choi, H. (2020). The Current Status of Sports Big Data Analysis Researches in Korea, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 22(2), 63~69.*

*\*Choi, H. (2020). Similarity identification of time series data based on measurement of positioning in Sport, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 22(2), 51~61.*

*\*Hyun, J. W. & Choi, H. (2020). (Correspond Author) The Characteristics of Friction of the Sports’ Shoes and Contacted Grounds within Surface Roughnesses and Humidities, Korean society for Wellness, 15(2), 517~524.*

*\*Zhou, C & Choi, H. (2020). (Correspond Author) The Cluster Analysis for Performance Analysis in 2019 International Men Basketball World Cup, Korean Journal of Sport Studies, 59(3), 397~411.*

*\*Choi, H. & Lee, Y. S. (2020). The Big Data Analytics for Performance Analysis of tennis, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 22(1), 57~68.*

*\*Jung, Y. & Choi, H. (2019). (Correspond Author) A Prediction study of Youth Elite Athletes’ ages using the Self-Organizing Map, The Korean Journal of Sport, 17(4), 1589~1596.*

*\*Choi, H. & Lee, Y. S. (2019). Comparisons of performances by the relative age for the professional tennis male players, The Korean Society of Sports Science, 28(6), 1249~1259.*

*\*Yang, M. J. & Choi, H. (2019). (Correspond Author) Comparison of game contents in 100m swimming competition: With the focus of the 98th National Sports Festival, The Korean Society of Sports Science, 28(6), 1173~1186.*

*\*Choi, H. & Lee, Y. S. (2019). A Comparison of imputation methods for missing values within body measurement and body composition data, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 21(4), 149~158.*

*\*Sup, S. S., Choi, H. & Seo, E. (2019). Reality Acceptance of Trust and Feedback of Physical Education Teachers in Middle School Students: Application of Rasch Model, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 21(4), 75~86.*

*\*Choi, H. & Lee, Y. S. (2019). The Classification of Year, Grand Slam, and Tournament with ATP Official Data in Tennis using Self-Organizing Map: Based on the Data from 1991 to 2017, Korean Journal of Sport Studies, 58(5), 263~272.*

*\*Kwon, S. G., Lee, K. W. & Choi, H. (2019). (Correspond Author) 2016~2018 Korean professional baseball Sabermetrics Index Analysis, The Korean Society of Sports Science, 28(3), 1015~1023.*

*\*Lee, S. H. & Choi, H. (2019). (Correspond Author) The analysis of pitching result according to the velocity and pitch of pitcher in that case of full-counting on Major League Baseball(MLB), The Korean Society of Sports Science, 28(3), 973~981.*

*\*Choi, E. Y. & Choi, H. (2019). (Correspond Author) Analysis of the Circle entry strategy within the 2014 Hague Hockey World Cup and 2016 Rio Olympic Games, The Korean Society of Sports Science, 28(3), 917~925.*

*\*Choi, H. (2019). Differences of measurement tools based on the positioning data for the performance analysis of soccer, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 21(2), 1~9.*

*\*Kim, D. M. & Choi, H. (2019). (Correspond Author) The cluster Analysis of performance by official record of the English Premier League, The Korean Society of Sports Science, 28(2), 1237~1245.*

*\*Choi, H. & Lee, Y. S. (2019). The Prediction of Game Outcomes Based on Match Data within Soccer World Cup, The Korean Society of Sports Science, 28(1), 1317~1325.*

*\*Choi, H. & Hyun, J. W. (2018). The clusters of performances based on the official data for the soccer World Cup, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 20(4), 165~174.*

*\*Song, Y. G., Kim, T. & Choi, H. (2018). (Correspond Author) The Structural Validation of Korean Mental Toughness Inventory (K-MTI) using Bayesian Estimation, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 20(4), 15~31.*

*\*Kwon, S. G. & Choi, H. (2018). (Correspond Author) The analysis of judgement decision on the korean professional baseball from 2014 to 2016, The Korean Society of Sports Science, 27(5), 1433~1441.*

