HONOURS PROJECTS STREAM SPORT SCIENCE, EXERCISE AND HEALTH 2020

EXERCISE PHYSIOLOGY AND BIOCHEMISTRY

BIOMECHANICS AND MOTOR CONTROL

HEALTH BEHAVIOUR AND PERFORMANCE

CLINICAL EXERCISE PHYSIOLOGY
Introduction to Honours

The Honours research degree in the Sport Science, Exercise and Health Stream at the School of Human Sciences is a prestigious one-year, research-based extension of your undergraduate degree that is available only to students who demonstrate academic excellence. During your Honours year, you will be required to complete four units and to spend most of your time on your research work and thesis. Irrespective of whether you are interested in undertaking a career in research, our Honours Research programme will allow you to develop a broad range of generic skills highly valued in the workforce, such as problem-solving and organisational skills, initiative, advanced computer skills and capacity to work independently and in a team. In this respect, the Honours degree is of great value for your career prospects as it distinguishes you from regular BSc graduates who would not have had the same opportunity for an advanced learning experience.

If you are interested in pursuing an Honours Research Degree, it is important that you determine the general area that you wish to study, and discuss potential research projects with staff in that area. It is important to stress that you are not required to define your own research project as most Honours projects are normally part of the supervisor’s on-going research. The School offers several research streams: Biomechanics, Motor Control and Development, Exercise Physiology and Biochemistry, Health Behaviour and Performance Psychology, Health and Physical Education and Exercise Rehabilitation/Occupational Safety and Health. In order to help you to find a project that suits you, we have compiled a list of some of the Honours research projects on offer for 2020.

If you wish to pursue this degree, you must initiate discussions with members of staff as soon as possible as limits on the number of available supervisors in a given year may prevent some eligible students from gaining entry. Once you have secured a potential supervisor, you will need to apply on-line through Student Connect. If you are successful, a formal invitation will be mailed to you in January 2020 by the Faculty.

It is important to note that in order to enrol in the Honours Research Degree offered by the School of Human Science you must reach a grade point average of 65% and above across your third year units. For this reason, you should aim at performing exceptionally well at your final exams.

If you have any queries about our Honours program, please feel free to contact our Honours Coordinator, Prof Paul Fournier ((08) 6488 1356 or paul.fournier@uwa.edu.au) or Giovanna Biagioni (6488 3510 or giovanna.biagioni@uwa.edu.au)

SCHOLARSHIPS AVAILABLE

There are two scholarships available for Honours students:

THE FRANK PYKE MEMORIAL SCHOLARSHIP

Stipend of $5000 is available to assist an Honours student, (who has demonstrated academic excellence and other outstanding achievements, abilities, leadership or community involvement in sport or exercise related activities) to complete a Bachelor of Science (Honours) degree course in SSEH at UWA. UWA scholarship office calls for applications in April each year.
THE HIGH PERFORMANCE SPORT RESEARCH CENTRE (HPSRC) AD-HOC HONOURS SCHOLARSHIP

These scholarships will provide selected UWA honours students with research project funds and a small personal stipend ($3,000) in order to conduct an honours-level research project that aligns with the research focus areas of the HPSRC. In a collaborative effort between service providers from the Western Australian Institute of Sport (WAIS) and academic staff from the University of Western Australia (UWA), the honours research project should have a focus on the daily training environment and/or the performance outcomes of WAIS athletes and sport programs. Please email Peter Peeling (peter.peeling@uwa.edu.au) for further information.

NHMRC CENTRE OF RESEARCH EXCELLENCE IN TYPE 1 DIABETES HONOURS SCHOLARSHIP

The NHMRC Centre of Research Excellence in Type 1 Diabetes based at Princess Margaret Hospital is offering two tax-free $5000 Honours Scholarships to support high quality research in a range of areas aimed at improving the lives of people with Type 1 Diabetes. Some of the research projects on offer are concerned with the prevention of hypoglycaemia during and after exercise. Others focus on the use of technology to prevent exercise-induced hypoglycaemia and manage better blood glucose levels. You have a unique opportunity to make a difference in diabetes research. For more information, please contact Paul Fournier (paul.fournier@uwa.edu.au).

