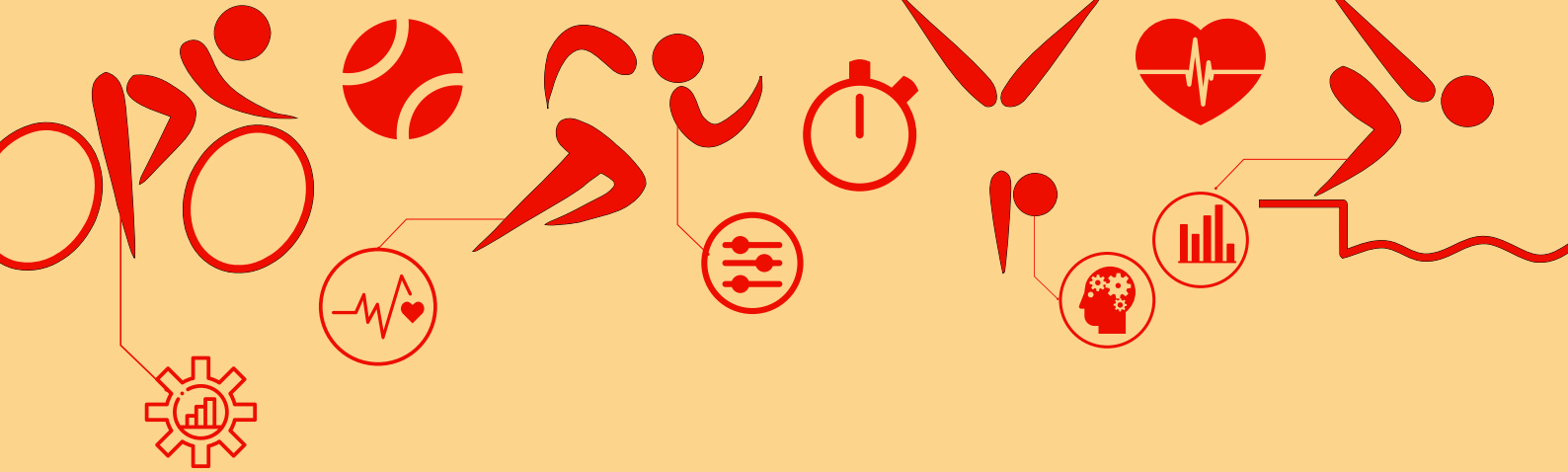

INTERNATIONAL RESEARCH CONFERENCE IN SPORT SCIENCES

Promoting international and transdisciplinary cooperations beyond the borders of Sport Sciences

A French-Swedish initiative

BOOK OF ABSTRACTS

ÖREBRO UNIVERSITY, SWEDEN
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AMBASSADE DE FRANCE EN SUÈDE
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O1. *Don't buy a pig in a poke: Considering challenges of and problems with performance analysis technologies in Swedish men's elite football

*Natalie Barker-Ruchti[1], **Robert S Primus[1]***, Daniel Svensson[2], and Dan Fransson[3]*

[1]Division of Sport Science, School of Health Sciences, Örebro University (Sweden); [2]Malmö University (Sweden); [3]University of Gothenburg (Sweden)

O2. *Collective behavior in team sports: an analysis from positional data

Pierre Vauclin[1] *and Ludovic Seifert[1]*

[1]CETAPS UR 3832, University of Rouen (France)

Sport and Health

O3. *The active transport opportunity: the best way to promote resilient behaviour

Thibaut Derigny[1]*

[1]Sport Sciences, Anglet - Lab. MEPS, University of Pau and Pays de l'Adour (France)

O4. *Are hospital and community based physical activity program really effective in changing physical activity behaviour: a mixed method study

Olivier Riquier[1]*, *Anne Vuillemin[1], A. Omorou[2], Aurélie Van Hoye[2,3]*

[1]LAMHESS, University of Cote d'Azur (France); [2]UMR1319 INSPIRE, Université de Lorraine, Nancy (France); [3]Marie Curie Research Fellow, University of Limerick (Ireland)

O5. *The effect of pre-training caffeine intake on session-related demands and post-exercise recovery in basketball: A pilot Study

Marco Pernigoni[1]*, *Leonardo Cesanelli[1], Lukas Šimkus[2], Harshvardhan Shah[1], Julija Gorbas[1], Francesco Coletta[1], Cem Rifat Toper[3], Daniele Conte[4]*

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Posters

P1. *Take a ride on a lifelong journey! A physical literacy school-based intervention to safely engage adolescents in active transport*

Thibaut Derigny[1]

[1]Sport Sciences, Anglet - Lab. MEPS, University of Pau and Pays de l'Adour (France)

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Adrien Mangini[1,2]*, *Robin Macchi[3], Dorian Giraud[1,4], Laura Pomportes[2], Paul Galantine[5], Denis Bertin[1,2], Caroline Nicol[2], and Arnaud Hays[1]*

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P3. *Physical Training for Patients with Depression and Anxiety - A Randomized Controlled Study*

Zhai Qiwei[1,2], *Mattias Folkesson[4], Jonas Persson[3], Scott Montgomery[6,7,8], Sophie Erhardt[5], Yvonne Freund[1,2,9,10]*

