



UEFA Research Grant Programme

Grants Awarded
Abstracts

This document contains a short summary of the results of all the research projects completed to date with the help of UEFA Research Grant Programme funding. Most of the final reports for the studies listed here can be obtained by sending an email request to universities@uefa.ch. The content of these final reports and of the summaries in this document is the work of the authors alone and does not necessarily represent the views of UEFA opinion.

2010/11 edition

- **Women's football, Europe and professionalisation, 1971–2011**

Jean William, De Montfort University, UK

This research looked at the increasing number of professional women players between 1971 and 2011. From a status of neglect and scorn, women's football has transformed itself in the last 40 years into one of the fastest-growing team sports for women, and the recent FIFA Women's World Cup in Germany in 2011 was supported by politicians, the media, art exhibitions and a growing number of fans. The research therefore included the increased media and commercial profiles of European women's football competitions since 1971 and Women's World Cups since 1991. Extensive player, coach and administrator interviews allowed the author to assess the major changes in the social, national and cultural composition of players participating in the emerging professional women's football leagues.

- **Corporate social responsibility in European football**

Geoff Walters, Birkbeck College, University of London, UK

Organisations face significant pressure to be accountable and to show commitment to society through social and environmental activities. The concerns of transparency and accountability are also relevant to sport, with some suggesting that sports organisations cannot ignore corporate social responsibility (CSR) and that they have to implement it. Although many sports organisations have, over the last few decades, engaged with various CSR imperatives, including philanthropy, community involvement, youth educational activities and youth health initiatives, this research project presents the first comprehensive, comparative survey in the European football industry, drawing on the most up-to-date academic research. It represents a significant step towards greater understanding of CSR in sport and in European football. All 730 top-division football clubs in Europe and UEFA's 53 member associations were surveyed, and a total of 43 national associations and 112 football clubs from 44 European countries responded. The survey examined key managerial aspects of CSR, including implementation, communication, stakeholder engagement and measurement. The analysis demonstrated that the large majority of national associations and football clubs are involved in a number of initiatives with various stakeholders such as local communities, young people and schools, although supporters were deemed the most important stakeholder group for the football clubs. Despite this, a majority of clubs reported that making connections with the community was a significant challenge. Resource constraints and securing funding were also two significant challenges faced by both national associations and football clubs in relation to CSR implementation. Club responses were also analysed by size, revealing that there are a number of significant differences between large clubs and small clubs in relation to the types of CSR activity that they implement. However, the challenges that clubs face when implementing CSR affect all clubs regardless of their size.

- **Le droit au pari des organisateurs de compétitions sportives, instrument de lutte contre la fraude? (Betting rights for the organisers of sports competitions – an instrument in the fight against fraud?)**

Lilia Douihech, Paris Dauphine University, France

Corruption and organised crime are blighting sports betting and constitute a genuine danger for the future of sport and for the ethical values that it embodies. In this context, and on the basis of the model used in some Australian states, French legislature developed an instrument to protect sporting integrity, based on the ownership rights of organisers of sports competitions and called, for linguistic simplicity, the "droit au pari" ("betting rights"). This instrument aims to maintain the freedoms of the European community, but requires online betting operators to obtain the consent of the organisers of competitions on which they wish to propose odds. This agreement should take the form of a contract that defines the exploitation conditions of the competition as well as the methods of cooperation between betting operators and organisers when it comes to combatting match-fixing. The tool enables the parties to share skills and knowledge, which in turn increases the chances of detecting illegal behaviour. The law requires the revenue gained by organisers by way of betting contributions to be used in part to finance anti-fraud activities. The French betting rights legislation, which is the first of its kind in Europe, is only in its infancy. However, it has already proven to be an innovative instrument in preventing fraud, which could be even more effective if implemented on a broader (European or international) scale and centred on the appeal of legal gambling and a dissuasive crackdown on illegal markets. The fight against sports betting fraud is a public-order necessity: it requires a real desire to cooperate on the part of states, the sports movement and betting operators, and should not be left to the sole initiative of the sports movement, which, although most affected by the threat, is powerless to face up to it alone.