THE “KIDDO” HONOURS SCHOLARSHIP

The Kiddo $5000 Honours Scholarship is open for students eligible to undertake a BSc (Honours) course in 2020. The aim of this scholarship is to encourage and assist a meritorious student to undertake an honours course with a thesis related to the Kiddo program, within the School of Human Sciences in 2020. The stipend of $5000 is expected to contribute to the student’s living expenses. Successful applicant/s will be selected based on their academic performance. Prior experience in the Kiddo program will be considered favorably. Email (amanda.derbyshire@uwa.edu.au) to register your interest.

EXERCISE AS CARDIOVASCULAR AND CEREBROVASCULAR MEDICINE- RESEARCH SCHOLARSHIPS

The Cardiovascular Research Group is a world leading team of experts who use state-of-the-art techniques to address clinically relevant questions pertaining to the impacts of exercise on human cardiovascular and cerebrovascular health and disease.

Our team is offering a 2020 Honours scholarship to assist a meritorious student to undertake an honours course in 2020 with a thesis related to cardiovascular or cerebrovascular health in the School of Human Sciences (Exercise and Sport Science) at the University of Western Australia.
LIST OF HONOURS PROJECTS FOR 2020

DR KYM GUELFI

PROJECT: Compensatory eating in response to exercise - the mediating effect of post-exercise mood state
Compensatory eating, or the consumption of unhealthy food and drinks following exercise, is very common; there is some evidence to suggest that up to 75% of individuals engage in compensatory eating in response to exercise. The problem is that regular compensatory eating can substantially undermine the health and weight-loss benefits of exercise. This project will explore the effect of mood states on the relationship between exercise, licensing beliefs and unhealthy food intake around exercise. Co-supervisor: Dr Robyn Moffitt (RMIT University).

For more information, please do not hesitate to contact Kym Guelfi at kym.guelfi@uwa.edu.au

ASSOCIATE PROFESSOR PETER PEELING

1. Iron metabolism in athletic populations
2. Altitude and the training response
3. Post-exercise recovery procedures: Sleep
4. Remote Ischemic Pre-Conditioning

For more information, please do not hesitate to contact Peter Peeling at peter.peeling@uwa.edu.au

PROFESSOR PAUL FOURNIER

Sport performance research
- Effect of breakfast skipping on exercise/cognitive performance. Co-supervisor: Troy Visser

Fundamental Exercise and Nutrition Science
- Effect of sprinting on oxidative stress. Co-supervisors: Peter Arthur
- Effect of dietary state on the oxidative stress mediated by carbohydrate ingestion Co-supervisor: Peter Arthur
- Effect of hypoxia on high intensity exercise-mediate hyperglycaemia. Co-supervisor: Peter Arthur

Exercise and type 1 diabetes
- Effect of cold water immersion on both blood glucose response to exercise and carbohydrate oxidation in people with type 1 diabetes. Co-supervisor: Tim Jones
Effect of high altitude on both blood glucose response to exercise and carbohydrate oxidation in people with type 1 diabetes. **Co-supervisor: Tim Jones**

Effect of high blood glucose level on cognitive function and driving performance. **Co-supervisors: Brendan Lay, Melissa Licari**

Efficacy of sprinting as a means to prevent hypoglycaemia in children with type 1 diabetes. **Co-supervisors: Kym Guelfi**

**Exercise and chronic fatigue syndrome and fibromyalgia**

Novel exercise test and blood test for the detection of chronic fatigue syndrome and fibromyalgia. **Co-supervisor: Peter Arthur**

*For more information, please do not hesitate to contact Paul Fournier on 6488 1356 or paul.fournier@uwa.edu.au*

**ASSISTANT PROFESSOR GRANT LANDERS**

1. Exercise in the heat
2. Recovery techniques for high intensity exercise
3. Anthropometry and sporting performance
4. Athlete monitoring via MTDS