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Fanny Kuhlin[1]*

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Karin Sjödin[1], *Mikael Quennerstedt[2,3], Johan Öhman[4]*
[1]Division of Sport Science, School of Health Sciences, Örebro University (Sweden); [2]The School of Sport and Health Sciences, GIH Stockholm (Sweden); [3]Inland Norway University of Applied Sciences, Elverum (Norway); [4]School of Humanities, Education and Social Sciences, Örebro University (Sweden)

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Mattias Folkesson[1], *Anna Philipsson[2], Anna Duberg[2]*
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[1]Pink Dragon Ladies Sweden, Malmö and IBCPC Sweden (Sweden); [2]Pink Dragon Ladies Sweden, Malmö and and Moälvens Drakar, Örnsköldsvik (Sweden); [3]Elles du Bassin, Andernos les bains, Nouvelle-Aquitaine (France); [4]Elles de Bordeaux, Bordeaux, Nouvelle-Aquitaine and University of Bordeaux (France)

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[1]Division of Sport Science, School of Health Sciences, Örebro University (Sweden)

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Petter Wiklander[1]*
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Early career researchers - Oral presentations (*YIA)

Technologies in Sport

*O1. *Don't buy a pig in a poke: Considering challenges of and problems with performance analysis technologies in Swedish men's elite football*

Natalie Barker-Ruchti[1], ***Robert S Primus***[1]*, *Daniel Svensson*[2], *and Dan Fransson*[3]
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During the last decades, technologies to monitor, test and analyze athletes' performance and health have rapidly developed (Nicholls et al., 2018; Svensson & Svensson, 2021). At present, global positioning systems (GPS), stadium camcorders, heart rate monitors and mobile applications are prominent performance analysis technologies (PATs) used in most elite sport environments. While PATs is understood as an aid (Jones & Hemmestad, 2019; Wright et al., 2014) there is a growing body of literature that points to negative consequences (Baerg, 2017; Kohe & Purdy, 2019) These negative consequences are concerning and call for research and measures to develop strategies for effective and productive implementation. To achieve this, this article first outlines key challenges and problems of PATs, using sport sociological research on coaching and athletes, historical knowledge of the scientization of training and the changing role of the coach, as well as scientific and experiential knowledge of performance analysis. Our findings show that key challenges and problems occur in a chain of six steps that concern the implementing of PATs: 1. Investment in PATs; 2. Production of performance data; 3. Interpretation of performance data; 4. Communication of performance data; 5. Decision-making based on performance data; and 6. Influence of PATs on coaches and athletes. The article then answers these challenges and problems by outlining recommendations for how sport managers and administrators can prevent buying "a pig in a poke" by acquiring competence about performance analysis and PATs, investing time, and developing effective communication between those working with PATs.

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*O2. *Collective behavior in team sports: an analysis from positional data*

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From an ecological dynamics perspective, sport teams can be conceptualized as a complex adaptive system (Araujo et al., 2022). Indeed, the collective performance of sports teams must be considered as more than the sum of individual aggregated performances. There is emerging evidence that the player's movement dynamics can functionally influence the spatio-temporal movement of teammates and opponents (Low et al., 2020; Colomer et al., 2020). Therefore, the coordination of the player's movement leads to the formation of interpersonal coordination (Riley et al., 2011), and the emergence of collective behavioral patterns. In this presentation, we aimed to explore different metrics of interpersonal coordination such as the relative distance between attackers and defenders, or the relative stretch index while linking them in relation to the events occurring. By considering the interplay of players with their environment, our primary goal is to identify potential performance indicators and develop training and practice guidelines in team sports.

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Early career researchers - Oral presentations (*YIA)

Sport and Health

*O3. *The active transport opportunity: the best way to promote resilient behaviour*

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Introduction: the transition from adolescence to adulthood is a major change in lifestyles, with an impact on physical activity (PA) and health (Corder et al., 2019). Based on the ecological theory (Bauman et al., 2012), the concept of resilience (ability to seize disruption as an opportunity for growth, Masten, 2014) encourages to investigate PA trajectories from the angle of environmental opportunities. The aim of this study is to identify PA opportunities that promote resilient behaviour.
Method: a mixed-method is carried out. First, a longitudinal follow-up is conducted among 75 adolescents (baseline: bac-1; follow-up: bac+1) by accelerometers (PA measure) and daily diaries (opportunities measure) during seven consecutive days. A model of clustering is used to distinguished participants with resilient and non-resilient behaviour according to their trajectories in each opportunity. Second, enactive interviews are led with 9 paragons to reconstruct the experience lived by participants from both groups (objectives, perceptions and knowledge) by a self-confrontation to their own PA trajectories in each opportunity.
Results: the group of non-resilient has a decrease of PA (-1.2%, $p < 0.05$), conversely to the group of resilient which has a stability of PA (+0.5%, $p = 0.12$). This difference could be explained by a behaviour oriented towards the opportunity of transport (+6.4% for the resilient group vs. -3% for the non-resilient group, $p < 0.05$). The enactive interviews highlighted that the non-resilient group are aware of the benefits of PA for their health, but had not identified new opportunities because they are focused on their academic success. Those in the resilient group explained that they have the same priority of success through their studies, but they see new opportunities (transport) to relax, have a good health and optimise their time between university and home.
Conclusion: this study highlights the importance of active transport to promote resilient PA behaviour. Perspectives are now opening up for the development of innovative educational strategies to ensure that cycling becomes a vector for healthy and sustainable active lifestyle, combined with an opportune and safe environment.