*\*Jo, Y. J & Choi, H. (2018). (Correspond Author) Lower extremity muscle strength and range of motion characteristics in population with dynamic knee valgus during overhead squat real-time movement assessment, The Korean Society of Sports Science, 27(5), 1355~1366.*

*\*Lee, K. W. & Choi, H. (2018). (Correspond Author) Keyword Comparative Analysis of Winter Olympic Games with Text- mining Technique, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 20(3), 67~76.*

*\*Choi, H., Choi, J. I., Shin, J. Y., Ko, Y. J. & Kim, S. Y. (2018). The Effects of Wear of Compression Clothing with EMS on Muscle Activity and Isokinetic Muscle Strength, The Korean Society of Sports Science, 27(3), 961~971.*

*\*Kim, W. K. & Choi, H. (2018). (Correspond Author) A Study on the Domestic Research Trends Related on the International Physical Activity Questionnaire by Keyword Network Analysis, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 20(2), 23~34.*

*\*Kim, S. J., Choi, H. & Hyun, J. W. (2017). The Study Rotational Mechanics of Lower Extremity Joint to Step Box Aerobics that Combines the Improved Motions of Korean Traditional Dance, The Journal of Korean Dance, 35(3), 123~138.*

*\*Kwon, J., Choi, H. & Lee, Y. S. (2016). (Correspond Author) A comparative analysis of the level of performance in triathlon, The Korean Society of Sports Science, 25(6), 1477~1486.*

*\*Chen, E. Y., Choi, H. & Lee, Y. S. (2016). (Correspond Author) A comparative analysis of fitness factors for seniors in an elementary school based on Physical Activity Promotion System, The Korean Society of Sports Science, 25(6), 1133~1142.*

*\*Kwak, J. K., Choi, H. & Lee, Y. S. (2016). (Correspond Author) An Analysis on Entrance Examination of male's practical tests for Kinesiology and Physical Education Colleges, The Korean Society of Sports Science, 25(6), 933~942.*

*\*Han, D. R. & Choi, H. (2016). (Correspond Author) Comparisons of performances before and after the rule changes in the Modern Pentathlon, Korean Journal of Sport Studies, 55(4), 541~550.*

*\*Choi, H. (2016). The Visualization of the Official Data for Soccer World Cup, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 18(1), 83~92.*

*\*Lee, K. J., Kim, D. M., Lee, Y. H. & Choi, H. (2016). Examination of reliability and validity of the Korean version of Developmental Coordination Disorder Questionnaire 2007, Journal of adapted physical activity and exercise, 24(1), 99~110.*

*\*Lee, B. S. & Choi, H. (2015). (Correspond Author) Comparisons of Performances based on the Ratio of Overseas’ Players in Soccer World Cups, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 17(2), 13~23.*

*\*Kim, J. H & Choi, H. (2015). (Correspond Author) Reinterpretation of Winning and Losing Performances based on Different Data Ranges, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 17(1), 1~12.*

*\*Choi, H. (2014). The Development on Measurement Methods for PiP(Perturbation in Performances) in Football, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 16(3), 65~76.*

*\*Jung, Y. S., Hong, S. J. & Choi, H. (2014). Mediating Effect of Self-esteem between Social Support and Quality of Life of the Elderly who Participate in Sports for All, Journal of Sport and Leisure Studies, (58), 739~750.*

*\*Hong, S. J., Choi, H. & Jung, Y. S. (2014). (Correspond Author) A Comparative Analysis of Movement Distances and Intensity of Movement in 2014 Brazil World Cup, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 16(2), 71~79.*

*\*Kim, J. H. & Choi, H. (2014). (Correspond Author) Domestic and International Research Trends on Performance Analysis in Sport, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 16(1), 109~120.*

*\*Choi, H. (2013). Evaluation of key-strokes on the basketball game analysis software, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 15(3), 27~34.*

