

Impact case study (REF3b)

Institution: Bangor University and Cardiff Metropolitan University
Unit of Assessment: 26 – Sport and Exercise Sciences, Leisure and Tourism
Title of case study: Developing best practice: Bangor and Cardiff research underpins the professional training, development and support provided by sport coaches and sport science practitioners
1. Summary of the impact (indicative maximum 100 words)

Since 1993, research in service delivery and performance psychology from the constituent groups of the Institute for Research Excellence in Sport and Exercise (IRESE) at Bangor University and Cardiff Metropolitan University has underpinned the content and provision of professional training and development programmes in the UK and more globally. Specifically, since 2008 the research has informed the development and delivery of **existing governing body coach education programmes** and **coach education programmes that are among the first of their kind anywhere in the world**. In addition, it has influenced the **training of all UK Sport Science Practitioners pursuing accreditation to work professionally in the UK sport industry**.

2. Underpinning research (indicative maximum 500 words)
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For the last 20 years researchers at Bangor University and Cardiff Met have worked closely with Government Agencies, National Organisations and key stakeholders (e.g., British Olympic Association, UK Sport, Sports Coach UK, Home Nations Sports Councils, and National Governing Bodies of sport) as part of their commitment to research that informs best practice in the development and performance of athletes and coaches (e.g., GB gymnastics funded PhD studentships in this area to Hardy L and Woodman totalling £180,000 across this period).

The research evidences a long history of close collaboration between the institutions upon which the IRESE was built and reflects foci that span service delivery and performance psychology including: coach education and professional practice (Callow, Cropley, Hanton, Hardy L, Jones R, Roberts); stress and anxiety (Beattie, Hanton, Hardy L, Woodman); mental toughness (Beattie, Hanton, Hardy L, Woodman); self-efficacy and confidence (Beattie, Thomas); motivation (Kingston, Markland); psychological skills (e.g., imagery, self-talk and goal setting; Callow, Hardy J, Kingston, Roberts); special populations (e.g., injured athletes; Callow Evans, Hardy L, Mitchell); and personality (e.g., narcissism, perfectionism; Roberts, Thomas, Woodman). This body of work has been disseminated via high quality peer-reviewed publications, evidences methodological rigour, and has been the focus of empirical scrutiny and debate.

Amongst the early research, the work by Hardy L [1] propagating models of consultancy and performance profiling was instrumental in **promoting a model of equal expertise between clients and practitioners** as an approach to best practice for service delivery. Subsequent research into the relative efficacy of various psychological skills proposed to aid performance (e.g., goal setting, imagery) has helped shape the effective use of these strategies across various performance contexts. For example, Kingston and Hardy L **provided the first evidence for the beneficial effects of setting process goals on psychological constructs such as anxiety and confidence, as well as on performance** [2]. Meanwhile, research conducted by Callow and Hardy L has advanced knowledge and understanding of effective imagery use and demonstrated the benefits of **novel approaches to using mental imagery** [3].

More recently, research by Cropley and Hanton has been a catalyst for the use of reflective practice by professional practitioners. Although reflective practice has long been advocated, a lack of knowledge and understanding had hindered its use. Cropley's research [4] has helped to redress this situation by demonstrating that reflective practice facilitates the development of a range of characteristics associated with effective sport psychology support. Also in relation to service delivery, work by Jones R [5] has **redefined the nature of coaching** and the subsequent **role of coaches** within it by depicting coaching as a flexible process, dependent on the complexities of inter- and intra-personal interactions and the social contexts within which they

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occur. This view of coaching **offers coaches a better understanding of the reality and practice of coaching** and contrasts with a traditional rationalistic one where coaching is seen as a more ordered and linear process, and wherein the role of coaches is largely to transfer information [5].

The strands of service delivery and performance psychology have since been drawn together by Callow and Roberts to underpin the development of intervention programmes aimed at increasing coaches' use of psychological skills with their athletes [6]. Funded by Sport Wales, this research demonstrated that the commonly used workshop-based approaches to coach education are ineffective and that an individualised needs-based approach incorporating performance profiling and reflective practice **increases both understanding of psychological skills and coach confidence to teach them**. As a result of this work they received further funding from Sport Wales for a five-year research programme (2009-2014) to: (i) further **develop their unique intervention with a view to informing future coach education programmes**, (ii) reach a greater number of elite sport coaches in the UK, and (iii) evaluate the processes underlying intervention effects. This evaluation research is an original contribution to both sport psychology and coaching.

