

Institution: Ulster

Unit of Assessment 26: Sport and Exercise Sciences, Leisure and Tourism

a. Context

The Unit's research is undertaken by the Sport and Exercise Sciences Research Institute (SESRI) which is comprised of three research groups: Sports Science and Sports Medicine; Physical Activity and Health; and the Social Sciences of Sport. The impact of the research by the SESRI extends across a range of international, national, and regional non-academic user groups and audiences. These include organisations and professionals concerned with promoting physical activity, physical education and sports medicine practitioners, governing bodies of sport, commercial sports entities, and wider lay communities. The main types of impact emanating from our research are recommendations on policy and practice, influences on guidelines, CPD, and academic enterprise. Some examples of these impacts and how we have sought to achieve them by each of the 3 research groups and the SESRI as a unit are presented below.

The impact of the research in sports science and sports medicine extends beyond that illustrated in Case Study 1 (Acute Management of Soft Tissue Injury). The biomechanics of golf has been the focus of research by Wallace (1998-2013). This work has informed the decision-making of the R&A Rules Limited, the world body responsible for the 'Rules of Golf', has been implemented by the European Professional Golfers Association and the British PGA in CPD for their members, and has been implemented by the national governing body and PGA professionals in the delivery of biomechanical swing analysis services to a range of elite amateur and professional golfers. The work has attracted considerable media interest, including Sky Sports (European Tour Weekly, March 2013), and the R&A Year of Golf (Sky Sports, 2011).

The impact of the research in physical activity and health extends beyond that illustrated in Case Study 2 (The development of physical activity guidelines for public health). Harris's research (2011) on vitamin D supplementation to improve vascular function in African Americans contributed to the debate on these clinical findings amongst members of the Institute of Medicine and has attracted widespread media interest across the US. His research (2010) on flow mediated dilation has also led to engagement with researchers and clinicians from all over the US as they seek to implement his methodology. Research by Breslin and Murphy (2010 – 2012) funded by Sport NI has informed physical literacy programmes implemented by 33 Irish National Governing Bodies of Sport, whilst research led by Breslin (2012) emanating from the 'Sport for LIFE' programme involving primary school pupils from socio-economically deprived areas across Northern Ireland, has informed an all-island roll-out of the programme due to commence in January 2014.

The impact of the multi-disciplinary research in the social sciences of sport reaches across a range of users and audiences. Hassan's research on the socio-economic impact of the World Rally Championships and the economic impact of the Abu Dhabi Desert Challenge event has generated grey literature (2008, 2011) that has been utilised by the Federation Internationale de l'Automobile (FIA), motor sport's global governing body, and individual national governing bodies of motorsport to inform their negotiations with stakeholders - including national tourism authorities, federal departments, and broadcast media - regarding increased levels of investment in motorsport events. His research (2012) has also informed the National Federation of Motor Sport in the UAE on the social and economic value of volunteerism - a problematic issue in the Middle East - leading to a re-appraisal of recruitment and selection strategies of volunteers. Hassan's research on social inclusion of young people with learning/intellectual disabilities through sport, funded by Special Olympics International (SOI), has been used by SOI to inform their policy and practice on the preparation of these young people by coaches for international competition. This research has reaffirmed Ulster's status as the 'Special Olympics Regional Research Collaborating Centre for Europe Eurasia'. Research by Darby (1998-2011) has been disseminated by a range of

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national and international print and broadcast media agencies and has contributed to the production of two BBC Radio 4 documentaries on football politics and migration and a major four-part documentary on the history of African football for the BBC World Service.

Multi-disciplinary research by the SESRI in collaboration with external centres of excellence has led directly to community participation in physical activity and product innovations by sports companies. The 'ProFit: Fieldlab for sport innovation and physical activity stimulation (2009 – 2014)' project is an EU InterReg IVb funded research project, involving the SESRI and universities and city councils from Sheffield, Eindhoven, Kortrijk, and Delft. The impact of this research has been in the establishment of community-based field labs in each of these four cities where local communities engage in novel physical activities, while pioneering physical activity monitoring devices are used to measure activity levels. Furthermore, regional innovation competitions have been held at each of the sites, attracting widespread interest from 25 European sports and play companies. Awards of €10,000 each for the best innovative product have been presented to each of the 4 regional winners, with a subsequent international prize of €10,000 awarded to the overall winner to assist them in product development for implementation in each of the field labs.

b. Approach to Impact

The SESRI provides financial, personnel, and administrative assistance specifically targeted at developing existing relationships and fostering new engagements with key end users and other beneficiaries in order to develop the impact of our research. First, financial support is made available through the SESRI's recurrent budget from which staff bid for specified strategic engagement with end users. Second, support through the school's (Ulster Sports Academy) workload allocation model which, in seeking to balance staff time, has been sensitive to the importance of research-led activities and credits time spent by research staff in engagement with external stakeholders. Third, a Sponsored Research/Consultancy Officer (appointed in 2009) is responsible for identifying research impact opportunities and to engage directly with end users. Fourth, clerical and secretarial support by the SESRI clerical assistant is made available to support research projects that include impact. Examples of the ways in which the SESRI members work towards enhancing the impact of our research are detailed below.