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*O4. *Are hospital and community based physical activity program really effective in changing physical activity behaviour: a mixed method study*

Olivier Riquier[1]*, *A. Vuillemin[1], A. Omorou[2], A. Van Hoye[2,3]*
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Purpose: Based on the demonstrated benefits of physical activity (PA) practice for chronic health disease, PA resumption programs have come alive in France. However, their effectiveness has not been scientifically tested. The PERSISTE project (Promotion and sustainability of health enhancing PA) compare the effectiveness on PA practice and its determinants of an hospital and a community led resumptions programs.
Methods: A mixed-methods QUAN(qual) study assessed PA practice and its determinants, both quantitatively through the IPAQ questionnaire and qualitatively (practice, barriers, facilitators, challenges) during semi-structured interviews. Data were collected among 69 patients at three time point: enrolment in the program, end of the program and 3-5 months post program. Data analysis included multivariate data analysis for quantitative data and thematic coding for qualitative data. Data integration considered quantitative data on PA levels as drivers for qualitative data analysis.
Results: Quantitative results have shown no difference of PA levels between the two programs at each measurement time point. Moreover, a significant difference was found on PA levels for both program between before and directly after the resumption program, but not between before and 3-5 months post program. Qualitative findings suggest key factors to consider to sustain PA practice, like the short duration not allowing behaviour change. Difference in challenges between programs have been found. A request for more supervised support in patient orientation after the hospital led program can be noticed. Organizational problems, such as unavailability of infrastructure or costs have been highlighted in the community program. Specific leverage arms were identified for each program, such as follow-up appointments after the hospital program or the practice offer in a very similar context for the community program.
Conclusions: This study compared two resumption programs in different context and showed no significant difference on PA levels, but difference in intervention mechanisms supporting PA sustainability. Practical implications on strengths and weakness of each type of program, as well as challenges for both can be derived from this study, to enhance program quality.

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Sport and Health

*O5. *The effect of pre-training caffeine intake on session-related demands and post-exercise recovery in basketball: A pilot study*

Marco Pernigoni[1]*, *Leonardo Cesanelli[1], Lukas Šimkus[2], Harshvardhan Shah[1], Julija Gorbas[1], Francesco Coletta[1], Cem Rifat Toper[3], Daniele Conte[4]*

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Introduction:The intense nature of basketball activity can generate substantial impairments in performance and overall well-being, highlighting the need for strategies aimed at mitigating fatigue throughout the competitive season (Davis et al., 2022). For this purpose, the use of nutritional approaches has been widely investigated in sports (O'Connor et al., 2022). Among many available supplements, caffeine is an ergogenic aid that may be helpful to improve the ability to train and compete following intense exercise (O'Connor et al., 2022). However, its impact on session-related demands and post-exercise recovery in basketball remains largely unexplored. Therefore, this investigation aimed to assess the effects of pre-exercise caffeine intake on session-related loads and post-exercise recovery following a basketball-specific training session.
Methods: Using a double-blind crossover design, 8 male players completed two standardized, 80-min basketball training sessions, separated by 3 weeks. Before each session, participants ingested capsules containing ~3 mg/kg body weight of either caffeine (CAF) or placebo (i.e., dextrose, CON). External (PlayerLoad, PL; PlayerLoad per minute, PL/min) and internal loads (Summated-Heart-Rate-Zones, SHRZ; session-Rating of Perceived Exertion, s-RPE) were assessed during each session to investigate the impact of caffeine on session-related demands. Additionally, countermovement jump height (CMJ), 10 and 20-m sprint times, heart rate variability (HRV), muscle soreness and perceived fatigue were recorded at pre-training, post-training and 24 hours post-training, to assess post-exercise recovery.
Results: Comparative analysis of session-related demands between CAF and CON revealed no significant differences in terms of PL, PL/min, SHRZ and s-RPE between interventions ($p > 0.05$). Similarly – although CMJ, 10 and 20-m sprint times and HRV deteriorated from pre-to-post-training in both interventions (i.e., significant effect of time, $p \leq 0.046$) – no significant differences were observed between CAF and CON at corresponding time points for any of the recovery markers ($p > 0.05$).
Conclusion: The present findings indicate that pre-exercise caffeine ingestion did not significantly impact session-related demands measured via external and internal load metrics, nor did it affect the time course of recovery in the investigated male basketball players.