*For more information, please do not hesitate to contact Grant Landers on 6488 2362 or grant.landers@uwa.edu.au*

**PROFESSOR KAREN WALLMAN**

- Effects of supplements on repeated sprint performance in athletes
- Effects of precooling on exercise performance

This year we started doing exciting research in the area of the effect of heat on staff working in hot environments. The first study involved partnering up with the amazing burn surgeon Fiona Wood and colleagues from Curtin University where we assessed the effects of heat on surgeons, anaesthetists, nurses and physios in respect to physical, psychological and cognitive performance whilst performing a 3 hour burn surgery in 34C at Fiona Stanley Hospital. We expect to continue with this important work with the idea to introduce cooling devices in the surgery down the track.

Another exciting project involved an honours surgeon going to mining communities in the north/west of Australia and assessing the effects of a hot environment on cleaners, security guards and office works who work in places such as Barrow Island. Similar to the first project, the aim is to introduce cooling techniques in these workers down the track so to improve physical, psychological and cognitive performance. If you want to be involved in this relevant, real-world type research, please contact Karen Wallman (karen.wallman@uwa.edu.au).
PROF. DANNY GREEN (profile); DR LOUISE NAYLOR (profile on this page (scroll down)); DR ANDREW HAYNES (podcast), DR HOWARD CARTER, DR BARB MASLEN, DR RADEN ARGARINI, JAYE LEWIS & JULIE COLLIS

Some links to our studies (currently being updated – please contact us if links are broken)
Heart Failure Study  Preventia (exercise for dementia prevention)  Cardiovascular risk factor gap
Testosterone and exercise

Come and have a chat to us if you are considering doing Honours – no strings attached, and we even make great coffee... You may not have seen us much in your journey through Sport Science to date, because we live more in our (purpose built) lab than the lecture theatres, but our Cardiovascular Exercise Science group is a friendly and supportive research team, led by Danny Green and Louise Naylor. Our team produces world-leading research that aims to make a difference to the health of all people, whether they are healthy or have a cardiovascular disease. We have plenty of openings for new students and would love to have you join our team. We have excellent links with all of the major Perth hospitals, and close ties with universities and other research groups in the UK, USA, Canada, the Netherlands and interstate, so you can make some great contacts.
You will get experience with some great new technologies, including echocardiography and ultrasound. We will teach you to look inside arteries in the brain and limbs, and see what happens when people exercise (or don’t). You will be supported every step of the way, from your research proposal, through developing your technical skills, to writing your thesis and presenting at conferences – maybe even publishing a paper or two.

We work across a lot of areas, with athletes and ‘couch potatoes’; kids and adults; sick people and well people, so there will be a lot of options open to you. However, we generally like to explore these broad questions:
• How does exercise work?
• How can we use exercise to prevent disease and improve people’s quality of life?

Here are some of our latest research questions:
• Responder or non-responder to exercise: nature or nurture. Why do some people have a great response to exercise while others don’t?
• Testosterone, exercise or both? A new direction for ageing men.
• What does eating chocolate do to your blood vessels?
• The cost of being sedentary – what does prolonged sitting do to your brain?
• What can twins teach us about exercise?
• Childhood origins of adult disease – what’s the impact of exercise?
• How does exercise stack up for improving obesity, diabetes, Metabolic Syndrome, and heart disease, and what difference can it make to outcomes for heart failure patients or survivors of childhood cancer?
• Use it or lose it – what’s the effect of inactivity on small or large arteries? (Hint: it’s not good.)
• Cardiac response to exercise – what is ‘Athlete’s heart’ and is it good or bad?
• Can active video gaming have health benefits for kids?
• The exercise paradox – why does exercise acutely increase cardiovascular risk but reduce it in the longer term?