Participation in research networks, consortia, and advisory groups: Bleakley is a committee member of the International Ankle Consortium and several other bodies that advise national, UK, European, and international health professionals on research evidence-based treatment modalities (see Case Study 1). Murphy is a member of several government advisory groups, professional bodies, and expert panels concerned with policy and practice in physical activity and health (see Case Study 2). Harris consults with the pharmaceutical company Biomarin in the treatment of lung disease and vascular dysfunction using the drug Kuvan and also consults with a number of other research and clinical groups across the US on flow mediated dilation clinical methodologies. Wallace is a founding member of the European Platform for Sport and Innovation, a membership-based networking organisation within Europe that shapes the sports industry agenda on innovation and addresses the EU Strategic Research Agenda for public health. He also advises the R&A Rules Ltd on how biomechanics of golf impacts on performance. Hassan is the only non-industry member of a six-person Task Force established by the Federation Internationale de l'Automobile to determine the strategic direction of world motor sport (2014-2024) and he is also the co-director of the Special Olympics Regional Research Collaborating Centre for Europe Eurasia.

Collaborating in research with or sponsored by a sport governing body/commercial partners: Davison (2011-2013) has received partnership funding from the Automobile and Touring Club of the UAE to examine: (i) the health and safety aspects of dehydration among UAE motorsport

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event marshals in extreme conditions, and (ii) the effects of physical activity in an overweight Emirati school-based population. Davison (2008) also conducted a series of investigative studies for Coca-Cola Europe involving the international product Powerade. Bleakley and colleagues (2013) are undertaking research funded by an HSC R&D Public Health Agency in the development of a computer application for physiotherapy practitioners and patient user groups. Glasgow's research (2012) on low-back pain management has informed the service delivery of professional bodies, including the Association of Chartered Physiotherapists in Sports and Exercise Medicine in the development and delivery of sports rehabilitation, and has been implemented by the UK high performance Sport Mentorship programme. Hassan and colleagues (2010-2011) led research funded by Special Olympics International which evaluated the influence of coaching, training, and competing on a world stage for young people with intellectual disabilities as part of an international study featuring collaborators from four countries. Wallace (1998-2013) has received funding via 3 PhD Cooperative Awards in Science and Technology sponsored jointly by the Department for Employment and Learning and the R&A Rules Ltd to support collaborative research examining equipment effects on the biomechanics of golf. The SESRI also provides specialist research support to a number of Northern Ireland sports SMEs, each of whom received partnership funding from Invest NI, the regional business development agency, by way of 'Innovation Vouchers' to expand, improve or create new products, services, and processes.

c. Strategy and plans

The SESRI strategy for maximising the impact from our current and future research is encapsulated in our strategic objective of 'facilitating the translation of sport and exercise knowledge into intellectual assets that impact positively on the economy, society, and culture.' To achieve this, we have set 4 operational objectives: (i) to develop the involvement of end users of our research at all stages of the research process – achieved by reviewing our relationships with existing and other potential end users by engaging purposefully with those who can contribute to this objective; (ii) to maximise impact opportunities by accessing Research Council funding, University Innovation Awards, and Invest NI awards – achieved by providing colleagues (via our Research/Consultancy Officer) with information on relevant opportunities, provision of financial support, and assistance by senior colleagues and visiting professors in the preparation of the applications; (iii) to regularly evaluate the impact of our research – achieved by the establishment and maintenance of a system for impact data management; and (iv) to incentivise colleagues to pursue impact – achieved by granting workload credit, presentation of awards for impact accomplishments, and publicity via our media relations department.

d. Relationship to case studies

The two submitted case studies exemplify ways in which our approach to impact has been implemented. For example, strategies employed to engage with professional bodies including the British Orthopaedic Foot and Ankle Society, the American College of Sports Medicine, and Physios in Sport UK, directly input into the case study on '**Acute management of Soft Tissue Injury**'. Participation in an expert scientific advisory group for the Department of Health, a BASES expert panel on the benefits of physical activity, and WHO European work groups on the development of a tool for determining the economic impact of walking and the promotion of physical activity among socially disadvantaged groups contribute to the case study on '**The development of physical activity guidelines for public health**'. Furthermore, an evaluation of experiences gained from the case studies has been instrumental in informing our strategy as outlined in section c. above.