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Early career researchers - Poster Session (*YIA)

P1. *Take a ride on a lifelong journey! A physical literacy school-based intervention to safely engage adolescents in active transport*

***Thibaut Derigny*[1]**

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Introduction: Active Transport to and from School (ATS) are positively associated to a better health (Borrestad et al., 2012). The concept of Physical Literacy (PL) has recently become the cornerstone of strategies to promote sustainable physical activity but has yet to influence practices in the field. However, a focus on the safety aspects of ATS is necessary as death rates and serious injuries for cyclists has risen to 8% and 20% (ONISR, 2022). The aim of this study was to investigate the effect of a PL school-based intervention for children's perceptions of being able to engage safely and sustainably in ATS.
Methods: 185 pupils (agemean=11.76±0.52; 46% girls) were included in the study (experimental: n=110; control: n=75). Pupils from the experimental group have benefitted to PL intervention, while those in the control group have benefitted to traditional PE intervention. At the end of the intervention, pupils from the both groups have completed a survey to measure the perceptions of development on the four PL dimensions (physical, cognitive, psychological and social).
Results: Firstly, the internal validity of the questionnaire was checked. The factorial analysis reduced the number of items from 19 to 13 with an exclusion of the social dimension. Secondly, participants from experimental group and boys have respectively significantly higher overall score than participants from control group and girls after the intervention (test vs. control: 14.9 vs. 13.4; boys vs. girls: 16.7 vs. 14.5). Group effects are show in the three dimensions: physical (16.4 vs. 15.3), cognitive (16.0 vs. 12.8) and psychological (15.3 vs. 13.8) with significantly higher score for participants from test group than them from control group. Gender effects are also show in the three dimensions with a significantly higher score for boys compare to girls in physical (18.4 vs. 17.1), cognitive (15.9 vs. 13.3) and psychological (15.9 vs. 13.3) dimensions. The validation process of the survey and post-hoc tests would be described during the conference.
Conclusion: PL is a dynamic process to enhance educational interventions on active transport to school, reinforcing the importance to incorporate it into physical education lesson planning while focusing on gender differences.

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*P2. *Towards a more individualised assessment of post-training fatigue in young footballers*

***Adrien Mangini*[1,2]*, *Robin Macchi* [3], *Dorian Giraud*[1,4], *Laura Pomportes*[2], *Paul Galantine*[5], *Denis Bertin*[1,2], *Caroline Nicol*[2], *and Arnaud Hays*[1]**

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Despite recent improvements in training load and fatigue monitoring, fatigue status may adversely affect intrinsic risk factors, particularly in young footballers. This study aimed to better individualise the fatigue effects of a 75-minute football training session in young elite male players.
Eighteen players (15.6±1.7 years) completed a test battery before and after a standard football training session. Assessments included capillary blood samples (HCO3-, lactate, pH) and subjective ratings of muscle soreness and fatigue. Functional tests included a sprint, a drop jump (DJ) and a horizontal force-velocity (H-FV) test. The k-means method was applied to the first two dimensions of the principal component analysis of the changes in the H-FV and DJ tests.
The football training session resulted in significant physiological changes and functional impairments, particularly an increase interlimb asymmetry in the DJ test. No significant fatigue effect was found in the H-FV test. However, confirming the interest of combining both tests, the cluster analysis revealed two subgroups: In the H-FV test, cluster 1 decreased in $\overline{V}0$ ($p<0.001$) and $\overline{P}max$ ($p < 0.01$), while cluster 2 decreased in $\overline{F}0$ ($p < 0.001$). In the DJ test, Cluster 1 decreased in mean velocity ($p < 0.01$), relative mean and maximum power ($p < 0.001$) during push-off, whereas Cluster 2 decreased in relative maximum braking force and mean push-off force ($p < 0.01$ for both) and increased in interlimb asymmetry during braking ($p < 0.001$).
This study highlights the contribution and complementarity of the H-FV and DJ tests to improve individual screening for fatigue-related functional changes in footballers. Extrapolated values from the H-FV test led to the identification of two subgroups with opposite fatigue profiles. A subgroup showed increased interlimb asymmetry in DJ, indicating an increased risk of injury with fatigue. These findings highlight the importance of individualised fatigue monitoring in young footballers.

Early career researchers - Poster Session (*YIA)

P3. *Physical Training for Patients with Depression and Anxiety - A Randomized Controlled Study*

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Introduction: Although moderate to high intensity physical training (MHIT) is shown to have positive effects in treatment of mild to moderate depression and anxiety, its biological mechanisms and effects cognitive functions and level of everyday functioning are yet unclear.
Methods: Participants are recruited from psychiatric and primary care clinics in Örebro.
In addition to standard outpatient psychiatric treatment, patients were randomized to perform 36 sessions of Moderate to High Intensity Training (MHIT) or 12 sessions of Relaxation, during 12 weeks. Accelerometers were used for objective assessment of physical activity (PA).
Results: The study was closed and demographic data at baseline are presented for 27 participants in the relaxation group (RG) and 33 in the training group(TG). The average age is 36.0 years for RG and 40.7 years for the TG.
RG has 18 females, while TG has 24 females. The average Body Mass Index (BMI) is similar for both groups, with 27.3 kg/m² for RG and 27.2 kg/m² for TG. The Montgomery-Asberg Depression Rating Scale (MADRS) score is slightly higher in RG (25.9) compared to the TG (23.2). The self-rated MADRS score (MADRS-S) is also slightly higher in RG (28.6) compared to TG (25.6). The Beck Anxiety Inventory (BAI) score is almost the same in both groups, with 26.0 for RG and 25.2 for TG.
The percentage of time spent in sedentary behavior, light physical activity, and moderate to vigorous physical activity (MVPA) is similar in both groups. RG spends 65.0%, 30.9%, and 4.2% of their time respectively and TG spends 66.8%, 29.1%, and 4.1% respectively.
The average minutes per day spent in MVPA is also similar, with 33.4 minutes for the RG and 34.0 minutes for the TG.
Conclusion: Data analysis is ongoing.