- **Les footballeurs professionnels camerounais en France – une socio-histoire des carrières sportives et trajectoires migratoires transformées (1954–2010) (Cameroonian professional footballers in France – a social history of sporting careers and changing migratory trajectories (1954–2010))**

Stanislas Frenkiel, Claude Bernard University Lyon 1, France

In this research, we tell the stories of four generations of professional Cameroonian footballers in first and second-division French clubs from 1954 to 2010. To write the social history of these players in the French championship (in which 134 played in the period 1954 to 2010), we combine the prosopographic method and the quantitative reconstruction of this sporting population, using written and oral sources. Altogether, 15 interviews ("life stories") were carried out in France and in Cameroon, in particular with Joseph-Antoine Bell, Benjamin Massing, Roger Milla and Zacharie Noah. We investigate the genealogy of Cameroonian sports migrants to France and their circulation in Europe and worldwide. Specifically, by focusing only on those working in France, we analyse the development of their sporting careers and migratory trajectories. Over 50 years, migratory principles have gradually changed: Cameroonian students, often "professional footballers by accident" seizing a sporting opportunity in France, are replaced by footballers for whom professionalism is the only objective and for whom mobility is growing nationally and internationally. Two key ideas are expressed in this investigation: first, beyond the colonial and cultural context, these migrations between Cameroon and France are primarily in the context of a competitive and speculative market and socio-economic perspectives (a hope of upward mobility), and of three main factors – regulatory, sporting and human – which must be reflected in the transformation of emigration conditions for Cameroonian footballers. The second key idea is as follows: since the 1950s, the emigration procedure for African and specifically Cameroonian footballers has evolved more than their status as sporting immigrants in France and Europe. Although players' monthly salaries have increased and they are now better represented by agents, the similarities between the two eras are striking. We put forward the idea of a constant status of African sporting immigrants in Europe.

2011/12 edition

- **Effects of hot and cold temperatures on referees' ability to perform**

John Brewer, University of Bedfordshire, UK

Football match officials enforce the Laws of the Game, and the decisions they make can affect the results. Many competitions take place in varying environmental conditions. Referees are required to keep up with play to judge an infringement correctly, which may cause significant strain on physiological systems. It is suggested that elevated body temperatures may affect referees' decision-making. Goal-line officials judge notably whether the ball has crossed the goal line and spend the entire match performing minimal movements. Therefore exposure to cold conditions may affect their decision-making. The present study aims to elucidate the decision-making of match officials during exposure to both hot and cold temperatures. Fifteen students from the University of Bedfordshire and referees from the local league volunteered for this study. The protocol consisted of 45 minutes of activity, a 15-minute rest period, and a final 45 minutes of activity, and was performed in three conditions: COLD (5C, 40% relative humidity); temperate (CONT – 18C, 40% relative humidity) and HOT (30C, 40% relative humidity). This was interspersed with four computer cognitive tests to measure vigilance and dual-tasking ability. Core and skin temperature, heart rate, ratings of perceived exertion and thermal sensation were also recorded. For the goal-line official study, subjects performed small lateral movements. The active referee study consisted of five movements performed on a treadmill: stand, walk, jog, run and sprint. For the active referee study, false scores for vigilance were 20% higher in the HOT condition than the CONT condition. False scores for dual tasking were 33% higher in the HOT condition than the CONT condition. For the goal-line official study, false scores for vigilance were 86% higher in the COLD condition than the CONT condition, and false scores for dual tasking were 94% higher in the COLD condition than the CONT condition. Extremely hot conditions have a detrimental effect on an active referee's decision-making abilities and extremely cold conditions negatively affect goal-line officials' decision-making abilities.