*\*Kim, E. J. & Choi, H. (2013). Psychometric properties of the Career Attitude Maturity Scale for Regular Leisure Activity Undergraduate Students, Korean society for Wellness, 8(2), 83~92.*

*\*Lee, S. H., Choi, W. Y., Shin, H. B. & Choi, H. (2013). (Correspond Author) A Development of Motivation Scale of Sport Website Users: A Perspective of Motivation Factors on Attitude and Behavioral Intention, Journal of Sport and Leisure Studies, (52), 119~134.*

*\*Park, I. H., Kim, J. H., Cheon, H. J., Choi, H. & In, S. W. (2013). Management Plans for Developing the Cyber Hall of Fame for Sport, Korean Society of Sport Policy, 11(2), 111~125.*

*\*Chun, Y. J. & Choi, H. (2013). (Correspond Author) The analysis of first hits depending on situation in Korean professional baseball matches, The Korean Society of Sports Science, 22(1), 1077~1083.*

*\*Choi, H. & Kwon, M. H. (2012). Visualization of Individual Performances in Men’s Tennis Using Artificial Intelligence Techniques, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 14(3), 47~56.*

*\*Sohn, J. H. & Choi, H. (2012). (Correspond Author) The Identification of Optimized Factors to Distance by Sand-wedge Shot in Golf, Journal of Sport and Leisure Studies, (49), 821~830.*

*\*Jung, Y. S. & Choi, H. (2012). (Correspond Author) Comparisons of Skiing and Snow-boarding Injuries by MDBI Index between 2006-2007 and 2009-2010 Season, Journal of Sport and Leisure Studies, (48), 495~506.*

*\*Choi, H. & Ko, B. G. (2012). Cluster Analysis of Wrestlers using a Self-organizing Map as an Artificial Intelligent Technique, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 14(1), 19~28.*

*\*Choi, H. & Cho, E. H., Kim, E. J., Han, D. R. (2011). Identification of consistency on Key Performance Indicators for Tennis match analysis, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 13(3), 65~75.*

*\*Choi, S. B., Kang, C. W., Choi, H. & Kang, B. U. (2011). Social network analysis for a soccer game, Journal of the Korean Data And Information Science Society, 22(6), 1053~1063.*

*\*Choi, H. & Jung, Y. S. (2010). Performance Analysis of Mixed Double Badminton Based on Won, Lost and Rally Situation, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 12(3), 103~113.*

*\*Park, J. G., Kim, J. H., KIM, S. Y., Ran, H. L. & Choi, H. (2010). The Differences of the Satisfaction on Coaching, Cognition and Environment for P.E. Coaches for Elders in Public, Journal of Sport and Leisure Studies, (42), 653~663.*

*\*Choi, H. & Kim, J. H (2010). Reviews of the performance indicators & measurement methodological issues on perturbations of performances, The Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 12(2), 77~88.*

*\*Choi, H. (2010). The Comparisons of Performances Based on Different Levels of Performing in the Gland Slam Tennis Men's Singles, Korean Journal of Sport Studies, 49(3), 385~393.*

*\*Lee, K. Y., Choi, H. & Hong, S. J. (2010). Analysis of fouls in domestic and international professional football leagues, Korean Journal of Sport Studies, 49(2), 503~510.*

*\*Choi, W. Y., Hong, S. J. & Choi, H. (2009). An Analysis of Taekwondo Match Attack Pattern, Korean Journal of Sport Sciences, 20(4), 767-777.*

*\*Choi, H., Jung, Y. S. & Ko, B. G. (2009). The Study on the Cluster Analysis of Sport Activities Based on the Fitness Tests' Results of Korean National Male Athletes and the Self-Organized Map, Korean Journal of Sport Sciences, 20(3), 486-498.*

*\*Hong, S. J., Kim, J. W. & Choi, H. (2009). The Consideration of Situational Factors for Performance Evaluations on Soccer Players, Korean Journal of Sport Sciences, 20(3), 612-620.*