*P4. *The abuse narrative in sport: The findings of a framework synthesis literature review*

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Abuse of elite athletes is a global phenomenon that occurs in all sports. In the last few years, hundreds of active and former athletes have disclosed their abuse experiences, providing narrative storylines of how athletes enter the sport, being and living in its (abusive/neglectful) culture and conclude with the realisation of the abusive treatment.
Research on abuse and neglect in sports has grown substantially; defining and categorising abuse and neglect in sports (e.g., Mountjoy et al. 2016), indicates prevalence (e.g., Stafford, Alexander, and Fry, 2015) showing short- and long-term negative consequences, and displaying risk factors and mechanisms (e.g., Roberts, Sojo, and Grant, 2020).
Despite the wealth of available knowledge, there is a disconnect between the stories that current and former athletes disclose and the research presented. The athletes' disclosures contain a narrative storyline leading up to and beyond abuse, and their accounts constitute meaning-making. While some research has begun to explore abuse as a meaningful (life) narrative (Barker-Ruchti & Varea, 2023; Gillard et al., 2022), most scholars adopt a thematic approach, often focused on one or some aspects of abuse.
To address this gap, we draw on Arthur Frank's (2010) narrative-sociological concepts to theorise the instances through which individuals begin to search for alternative narratives to live by and to conceptualise abuse as an individual process that shapes lives. By conducting a framework synthesis, we can gather and analyse 32 articles, and synthesise them in a structured manner using a priory framework (Ritchie and Spencer, 2002). To structure the collected data, we used Clark and Rossiter's (2008) framework, "learning through stories", and adopted their three learning phases (hearing, telling and recognizing) to capture the abuse/neglectful performance narrative in sports over time.
In this study, we found that the current literature primarily covers athletes' experiences within a limited timeframe of their lives, which restricts the temporal contextualisation of abuse in sports. Furthermore, we found that 1) athletes entering sports hear the collective abusive/neglectful storyline and how to participate in this context by observing, experiencing and interpreting social interactions; 2) athletes tell the story of elite sport when they have embodied the abusive/neglectful performance narrative, reproducing and echoing its norms and values; and 3) athlete recognizes the abusive and neglectful narrative that has impacted and continues to shape their lives, when the narrative is interrupted and an alternative storyline is presented. Considering abuse from a narrative perspective puts into focus what happens to an athlete before and after the abusive and neglectful experiences and how the athlete makes meaning of abuse and neglect over time.

Early career researchers - Poster Session (*YIA)

P5. ***Friluftsliv in Physical Education Teacher education practice – its challenges, conflicting meanings and negotiations***

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In this study we explore the content of friluftsliv in physical education teacher education (PETE). Friluftsliv is a quite unique cultural tradition with a long and deeply rooted history in the Scandinavian countries, characterised by informal living outdoors with 'nature as home'. At the same time, a more institutionalised form of friluftsliv occurs as a subject content in schools and an explicit key learning area in physical education (PE) as in for example Norway or Sweden much in the same way that outdoor education is in several other countries.
In sum, the unique characteristics of friluftsliv as a cultural tradition entails specific educational challenges when incorporated into school PE. Here, PETE plays an important part in preparing future teachers to educate in matters pertaining to friluftsliv. Hence, the purpose of the study is to contribute with knowledge on educational challenges with the use of friluftsliv in PETE practice. In the study, we focus on events where meanings of friluftsliv in PETE are in conflict.
The empirical material consists of diverse materials from activities in friluftsliv in PETE programmes: study guides, field trip plans, students' vlogs from overnight stays outdoors, video recordings from two longer field trips, audio recordings from evening seminars during one field trip, and students' written reflections afterwards. First, we identified situations where meanings of friluftsliv are at stake. In the analyses we identified and described educational challenges using a transactional approach.
In the results we have provided additional evidence that friluftsliv in PETE is a practice where different meanings are put into play. These meanings are often conflicting. These conflicts, in turn, creates significant educational challenges for teacher educators, but also for the students in. Illustrative examples from two general challenges will be presented, where meanings of friluftsliv are put into play; (i) Participant in friluftsliv or future teacher, and (ii) What is 'real' friluftsliv in PETE. The examples illustrate the diversity of situations in PETE practice in which meanings are in conflict and provide knowledge about the educational processes related to the content of friluftsliv. In the second part using a zoomed-in perspective, we present an in-depth example to illustrate how conflicting meanings regarding friluftsliv are negotiated by students in the practice of PETE. Further the potential of these negotiations will be discussed and how transforming experiences of friluftsliv in PETE to teaching friluftsliv in PE can be further developed.