- **Protect her knee: exploring the role of football-specific fatigue on dynamic knee stability in female youth football players**

Mark De Ste Croix, University of Gloucestershire, UK

It is well recognised that girls and women appear to have a greater relative risk of non-contact anterior cruciate ligament (ACL) injury compared with boys and men when hours of athlete exposure are taken into account. This study examined the effect of simulated football-specific fatigue on muscular and neuromuscular components of dynamic knee stability in elite youth female footballers. Thirty-six elite female footballers (in the Under-13, Under-15 and Under-17 age groups) were recruited from an FA Women's Super League club. Anthropometric variables including maturation and quadriceps angle (Q angle) were determined for each age group. Relative leg stiffness, functional hamstring to quadriceps ratio (FH/Q), and electromechanical delay (EMD) of the hamstrings during eccentric actions were determined before and after an age-appropriate simulated football match (SAFT90). Football-specific fatigue had little influence on the FH/Q, although the ratio was reduced post-fatigue close to full knee extension. Fatigue had a detrimental effect on neuromuscular stability, with significantly longer EMD recorded post-fatigue for all age groups. These negative effects were significantly greater in the U13 age group. Fatigue influenced the U15 group the most, with a reduction in FH/Q and increase in EMD post-fatigue. Neuromuscular functioning was diminished the most in the U13 age group with reduced feedback responses (EMD) and reduced feed-forward responses (leg stiffness). The U17 age group increased the FH/Q ratio and leg stiffness post-fatigue, and this may be a compensatory mechanism for the reduction in neuromuscular feedback mechanisms (EMD) when fatigue is present. Our findings suggest that the following are considered in the development of neuromuscular conditioning programmes for elite female youth footballers: 1) a focus on fatigue resistance and conditioning work undertaken in the middle or at the end of training sessions; 2) the inclusion of and focus on the portion of the movement that is towards full knee extension; 3) the inclusion of fast-velocity movements as well as more controlled slower-velocity movements; 4) age group or maturational stage-specific training; 5) training in younger age groups that focuses on the development and enhancement of neuromuscular feed-forward mechanisms in response to fatigue and includes fundamental movement skill development; 6) training during puberty that is enhanced and individualised to focus on both muscular and neuromuscular qualities.

- **Anti-violence supporter groups in Serbian football: an ethnology case study**

John Hughson, University of Central Lancashire, UK

Despite a decline in football hooliganism in a number of European contexts, some national settings, largely as a result of particular underlying social and political circumstances, remain problematic. Serbia is presently regarded as one of Europe's main trouble spots for football-related violence. Hooligan behaviour among followers of the Serbian national team, some of it clearly captured in media reporting, disrupted a UEFA EURO qualifying match between Italy and Serbia in Genoa in October 2010. This, as well as continuing crowd-related problems at domestic matches in Serbia, resulted in UEFA delivering an ultimatum to the Football Association of Serbia (FSS) that if crowd-related violence and disorder at both international and domestic matches was not curbed, both the Serbian national team and Serbian club teams may face expulsion from the competitions administered by UEFA. An intensive collaborative process was put in place involving UEFA, the FSS and the national government of Serbia. Immediate resolution has been sought via an upgrading of security and policing measures. The present study acknowledges the necessity of these measures in an acute situation, but looks to a longer-term resolution by giving consideration to what may be done to alter the football-supporting culture in Serbia over time. Accordingly, a small-scale survey was undertaken with participants living in Serbia who declared an interest in wanting to see a change in the football-supporting culture – towards non-violence and the eradication of anti-social behaviour. Most participants believed that the problem was entrenched and in need of addressing via an educational process with which football administration in Serbia, including the clubs, must not only be fully cooperative, but also genuinely proactive. The project draws on fieldwork, with interview and more informal participants, relevant media reports and interviews with representatives of key agencies, including the FSS and the Serbian ministry of youth and sport, to make a number of recommendations for progress towards longer-term positive change within Serbia's football-supporting culture.

- **Wie viel Wettbewerb braucht der Fussball? Eine Untersuchung zur Bedeutung der Wettbewerbsintensität aus Sicht der Zuschauer (How much competition does football need? Research into the significance of competition intensity from the audience perspective)**