The underpinning research reflects an even contribution from Bangor University and Cardiff Met. The key researchers from Bangor are **Beattie** (appointed in 2005 as a Lecturer), **Callow** (appointed in 1999 as a Lecturer – now a Reader), **Hardy J** (appointed in 2004 as a Lecturer – now a Senior Lecturer), **Hardy L** (appointed in 1978 now a Professor), **Jones G** (appointed in 2000 as a Professor and left in 2003), **Markland** (appointed in 1993 as a Lecturer – now a Senior Lecturer), **Roberts** (appointed in 2008 as a Lecturer), **Woodman** (appointed in 2001 as a Lecturer – now a Professor). From Cardiff Met, they are **Cropley** (appointed in 2010 as a Lecturer – now a Senior Lecturer), **Evans** (appointed in 1992 as a Senior Lecturer – now a Reader), **Hanton** (appointed in 1996 as a Lecturer – now a Professor), **Jones R** (appointed in 2005 as a Reader – now a Professor), **Kingston** (appointed in 2000 as a Senior Lecturer), **Mitchell** (appointed in 1997 as a Senior Lecturer), **Thomas** (appointed in 2005 as a Senior Lecturer – now Reader).

3. References to the research (indicative maximum of six references)

Four of the references are from international peer-reviewed journals. Three are in *The Sport Psychologist* [2, 4 & 6], widely considered the leading journal for the application and practice of sport psychology. Another [3] is in the *Journal of Sport and Exercise Psychology* which is widely considered to be the premier journal for the sub-discipline. The two other references are heavily cited research-informed textbooks [1 & 5]. Reference 6 was a product of funding from Sport Wales (£9,000) and served as the pilot work for the larger project (2009-2014) that received £34,350, also from Sport Wales. For each reference a Scopus citation count is included.

1. Hardy, L., Jones, G., & Gould, D. (1996). *Understanding psychological preparation for sport: Theory and practice of elite performers*. Chichester: Wiley. [633 citations]
2. Kingston, K., & Hardy, L. (1997). Effects of different types of goals on processes that support performance. *The Sport Psychologist*, 1, 277-293. [89 citations]
3. Hardy, L., & Callow, N. (1999). Efficacy of external and internal visual imagery on the performance of tasks where form is important. *Journal of Sport and Exercise Psychology*, 21, 95-112. [144 citations]
4. Cropley, B., Miles, A., Hanton, S., & Anderson, A. (2007). Improving the delivery of applied sport psychology support through reflective practice. *The Sport Psychologist*, 21, 475-494. [24 citations]
5. Cassidy, T., Jones, R.L., & Potrac, P. (2009). *Understanding sports coaching: The social, cultural and pedagogical foundations of coaching practice*. London: Routledge. [212 citations]
6. Callow, N., Roberts, R., Bringer, J. D., & Langan, E. (2010). Coach education related to the delivery of imagery: Two interventions. *The Sport Psychologist*, 24, 277-299. [2 citations]

4. Details of the impact (indicative maximum 750 words)
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The impact of our research stems from its far reaching contribution to the professional development, training and support services provided by both sports coaches and sport science

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practitioners. In the sections that follow, numbers in superscript refer to particular sources to corroborate the impact (in section 5).

The influence of Hardy L on policy, service delivery, and the development and provision of sport psychology support services (through for example, his involvement with the British Olympic Association, UK Sport and the England and Wales Cricket Board) has extended well beyond the UK¹. Indeed, **his research has been and continues to be among the most influential in the provision of sport psychology support to athletes and coaches**¹. For instance, originally conceived when he worked with Richard Butler (co-author) during his tenure as Chair of the British Olympic Association's Psychology Steering Group and Head Psychologist (1989-2001), performance profiling is generally acknowledged to be a **model of best practice for the development of optimal performance** and widely employed by practitioners^{1, 2, 10}. The significance of Hardy L's impact on sport psychology provision is, however, best evidenced by the influence that Hardy L, Jones G and Gould (1996) has on the current thinking and professional practice of sport psychologists and coaches almost 20 years after its publication^{1, 6, 10}.

In relation to professional service delivery, research into coaching and reflective practice has also informed the development and training of sports coaches and sport science practitioners. To illustrate, at the request of the Welsh Football Trust, Cropley recently co-developed the Youth 'A' Coaching Licence, **the first qualification of its kind in the world**. The content of the licence is based on research into reflective practice, performance profiling and goal-setting from IRESE researchers. The first cohort of coaches began the course in June, 2013 and the programme will run annually with approximately 20 candidates per course². The importance of Cropley's research for coach development is such that he was invited by the Welsh Football Trust to give a keynote presentation at their national conference (2013), and in association with a Knowledge, Economy, Skills Scholarships Project, received funding for a PhD (£72,000) into the development of Level 1 and 2 coaching qualifications (2011)².

In terms of influencing policy at a UK level, Cropley was invited to provide a position statement for Sports Coach UK (SCUK) on the utility of reflective practice for sports coaches as the basis for integrating reflective practice into all UK sports coach education programmes (£5,000 enterprise grant awarded, 2011)⁷. Both he and Jones R were also invited members of a panel of experts consulted by SCUK about how 'coaching excellence' could be better developed in the UK (2012)⁸. Also at a UK level, Cropley (in conjunction with Knowles at Liverpool John Moores University) co-wrote a core supervised experience reflective practice workshop for the British Association of Sport and Exercise Sciences (BASES)³, which **is compulsory for all trainee sport and exercise scientists pursuing BASES accreditation to work professionally in the UK sport industry**. The workshop, delivered by Cropley has been running since 2010 and attended by some 120 candidates³. It has also been run as part of the BASES Continuing Professional Development programme for Accredited Practitioners (2010)³. Internationally, research by Jones R has underpinned **national initiatives such as that of Sport New Zealand to grow leadership potential in young people** by helping to better prepare them to coach⁹.