P6. ***Sexual Revictimization by Peers in School and Organized Activity Contexts among Adolescents: A three-year Longitudinal Study***

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Based on sexual revictimization theory, this study investigates the role of individual characteristics (e.g., depression and subjective well-being) and contextual factors (school and organized activities) in the development of sexual harassment revictimization among Swedish grade 7 (46% girls, Mage = 14.09) adolescents who were followed over three consecutive years. The analytic sample comprised adolescents in the school context (T1 N = 678, T2 N = 563, T3 N = 471) and in organized free-time activity contexts (T1 n = 443, T2 n = 400, T3 n = 356). Our findings suggest that adolescents with experiences of sexual harassment victimization in grade 7 were at an increased risk of being sexually revictimized the following two years across the two distinct developmental contexts. Further, our results reveal that adolescents are more sexually harassed by their peers in organized activity contexts both concurrently and over time if they were victims of sexual harassment in the school context and the other way around. The findings underscore the need for sexual harassment prevention interventions to consider different developmental contexts simultaneously and to focus on the history of adolescents' experiences of victimization.

Early career researchers - Poster Session (*YIA)

P7. *Prioritization of the Sustainable Development Goals in the Sustainability Transition Process of Sport Organizations: National Strategies and Sport Managers' Perspectives*

***Anna-Maria Strittmatter*[1], *Chris Horbel*[2], *Josephine Traberg*[2], *Julius Strömberg*[2], *Annika Bodemar*[2], *Allan B. Grønkjær*[2], *and Dag Vidar Hanstad*[2]**

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Sport organizations have found value in the United Nations Agenda 2030 and the 17 Sustainable Development Goals (SDGs) as a starting point for more tangible prioritization in adoption of sustainability strategies and initiatives (Morgan et al., 2021). This study explores the relevance, and applicability, of the SDGs in relation to Norwegian sport organizations' sustainability transition. The following research questions guided the study: 1) How do National Sport Organizations strategically address and prioritize SDGs and why? 2) How does the strategic prioritization of SDGs align with sport managers' perspectives? 3) What does the prioritization of SDGs imply about the status of sustainability transitioning in the Norwegian sport sector?
The qualitative study is based on interviews with directors in National sport governing bodies (NGBs), document analysis of 11 strategy documents by five NGBs´ and essays produced by 82 sport managers representing the respective NGBs. Data analysis was informed by neo-institutional theory (DiMaggio & Powell, 1983) and the waves of sustainability transition framework (McCullough et al., 2016).
In our sample, spanning a diverse range of sports, we observed that 11 different SDGs are seen as relevant for NGBs from a strategy perspective, while sport managers prioritized eight. SDG3 'Health Good Health and Wellbeing' is the one that is prioritized across all sources and perspectives. There is a strong alignment between national strategies and sport managers' perspectives which is explainable through coercive, mimetic, and normative pressures within the organizational field of sports. This further demonstrates that SDG prioritization is linked to the sport political context. While the alignment of prioritization from different perspectives gives good foundation for advancing sustainability work, missing link between the SDGs and organizational goals with concrete suggestions for measures witnesses that Norwegian sports still is in its infancy of sustainable transition. The study shows that the SDGs, despite their critics, can create a common language in the sport movement to help prioritize certain sustainability goals in a specific context, and thus help thriving an engagement for change.

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P8. *Beginning teachers' descriptions of ball games as pedagogic practice in Swedish physical education*

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Introduction: Ball games have been a central component of school physical education (PE) since the mid 20th century. Technique-based approaches have been most common but also criticized for being exclusive and not providing learning opportunities for pupils. Game-based approaches (GBAs) have been presented as an alternative way to teach ball games. Employing these approaches is however, not without challenges and scholars point to teachers' limited content knowledge in games, their poor understanding of GBAs, and a range of cultural factors that constrain teachers' work with GBAs and ball games.
This study focuses on beginning teachers and how the work with ball games in Swedish PE against the backdrops of this critique. Beginning teachers have recently graduated and are expected to have acquired topical knowledge, skills and values in PETE, both in relation to ball games teaching and PE in general. Ball games are common in Swedish PE practice but not emphasized in official PE policy. The aim of the paper is to provide an understanding of how beginning teachers describe ball games as a pedagogic practice in Swedish PE.
Method: Semi-structured interviews were conducted with 12 beginning teachers. The participants had graduated from two PETE institutions and had between one and three years' experience as PE teachers. Bernstein's concepts of classification and framing were used to analyse the teachers' descriptions of pedagogic practice.
Results: The findings illustrate how the classification of ball games knowledge varies. Some of the beginning teachers aimed to develop pupils' understanding of games while others instead used ball games as means for developing general movement capability or cooperation. Ball games teaching was characterized by a combination of GBAs and technical approaches. The influence from competitive sport outside of school was seen as a challenge, and the beginning teachers used strong framing and assessment of valid realisation of ball games knowledge combined with different teaching strategies to manage this challenge.
Conclusion: The different use of ball games reflects differences in classification from strongly classified forms, with ball games in the centre, to weaker forms where ball games are means rather than a goal. The combination of different approaches combined with strong framing and assessment reflects teaching strategies to handle specific challenges with ball games as content in PE. These ways of working with ball games appear to be legitimate in a Swedish context although they may constrain pupils' opportunities for developing deeper competence and knowledge in the way suggested in the literature on ball games. The findings raise questions about ball games education in PETE in relation to specific national contexts.

