Abstracts

Wednesday 30th June, 12.30 -13.30

<https://stmarys.zoom.us/j/83441381986?pwd=cTgvYzk5T3V3SW16alZkLzA2aWxVUT09>

**Mini-Orals: (Session 1) (Session Chair Abbe Brady)**

**Talk 1: Andre Roca & Paul Ford:** Developmental activities that contribute to creative decision making in skilled soccer players

**Talk 2: Charlotte Foster-Brown, Anne Majumdar:** Integration challenges faced by SAHPS mature students and the barriers/determinants that led to enrolment

**Talk 3****: Elaine Mullally:** Situation and Mechanism of Non-contact Knee Injury in Adult Netball: A Systematic Review

**Talk 4:** **Jesse Gilham:** Rugby place kicking and physical maturation

Title: Developmental activities that contribute to creative decision making in skilled soccer players

Presenter: Andre Roca & Paul Ford

The ability to produce creative decisions during match-play is a key attribute of team sports players (Memmert & Roca, 2019). Yet, very few researchers have studied how this type of creative behavior is acquired and developed in the sporting domain. The aim of this study was to assess the link between sport-specific creative decision making and prior engagement in developmental activities in skilled adult soccer players. Players were classified as either high- or low-creative decision makers based on their performance on an established soccer-specific video-based creativity test. Their decisions on the test were measured using the three observation criteria for creativity of originality, flexibility, and fluency. We used retrospective recall questionnaires to collect participation history data on their engagement in soccer and other sport development activities. Results showed that the high-creative decision-making group accumulated significantly more hours per year (*M* = 345 h · year – 1) in free, unstructured soccer-specific play activity during childhood and early adolescence (6-15 years of age) when compared to those classified as low-creative (*M* = 192 h · year – 1). No differences were reported for hours per year in soccer-specific formal practice or competition between the two groups throughout their development. Moreover, hours accumulated in other sports and milestones achieved did not differentiate groups. Our findings suggest that informal unorganized, free play in the primary sport is positively associated with and necessary for the development of superior levels of creative decision making in this sport.

Title: Integration challenges faced by SAHPS mature students and the barriers/determinants that led to enrolment

Presenter: Charlotte Foster-Brown, Anne Majumdar

**Introduction**: Many mature students contemplate entering higher education (HE) for several years, however, going to university is often accompanied with extra expense from childcare costs, reduced working capacity, and student fees. There are many challenges and barriers for mature students entering HE at personal and institutional levels. The aim of this study was to gain an understanding of the determinants/facilitators that led to mature students enrolling at St Marys’ and the integration challenges/barriers faced.

**Methodology**: This was a mixed methods, qualitative study. Individual participant interviews were conducted following a semi-structured format which explored subject areas including facilitating factors to enrolment, student integration, and experiences of studying at St Marys. Interviews were recorded and transcribed verbatim. Thematic analysis was conducted.

**Results**: Six female participants were recruited. Participants mean age was 45±10 years. Data analysis established barriers to enrolment including academic deficiency, financial/time concerns, and fear of underachieving/integration. Facilitators to enrolment included family/friends support, achieving financial security, the desire for a challenge, instigating career changes, and children becoming independent. Several commonalities were established between participants at university; participants initially found integration with peers problematic, and pre-existing life/care/work commitments were difficult to balance with university demands. Fifty percent of the participants felt that St Marys’ could have provided more help with integration. Eighty percent of the participants found that balancing life commitments and university workload was the biggest challenge.

: HE WP programmes could increase the uptake of mature students by introducing flexibility to enrolment requirements by considering the value of life experiences, and by improving outreaching programmes. Furthermore, HE institutions could provide age-specific aspects to Freshers week, enabling platforms for mature student networking to aid integration, and study skills seminars to bring mature students in line with younger counterparts before the term begins. WP programmes need to consider implementing such innovative programmes and mature student focused learning to optimise learning capabilities, attainment, and performance of the often dedicated and committed ‘mature student’.

Title: Situation and Mechanism of Non-contact Knee Injury in Adult Netball: A Systematic Review The association between genetics, diet and Type 2 Diabetes risk in healthy adults

Presenter: Elaine Mullally

**Objectives**

Noncontact knee injuries in netball are a concern due to a range of negative consequences. To reduce the number of injuries, identifying the situation and mechanism of injury is important. This systematic review examined the literature reporting the situation and mechanism of noncontact knee injury in netball.

Design

Systematic Review.

**Methods**

PRISMA guidelines were followed and specific key-term combinations used to search databases. Descriptive and analytic-observational studies reporting the situation or mechanism of noncontact knee injury in females playing netball were included (evaluated using frequency counts).

**Results**

Six articles were included (combined sample 11401). Players self-reported the situation of injury in five studies, only one study reported both the situation and mechanism of injury. Landing was the most reported situation of knee injury, representing 46.6% of all knee injuries whilst knee abduction (valgus) collapse was the most observed mechanism. Situation and mechanism of noncontact knee injury in netball were not adequately reported.

**Conclusions**

Despite the variations in reporting methods, landing is the most common situation of injury. As only one study reported mechanism of injury, it is difficult to draw conclusions but the mechanism of noncontact knee injury in netball appears similar to those identified in other female athletes.

Title: Rugby place kicking and physical maturation

Presenter: Jesse Gilham

Rugby place kicking a key determinant of team success, contributing around 45% of total points scored during match play. Despite this, the development of the skill is less understood, with a significant lack of research investigating performance outcomes, kinematics and physical characteristics of place kickers at junior and academy level. Thus, the aim of this thesis is threefold. Firstly, we aim to describe place kicking performance in youth match play, including the influence of kick distance, angle and match conditions. Secondly, we look to develop a novel approach to measure 3d kinematics during place kicking allowing analysis to be performed beyond the laboratory environment. Inertial measurement units (IMUs) have received growing attention within biomechanics, however not yet commonplace in sport research. This project will aim to optimise sensor fusion algorithms, develop chain models and inverse kinematic approaches to allow reliable and valid 3D kinematic data to be collected outside of the laboratory environment. Utilising this novel approach, we look to measure 3d kinematics to determine the effects of physical maturation, growth and training history on place kicking performance. Outcomes of this research programme is anticipated to provide developments in rugby place kicking research, physical maturation of rugby kickers as well as the use of IMU to analyse kicking biomechanics; a novel approach to quantifying place-kicking biomechanics in a representative environment. Findings may also provide implications for kinematic analysis of sport performance, including but not limited to soccer, tennis and other closed skills. Practitioners working in sport coaching, scouting, strength and conditioning and performance analysis should be able to utilise the principles that emerge from the research programme to inform and enhance their professional practice.