*\*Choi, H. (2009). The Investigation of Team Performance analysis based on the 2002, 2006 football worldcup data, Korean Journal of Measurement and Evaluation in Physical Education and Sports Science, 11(2), 41-51.*

*\*Choi, H. & Kim, J. H. (2009). The fundamental study for the design of match results' prediction simulator in tennis, The Korean Journal of Physical Education: Natural Sciences, 48(4), 593-601.*

*\*Choi, H. (2008). Definitions of Performance Indicators in Real-time and Lapsed-time analysis in Performance Analysis of Sports. Unpublished Ph. D. Thesis, University of Wales Institute, Cardiff, United Kingdom.*

*\*Choi, H. (2008). The methods for identification of valid performance indicators of sport within real-time analysis systems, Korean journal of Measurement and Evaluation in Physical Education and Sports Science, 10(3), 41-50.*

*\*Choi, H., O' Donoghue, P. & Hughes, M. (2008). A comparison of whole match and individual set data in order to identify valid performance indicators for real-time feedback in men's single tennis matches. In A. Lees, D. Cabello & G. Torres (Eds.), Science and racket sports IV (pp. 227-231). London: Routledge.*

*\*Choi, H., Kim, J. H. & Go, B. G. (2007). The clustering of sports events based on morphological similarity by Self-Organized Map, The Korean Journal of Physical Education, 46(5), 553-564.*

*\*Choi, H., Hughes, M. & O’Donoghue, P. (2007). Performance Indicators distinguishing matches between regions in World cup soccer, Journal of Sports Science and Medicine, Suppl. 10, p. 206.*

*\*Choi, H., Hughes, M. & O’Donoghue, P. (2007). Regional comparisons of teams’ performances in the world cup 2002 and 2006, Journal of Sports Science and Medicine, Suppl. 10, p. 206.*

*\*Choi, H., Hughes, M.D. & O’Donoghue, P. (2007). An investigation of inter-operator reliability tests for real-time analysis system, e-International Journal of Performance Analysis in Sport, Vol 7 (1), 49-61.*

*\*Choi, H. & Kim, J. H. (2006). The prediction of game results using ANN(Artificial Neural Networks) within the Wimbledon Tennis Championship 2005, The Korean Journal of Physical Education, 45(3), 459-467.*

*\*Kim, J. H., Lee, W. H. & Choi, H. (2005). Development of soccer analysis system for broadcasting, Korean Association for Sports Recording and Analysis, 3(1), 23-36.*

*\*Choi, H. (2005). A study of formations and roles of gender between winning and losing team in an international level of mixed double badmintons, Unpublished MS.c. Thesis, University of Wales Institute, Cardiff, United Kingdom.*

*\*Brown, S., Choi, H. & Hughes, M. (2004). Methodological issues in research in notational analysis of sport, Korean Association for Sports Recording and Analysis, 2(1), 31-46.*

*\*Kim, J. H., Lee, W. H. & Choi, H. (2004). Developments & further issues of performance analysis systems for sports according to the books of notational analysis of sports, Korean Association for Sports Recording and Analysis, 2(1), 47–63.*

*\*Kim, J. H., Lee, W. H. & Choi, H. (2004). Performance Indicators of football in previous papers, Korean Association for Sports Recording and Analysis, 2(2), 1–14.*

**󠇛 Conference proceedings**

*\*Choi, H. (2019). The Optimal Classification Approaches of Sports Data Based on the Utilization of the Self-organizing Feature Map, Paper presented at The 31st International Sport Science Congress in commemoration the 1988 Seoul Olympic Games (100th), Seoul National University, Seoul, South Korea, 24th August, 2019.*

*\*Choi, H. (2019). The Classification of sports data using the Self-organizing Map, Paper presented at the 2019 Asia-Pacific Conference on Performance Analysis of Sport, Nagoaya National University, Nagoya, Japan, 16th October, 2019.*

*\*Choi, H. (2018). The System Development for Performance Analysis of Sport Based on a Server Database & Its Effectiveness, Paper presented at the 30th International Sport Science Congress in commemoration the 1988 Seoul Olympic Games (99th), Wonkwang University, Iksan, South Korea, 12th October, 2018.*