P9. *Associations between abdominal pain and physical activity in young girls with functional abdominal pain disorders*

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Introduction: Functional abdominal pain disorders (FAPDs) are common among children, with a higher prevalence among girls (Korterink et al. 2015; Chitkara et al. 2005). Previous research is scarce but suggest that higher levels of physical activity (PA) and lower levels of time spent as sedentary (SED) is associated with lower levels of abdominal pain in children (Kichline & Cushing 2018; Vierola et al. 2016). However, previous research in part relies on subjective assessments of PA and SED. Hence, the aim of the present study was to further evaluate associations between abdominal pain, PA and SED in young girls with FAPDs, using objective methods for assessment of PA and SED.
Methods: In 112 girls aged 9-13 years, accelerometers were used for determination of PA and SED. In addition, leisure time activities were registered from a questionnaire. Abdominal pain was recorded using a pain diary and maximal abdominal pain (MAP) was calculated as the average of the highest values from reported days (four to seven days).
Results: Girls spent 48±16 min/day in moderate to vigorous PA (MVPA) and 21% of the girls reached the recommendation of 60 min/day. Further, girls spent 534±73 min/day in SED, representing 65±7% of awake time. Categorizing girls into quartiles based on MAP revealed significant differences between girls in different quartiles for SED time and for total amount of PA, assessed by accelerometer counts per min (CPM), but not for time in MVPA. Lower levels of pain were associated with low levels of SED and high total amount of PA. Categorizing girls from reported leisure time activities including PA or not (PA+, n=79 and PA-, n=33), revealed that girls in PA+ experienced significantly lower MAP than girls in PA- (3.5±1.9 vs 4.6±1.9, p=0.007), whereas no significant differences were found between PA+ and PA- for SED, MVPA or CPM.
Conclusion: In young girls suffering from functional abdominal pain disorders, significant associations were found between low levels of abdominal pain and 1) low sedentary time, 2) high total level of physical activity and 3) engagement in leisure time activities involving physical activity, but not for time spent in moderate to vigorous physical activity. It should be noted, that due to the cross-sectional study design, causality between variables cannot be established.

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P10. *Sport for Breast Cancer Survivors. Focus on Dragon Boat paddling: the examples of Sweden and France*

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Introduction: Dragon boat (DB) paddling has been introduced for Breast Cancer Survivors by Dr McKenzie in 1996. Cancer survivors who practice a sport on a regular basis are reported to experience improved health-related quality of life. Where are we standing in terms of evidence based medicine nearly 30 years after?
Methods: A review of the literature is conducted using different databases including Pubmed and Cochrane to assess:
-the benefits of DB paddling in term of psychological health (mental, emotional, social), physical conditions (weight, cardiovascular, sarcopenia, joint problems, osteoporosis) lymphedema and cancer recurrence.
-the contraindications of DB paddling
Conclusion: Even though a growing body of evidence based proves in favor of DB paddling has been accumulated, further research need to be conducted. But above all, the importance of sport activities for cancer survivors and dragon boat paddling for breast cancer survivors in particular still need to be promote among oncologists and general practitioners.

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P11. *What health resources do older adults find meaningful for participation in organized sport?*

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Physical activity represents one of the most beneficial strategies for people of all ages to retain an overall health. Regardless of the numerous benefits of regular physical activity older adults represent one of the least active groups in society. Although there are groups of older adults that meet the PA recommendations, still there remains a great deal of room for improvement not the least within organised sports. Current knowledge on sports for older adults often focus on matters of how to avoid physical inactivity and overcome barriers to participation and thus understanding what causes illness rather than what promotes health. Literature also exists on the reasons why older adults drop out of sports and organized physical activities, even though it is sparse. Hence, even if this research is important in terms of understanding inactivity and non-participation, less is known about why old people continue to be physically active. Against this backdrop, it is essential to investigate older adults who are physically active on a regular basis and what we can learn from them. A reason for targeting already physically active persons is that there is a lot to be learned from people who have the routines and habits needed to be active as an older adult. The purpose of this project is to explore older adults' experiences of participation in organized sports. In the project we use a health-promoting perspective focusing on sports clubs as a setting. The research questions that this project address are: What is experienced as meaningful in older adults' sport participation? and What characterizes older adults' participation in organized sports? In the study we will investigate sports for older adults from a health-promoting perspective using an extensive data material of 4 837 older adults over 60 years participating in Swedish sports clubs. The sample included more than 1000 sports clubs with a large variation. Previous results where the same questionnaires were used concluded that there were differences between what men and women as well as different ages experienced as meaningful in relation to the physical initiatives.