Tim Pawlowski, German Sport University Cologne, Germany

The uncertainty of outcome hypothesis (UOH) suggests that increasingly imbalanced sports competitions have the potential to negatively influence fan interest and, consequently, stadium attendance and TV viewing figures. Therefore, to maintain a certain degree of competitive balance (CB), specific regulations and income redistribution schemes have become common practice in professional sports leagues. However, match attendance level studies in European professional football seldom find that more tickets are sold when the two teams have fairly equal chances of winning. Furthermore, in the long term, season-aggregate attendances have actually increased in some football leagues (in Germany and England, for example), even as those leagues have become more dominated by a small number of teams over the last decade. Such findings suggest that CB is of minor importance for stadium or TV demand at present, and therefore challenge the relevance of the UOH in professional football. However, previous studies are based on revealed preference approaches such as "classical" attendance or television demand studies, which cannot assess whether (increasingly imbalanced) football competitions might be at risk of moving into territory where consumer demand will fall off in the future, as (also) suggested by the UOH. Therefore, following a stated preference approach, this study provides a subsequent examination of the relationship between perceived balance (in a number of dimensions) and intention to consume based on a survey conducted among football fans in Denmark, Germany and the Netherlands (n=1,689). As indicated by the results, around 70% of fans care about CB. However, measures to improve balance would not necessarily have a significant effect on consumer demand, since some leagues (such as the German Bundesliga) are not close to any tipping point at present.

- **Une première élite du football européen (1904–1956), ou les prémices d'un champ footballistique européen (The first European footballing elite (1904–1956) or The beginnings of a 'European football field')**

Grégory Quin, University of Lausanne, Switzerland

During the first half of the 20th century, throughout the whole of Europe, football was influenced by several processes (political, economic, social, etc.). More than any other sport, football was becoming truly international, politicised and influenced by economics, and was reaching all social classes, according to variable processes across the different countries. Moreover, beyond democratisation dynamics, national football spheres were being consolidated in European countries, notably illustrated by the professionalisation process of elite football and by the establishment of solid institutions (associations, leagues, etc.) involved both in national league and cup competitions and international matches. This period was marked by a growing number of international games – deeply linked with the affirmation of sporting nationalism, which allowed increased opportunities to identify with the players – but more broadly with “values” and “representations” composing “imagined communities” and with sporting values (amateurism, fair play, etc.). At that time, regional areas where football started to become homogeneous (the British Isles, central Europe, Scandinavia, etc.) were built around international competitions, as a kind of consequence of the consolidation of the football spheres of each of the countries in those areas. For instance, in central Europe, the Mitropa Cup for clubs and the International Cup for national teams were structuring international seasons and facilitating footballing relations. Actually, the first half of the 20th century saw the beginnings of the field of European football, the direct consequence of which in the 1950s was the creation of modern European cup competitions (concerning the whole continent) and the establishment of a continental institution: UEFA.

- **How can formerly successful European football teams capitalise on the UEFA Europa League in order to (re-)establish their brands?**

André Richelieu, Laval University, Canada

The purpose of our research was to understand and explain how team managers of formerly successful European football clubs could capitalise on the UEFA Europa League in order to build or rebuild the brand identity of their team. We collected data from 19 teams in 15 countries: AFC Ajax (the Netherlands), RSC Anderlecht (Belgium), Aston Villa FC (England), Athletic Club (Spain), SL Benfica (Portugal), Borussia Dortmund (Germany), Celtic FC (Scotland), GNK Dinamo Zagreb (Croatia), FC Dynamo Kyiv (Ukraine), FC Dinamo Moskva (Russia), Hamburger SV (Germany), IFK Göteborg and FC Malmö (both Sweden), Olympique de Marseille (France), Panathinaikos FC (Greece), FK Partizan and FK Crvena zvezda (Serbia), FC Steaua Bucureşti (Romania) and SV Werder Bremen (Germany). We followed a case analysis method, engaging in semi-structured interviews with the head coaches of the selected teams. Content analysis was used to give in-depth meaning to the coaches' responses. We extracted the essence of the answers provided in order to reveal the reality. Admittedly, differences between the teams studied do emerge, but there are also some strong similarities. Right now, and based on the way both the UEFA Champions League and the UEFA Europa League are structured from broadcasting, financial and sporting points of view, the disparities between the top four championships (England, Germany, Italy and Spain) and the rest of Europe are widening. Hence, the rebranding of the UEFA Europa League could be followed by a reflection on how the competition can truly make “smaller” clubs and formerly successful European teams part of a more balanced European football ecosystem. And with financial fair play regulations coming into effect, this might be the right time to do so. On the basis of the findings emerging from this research, the report concludes with a series of recommendations for UEFA.