*\*Choi, H. (2014). A comparison of artificial intelligent (A.L.) for visualization within performance analysis perspectives, Paper presented at the 2014 Incheon Asian Games International Sport Science Congress in Commemoration of the 1988 Seoul Olympic Games, Incheon National University, Incheon, South Korea,21st August, 2014.*

*\*Choi, H. (2010). Critical Reviews of the Perturbations and Momentum in the field of performance analysis of sport. Paper presented at the 2010 KAHPERD International congress, Kangwon National University, South Korea, 30th August 2010.*

*\*Choi, H., Kim, J. H. & Shin, M. S. (2010). Practical application of performance analysis in soccer. Paper presented at the Korean society of statistics in sports, Daejeon, South Korea, 19th May 2010.*

*\*Choi, H. (2010). New approaches of statistics in sports, Paper presented at the Japanese society of applied statistics, Tokyo, Japan, 21st May 2010.*

*\*Choi, H. (2010). Development of data collection tools for soccer match analysis, Paper presented at the Korean society of statistics in sports, Jeonbook University, South Korea, 5th February 2010.*

*\*Choi, H. (2009). The cluster analysis of Korean athletes’ fitness using the Self-Organized Map, Paper presented at International Conference on Computer science in sports 2009. Australian Institute of Sport, Australia, 24th September 2009.*

*\*Choi, H. (2009). The review of Self-Organized Map for the cluster analysis in sport science concepts of data analysis and visualization, Paper presented at KAHPERD International Congress 2009, Hanyang University, South Korea, 20th August 2009.*

*\*Choi, H. & Ko, B. G. (2009). The Cluster analysis of athletics’ fitness using artificial intelligent techniques, Paper presented at the 1st Institute of Mathematical Statistics Asia Pacific Rim Meeting, Seoul University, South Korea, 29th July 2009.*

*\*Choi, H., & Hughes, M. (2008). The methods for identification of valid performance indicators of sport within real-time analysis systems. In the 2008 KAHPERD International congress, Seoul, South Korea, 19th September 2008.*

*\*Choi, H. (2008). Performance analysis of men's singles in England Wimbledon championship 2008. Paper presented at the 2008 KAHPERD International congress, Seoul, South Korea, 19th September 2008.*

*\*Choi, H. (2007). Comparisons between Korean and Japanese team performances within football World cup 2002 and 2006. Paper presented at the Asian Pacific conference on Exercise and Sports Science 2007, Hiroshima, Japan, 6th December 2007.*

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*\*Choi, H. & Hughes, M. (2006). A study of formations and roles of gender between winning and losing team in an international level of mixed double badmintons. Paper presented at the World Congress of Performance Analysis of Sport VII, Szombathely, Hungary, 26th August, 2006.*

*\*Choi, H., Kim, J. H., Kim, J. H., Hong, S. J., & Hughes, M. (2006). A study of valid contents for an evaluation of team performance in Soccer. Paper presented at the World Congress of Performance Analysis of Sport VII, Szombathely, Hungary, 23rd August, 2006.*

*\*Choi, H., O' Donoghue, P., & Hughes, M. (2006). A Study of team performance indicators by separated time scale using a real-time analysis techniques within English national basketball league. Paper presented at the World Congress of Performance Analysis of Sport VII, Szombathely, Hungary, 24th August, 2006.*

*\*Choi, H., Reed, D., O' Donoghue, P., & Hughes, M. (2006). The valid numbers of performance indicators for real-time analysis using prediction models within men singles in 2005 Wimbledon Tennis Championship. Paper presented at the World Congress of Performance Analysis of Sport VII, Szombathely, Hungary, 24th August, 2006.*

*\*Choi, H., Kim, J. H., Lee, W. H & Hughes, M. (2004). The analysing system of broadcasting in real time, Paper presented at the 6th World Congress of Performance Analysis of Sport, Belfast, United Kingdom.*