*P12. Experiences, Attitudes, and Perceived Competence Regarding Sustainable Development Among Physical Education and Health Teachers in Sweden

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Experiences, Attitudes, and Perceived Competence Regarding Sustainable Development Among Physical Education and Health Teachers in Sweden
Purpose: Literature suggest that the unique characteristics of physical education (PE), such as embodied learning, movement- and health education, teaching of collaborative and social skills, and environmental care, have the potential to contribute to the sustainable development (SD) agenda (see Baena-Morales & González-Víllora, 2022). Yet, little is known about how PE teachers make sense of SD in relation to their teaching practices. Therefore, the aim of the present study is to examine perceptions and competence regarding SD in the context of PE by gender, age, and teaching experience among upper secondary PETs, and additionally explore their experiences of teaching about SD in the context of Swedish PE. Our point of departure is that PE can offer valuable perspectives to the SD agenda, and conversely, SD can provide revitalizing perspectives to the PE practice and research field.
Method: The participants of the present study were certified upper secondary PETs in Sweden. An online questionnaire was used to examine PE teachers' experiences and perceived competence regarding SD in the context of PE. The survey comprised two sections which focused on: i) demographics and teaching experiences, ii) perceptions of SD issues in realtion to PE. Data from 702 PE teachers were analyzed descriptively and inferentially. A SD competence index (SDC-I) was created by summarizing the total score for the 18 items in the questionnaire that concerned perceptions of SD issues in PE (score range: 18-144), with the logic being the higher the SDC-I scores, the higher the SD competence. Furthermore, a follow-up question was included, where the participants were asked to give examples of working areas, activities, or projects related to SD. The data from the open-ended question was subject to explorative thematic analysis.
Results: The mean (±SD) SDC-I score was 108 (±20, range: 48–144). Female teachers and those with more than 15 years teaching experiences reported the highest perceived competence. Almost half of the respondents do not perceive that the PE syllabi and overall objectives align with the promotion of abilities and behaviors conducive to sustainability. 70% of the respondents perceived that they lacked competence to teach SD.
Conclusion: PE teachers struggle to relate SD to PE and call for support to increase their competence in terms of how to conceptualize and transform SD into PE teaching practice. PE teachers are not fully aware of how the unique characteristics of PE can be linked to sustainability. Nevertheless, the thematic analysis reveals valuable examples of what teaching for SD could entail and "how" PE teachers conceptualize and integrate sustainability-related content into their current PE practice.

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P13. *Walking Classroom – sustainable movement in education?*

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Less than half of children and young people worldwide reach the recommendations for physical activity. In a modern society, physical activity is becoming more an active choice, rather than a part of everyday life. There is currently a lack of knowledge of how the Swedish school should address the assignment related to physical activity, in a sustainable way. The definition of sustainable movement, in my thesis, is the movement that is integrated and becomes a part of the school day and the school culture. Inspired by an action research design and with a focus on teachers' and students' experiences, Walking Classroom, or outdoor teaching while walking, has the possibility: To be inclusive for both teachers and students, and even with a small effort by an individual teacher, make a significant difference for the students. To replace sedentary behavior with physical activity and, in that way, both reduce sedentary time and increase physical activity without loose instructional time. To be practiced in an environment that has the ability to stimulate health and physical activity, reduces the degree of perceived exertion and have an additive impact on our cognitive ability. And, to be a part of the school's core business, namely education, and eventually a part of the school's culture or a so-called whole school approach. In other words, there are health, educational, and sustainability-related arguments, for the aim of the thesis: to studying in what way Walking Classroom relates to sustainable movement in education.

*P14. *Defining Health Promoting Sports coaches: a systematic review*

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Introduction: The use of a context-based approach within sports clubs highlights the prospective impact of coaches on the physical, mental and social well-being of participants, due to the informal educational dimension inherent to sport. The objective of this study aims to identify the skills, their use and the needs of coaches in health promotion (HP), as well as the obstacles they face and the levers used. Using a holistic health perspective and pragmatic approach, the goal is to foster HP empowerment of coaches through education.
Methods: This systematic review, based on PRISMA-P guidelines and recorded on PROSPERO, began on October 2023 on 6 databased and over time frame between 1984 and 2023. 2485 articles were found with the search keywords ((“sport* coach*" OR "sport trainer*" OR "sport* volunteer*") AND ("skill*" OR "training" OR "behavior" OR "behaviour" OR "education”)) AND ("health"). Double blind analyze was used for full text assessed and exclusion criteria were: (1) not in sport club; (2) not focused on sport coaches' participants; (3) not on sport coaches' skills in health; (4) in incorrect format or non-accessible; (5) on elite sport. Finally, 56 articles were included for the analysis
Results: This systematic review indicates that HP coaches face many barriers, including perceived constraints in their role, the pressure needed to keep athletes engaged in activity, and their conceptualization of sport, leading to performance-oriented practices rather than holistic practices like HP. Nevertheless, the results help identify and define 10 key coach competencies in HP empowerment, including athlete management, support health, education, evaluation, motivation, cooperation, prevention, communication, role modeling and self-management. These skills are then described as strategies used to promote and maintain the well-being of athletes which leads to a significant demand from coaches to cultivate these skills. Despite the obstacles present in HP implementation, coaches reported using some levers, defined as psychological factors, training, experiential learning, knowledge base, and adherence to guidelines.
Conclusions: Although they focus their practices on performance, coaches have a significant place in the development of the lives and health of athletes. Their diverse skillset allows them to be involved in athlete health through motivational strategies, climate management, health support and self-management techniques. These skills mainly used by coaches also need to be developed. Thus, the context-based approach in SC should therefore consider coaches as a lever for identifying health problems with multiple possibilities for action to promote health if they educate and guide correctly with this in mind.
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