Further evidence of research impact can be found in **the development of new National Governing Body coach education programmes and in changes to existing ones**. For example, in relation to the former, Jones's research into re-conceptualising the nature of coaching has been **central to the development of a new coach education programme offered** by the Gaelic Athletic Association⁴, the largest sporting body in Ireland. In addition, based on their earlier coach education work, Callow and Roberts' current Sport Wales funded project has led to the **upskilling of more elite sport coaches in the UK**⁵. Although this work is yet to be completed, the nature of the intervention and evaluation has attracted considerable interest from other UK sporting agencies. For example, in 2012, Callow and Roberts were consulted by UK Sport in relation to best practice for the evaluation of their education programmes.

In relation to the **development of existing coach education programmes**, examples of the content of the programmes being underpinned by research conducted at Bangor and Cardiff Met include the Rugby Football Union (RFU) Level 4, British Gymnastics Level 3 and the UKCC Level 2

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Paddle-Sport courses¹⁰. The RFU and Paddle-Sport courses include aspects of performance profiling, goal setting and imagery, all of which are underpinned by research from Bangor and Cardiff (Callow, Hardy L, Kingston and Roberts) and the British Gymnastics course provides further evidence of the impact of Jones's research on coaching practice¹⁰. Since 2008 more than 1600 coaches have completed the Paddle-Sport course and 50 the RFU Level 4 coaching award.

5. Sources to corroborate the impact (indicative maximum of 10 references)

1. Letter from the Performance Director, UK Sport (formerly Director of Science and Medicine England and Wales Cricket Board) has provided lead professional body support for the influence of Hardy's research on models of equal expertise and psychological skills on sport psychology provision for practitioners, coaches and athletes.
2. Letter from the Technical Director of the Welsh Football Trust regarding impact on the development of coach education programmes; the 'A' Youth Licence relative to UEFA criteria; and candidate information regarding reflective practice and performance profiling.
3. Letter from the Education Officer, British Association of Sport & Exercise Sciences (BASES), regarding research impact of reflective practice on the development of the Supervised Experience training programme – which is also evidenced by documents on the BASES website as to the role of reflection in the training process. The letter from BASES provides evidence for the origins of this work coming from Cropley's research.
 - BASES Guidelines outlining the importance of reflection in the Supervised Experience process: <http://www.bases.org.uk/write/SE%20Guidelines.doc>
 - BASES information on the core reflective practice workshop run by Cropley <http://www.bases.org.uk/Events/Reflective-Practice-for-Sport-and-Exercise-Scientists-core-SE-workshop-Cardiff/9640>
 - BASES guidelines outlining the advanced workshop on Reflective Practice for Accredited Practitioners run by Cropley <http://www.bases.org.uk/events/Workshop/Reflective-Practice-a-practice-focused-symposium-for-sport-and-exercise-professionals/741>
4. Letter from the Education Officer, Gaelic Athletic Association, outlining impact of Robyn Jones's work on the development of new approaches to coach education.
5. Letter from the Senior Sport Psychologist at Sport Wales which provides written information as to the nature and extent of the relationship between Bangor and Sport Wales, and in particular how the Bangor research is being used to upskill coaches in Wales.
6. The BASES Expert Statement on the Use of Mental Imagery in Sport, Exercise and Rehabilitation Contexts. British Association of Sport and Exercise Sciences. In press – publication November, 2013.
7. Sports Coach UK (SCUK) published the following commissioned review by Cropley and colleagues on their website in 2012. The report details the findings of Cropley's 2011 SCUK funded study. <http://www.sportscoachuk.org/resource/reflective-practice-value-issues-and-developments-within-sports-coaching>
8. SCUK published the following article on their website in 2011 summarising the panel recommendations regarding UK Coaching Excellence: http://www.sportscoachuk.org/sites/default/files/UK-Coaching-Excellence-Consultation-Feedback-for-website_0.pdf
9. Sport New Zealand published the following coaching resource evidencing the impact of research by Jones R. http://www.sportnz.org.nz/Documents/Young%20People/Growing%20Coaches/Programme_Guide_WEB.pdf
10. Example coach education materials:
 - UKCC Level 2 Paddle-Sport candidate information pack from 2008 contains relevant information about goal-setting and performance profiling.
 - RFU Level 4 course materials contain information on performance profiling, imagery, and goal-setting.
 - BG Level 3 course materials evidence impact of research by Jones R on coaching.