2012/2013 Edition

- **Fan relationships and national football associations in Europe: Better understanding for better management**

Guillaume Bodet, University of Loughborough, UK

Although many practitioners and researchers have recognised the importance of fan and consumer loyalty for sports organisations, very few studies have focused on the expectations of fans and consumers. Considering the importance of these relationships and the lack of existing knowledge in the specific context of European football, this study aimed to identify the types of relationship that football fans want to establish with their national football associations and to identify the managerial tools that could be used to enhance and sustain these relationships. Qualitative research was carried out using individual interviews and focus groups, looking at football fans from Armenia, Lithuania and England to capture the diversity of European football. Two focus groups comprised eight casual and eight die-hard Armenian fans respectively; another two focus groups brought together 11 casual and 11 die-hard Lithuanian fans respectively; and 10 semi-structured individual interviews were conducted with six casual and four die-hard English fans. The analysis revealed that there were more differences between types of fan than between countries, allowing comparison of the approaches adopted by the various national associations. Information was found to be the most crucial issue for all three countries' fans, but ways of communicating varied depending on the type of fan. For fans, a lack of information leads to a lack of interest, which results in a lack of awareness. This means that there is no clear perception of the national association's identity, which creates misperceptions regarding its image and, in turn, results in a lack of trust in or commitment to the national association in question. Managing contact between fans and national teams and associations is also a key issue, and both frequency and intensity are important aspects. Fans are also sensitive to governance issues, but transparency seems to matter more to casual fans than to die-hard fans. Lastly, marketing aspects were not found to hold the same importance throughout Europe.

- **The validation and application of an integrated metabolic cost paradigm using high-frequency GPS technology in soccer**

Dominic Doran, Liverpool John Moores University, UK

In this research, high-frequency global positioning system (GPS) technology was used that allows detailed tracking of player movement in conjunction with a new metabolic logarithm to monitor and evaluate the physiological loads of elite footballers during training and matches. In order to fully implement this new approach, a series of experiments were undertaken to update and improve the specificity of current metabolic power logarithms: first, to derive a new energy constant for football-specific movement on grass in elite players; and second, to validate these new integrated GPS metabolic power equations during football-specific movement patterns. Having established the validity of the approach, the metabolic power requirements of elite players during matches was examined. A database containing movement captured on video during match play (around 295 players) and GPS-captured data (108 players) was analysed using the new equations to model the metabolic requirements of elite players and their different positional roles during matches. The present data indicates that average metabolic power during elite competitive match play is estimated at around $11.2 \pm 1.2 \text{ W} \cdot \text{kg}^{-1}$. Metabolic power and associated performance metrics clearly vary by playing position, with a hierarchy of demand: generally central and wide midfielders had the highest metabolic loads, followed by full-backs and forwards, with central defenders presenting the lowest metabolic loads. Consistent with the ability to detect differences in positional roles, data is sensitive to differences in the metabolic power metrics between the first and second halves of matches. It was found that current performance analysis techniques that use speed and distance grossly underestimate the workloads of players during matches and fail to adequately quantify the true physiological cost of match play activity relative to the new metabolic power paradigm implemented. The implications of these findings for player management are such that workloads may be significantly underestimated. Where players have several games in a week or a block of games together, some unnoticed player fatigue could result, potentially affecting match performances.

- **Economic effects of UEFA's financial fair play regulations**

Markus Lang, University of Zurich, Switzerland

This research project examines the economic effects of UEFA's financial fair play (FFP) regulations. The amendment of the regulations was approved against the backdrop of financial distress, which has been the typical state of affairs in European football for many years. One major effect of the successful implementation of the FFP regulations will be the end – or at least the severe restriction – of monetary injections by benefactors. This study formally demonstrates that monetary injections by benefactors encourage their clubs to implement riskier investment strategies. Hence, successful implementation of the FFP regulations reduces the risk-taking behaviour of clubs. Riskier investment strategies by clubs with benefactors lead, in turn, to contagion, encouraging clubs without benefactors to also pursue riskier strategies. As a result, successful implementation of the FFP regulations can reduce this contagion risk. Furthermore, there is also an issue of clubs being "too big to fail", because, from a welfare perspective, it may be preferable to consistently bail out clubs whose share of the market is sufficiently large. Finally, successful implementation of the FFP regulations always increases social welfare in leagues where a benefactor owns a club with a small share of the market. The same is true in leagues where a benefactor owns a club with a large share of the market, as long as the regulations are not too restrictive.

- **Influence on injurability and injury recovery time of single nucleotide polymorphisms (SNPs) in genes involved in connective tissue repair**

Ricard Pruna, University of Barcelona, Spain

Soft tissue injuries (in muscles, tendons and ligaments) are a key factor in "talent selection" owing to their great importance in high-level sports. In fact, an athlete with a high injurability index may find that the process of natural selection has denied him/her the opportunity to compete. Epidemiological studies based on meticulous data collection are the source of our current knowledge on injurability and have become the most reliable way to obtain objective information on injurability. However, there have been few serious studies looking at the aetiology of injuries, and no scientific evidence has yet conclusively identified potential risk factors related to injurability or differences between individuals in terms of recovery times. Muscle injuries represent 10–55% of all sports-related injuries. While it is possible for slight injuries to heal completely, serious muscle injuries lead to the formation of scar tissue, which weakens the injured muscle even after recovery and is often associated with muscle contractions and chronic pain. Although there are different degrees of injury and different types of treatment in terms of recovery, there is also considerable variation in the speed at which individuals recover from a specific kind of injury. This variation in recovery times may be due to the presence of single nucleotide polymorphisms, which can affect an individual's response to a specific treatment. Moreover, it has recently been suggested that certain individuals are genetically predisposed to certain kinds of injury. Several studies have demonstrated that the presence of certain SNPs in genes involved in the repair of muscle tissue can enhance recovery after injury. This research provides additional knowledge about SNPs in genes involved in the repair and regeneration of connective tissues. Further studies of these SNPs may shed light on the tendency of certain individuals to suffer muscle injuries and may reveal a gene signature that would allow researchers to identify individuals with an enhanced injury repair system.

- **Race/ethnicity, gender and audience receptions of televised football in the Netherlands and England**

Jacco van Sterkenburg, University of Utrecht, Netherlands

At the beginning of the 21st century, football on television has become one of the critical domains in which meanings associated with race/ethnicity and gender manifest themselves. In this research project, the author focused on the significance of televised football in terms of shaping ideas about race, ethnicity and gender among its viewers. The research looked at how Dutch and English viewers from various racial/ethnic and gender-based groupings receive and interpret representations of race/ethnicity and gender based on televised men's football. This question was explored from an internationally comparative perspective by focusing on the experiences of young Dutch and English viewers. In total, 20 focus group interviews were conducted with male and female viewers (15–31 years of age) spread across white and non-white audience groups in England and the Netherlands. The findings showed the dominance of a natural physicality discourse which associates black athletes with natural physical strength and power among both British and Dutch audience members and among both white and non-white audience members. Respondents sometimes combined this natural physicality discourse with a mentality discourse, which has as an underlying assumption the notion that black athletes are mentally more unstable and less intelligent than white players. Such one-sided representations of race and ethnicity in the sporting context can have meaning far beyond the boundaries of the sporting world itself, for instance in framing meanings given to racial/ethnic groups in non-athletic situations, where "brains" are usually more important than "brawn" in achieving a social career. In relation to gender, too, a physicality discourse and a mentality discourse could be identified, although in a different manner: on the one hand, the perceived poor quality of women's football was often explained with reference to women's physical weakness, compared with men's physical strength. At the same time, women footballers were often seen as less courageous and less aggressive on the pitch than male players. The role the media play in these gender-based views of football can probably not be underestimated. The male-dominated football media have historically used gender stereotypes that trivialise women's footballing performances. Interviewees in this study generally acknowledged this and were quite critical of the football media's role in this regard.



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