If you are considering doing Honours or postgraduate research, come and talk to us first. You’re welcome to chat to our team leaders – Danny and Louise; to our other academic staff – Andy, Howard, Barb, Jaye, Arga and Julie, or to the students in our team – Lauren, Channa, Hannah and Lucy. You can find us behind the John Bloomfield Lecture Theatre, Exercise and Sport Science Building, in rooms 121, 123 or 125; Call us on 6488 2361; or email danny.green@uwa.edu.au
Our research is targeted at understanding the aetiology, impact and intervention for children with neurodevelopmental disability and motor impairment. We have many collaborative opportunities to work with clinical teams at Perth Children’s Hospital and Telethon Kids Institute. We are extensively involved in projects utilising imaging modalities to investigate neurological and neuromuscular structure and function in children with neurodevelopmental disorders, such as developmental coordination disorder (DCD), autism (ASD) and cerebral palsy (CP).

Some of the projects we have on offer in 2020 include:

1. **Musculoskeletal Imaging in Cerebral Palsy**
   Our team are world leaders in utilising MR Imaging to understand muscle properties of children with Cerebral Palsy. This project would involve collaboration with the Rehabilitation team at PCH and involve the analysis of MR images using 3D software Mimics.

2. **Motor Proficiency in children with Autism**
   Our team has recently published a paper revealing that up to 80% of children with Autism experience delays in the development motor skills... In collaboration with CliniKids and the Autism Research Team at Telethon Kids Institute, we are now investigating the onset of movement difficulties, and the outcome of early intervention programs for children with Autism.

3. **Ocean Hero’s: Evaluation of a surfing intervention for children and teens with Autism.**
   The benefits of physical activity are very well established, however children and families impacted by disability experience many barriers to participation in exercise. This project would involve collaboration with the team at Ocean Heroes and involve evaluating the outcomes of a surfing intervention developed for children and youth with autism.

4. **Paediatric Exercise Programs**
   There are many opportunities to investigate the outcomes of children and their families following participation in our paediatric exercise programs, Minigym, Unigym and iFit. If you want your research to have real impact for children and families – come and chat...

For further information contact: Dr Siobhan Reid (siobhan.reid@uwa.edu.au) or Dr Melissa Licari (melissa.licari@telethonkids.edu.au)
I am interested in obtaining a fundamental understanding of all forms of human motion. To identify and affect mechanisms that improve performance, and influence injury and disease, in both sport and clinical domains. From an applied perspective, I seek to develop and integrate new technologies and methodologies that can be used reconstruct personalised digital human models that are multi-scale and multi-modal; models that encompass skeleton to skin fidelity and resolution.

https://www.researchgate.net/profile/Jacqueline_Alderson
**DR BRENDAN LAY**

**Project: Visual Perceptual Skill and Anterior Cruciate Ligament (ACL) Injury Risk**

At UWA, we have a long history of investigating the Biomechanics of ACL injury risk when performing sidestepping manoeuvres. We know that the injurious loads carried by the ACL increase greatly when an individual has little time to organise a sidestep, therefore, more recently we have been investigating the visual perceptual skill and its role in giving an individual more time to plan a safe sidestep. We have also been investigating whether perceptual training (such as Above-Real-Time training) can improve an individual’s capability to sidestep safely.  
Collaborator(s): A/Prof Jacqueline Alderson

**Project: Effect of diabetes on eye tracking and reaction time.**

It is well established that diabetic individuals have a higher incidence of fall and are more prone to car accidents. Our goal is to elucidate some of the mechanisms involved.  
Collaborator(s): Prof. Paul Fournier

**Project: Visual perceptual expertise and movement assessment.**

We are currently undertaking a series of experiments assessing the capability of parents, teachers, coaches and other movement experts to assess various motor skills including Fundamental Movement Skills (FMS) and swimming technique. A key question we are asking is what do expert see (perceive) that novices don’t? For these experiments, we utilise the eye-tracker and a verbal report protocol.  
Collaborator(s): A/Prof Rebecca Braham, A/Prof Michael Rosenberg (FMS) & Dr Nat Benjanuvatra (swimming)

**Project: Equipment scaling in a range of Children’s Sport.**

Up until very recently there has been no scientific rationale for the different sized (smaller, shorter, lighter) equipment that is used in junior sports. Tennis Australia has recently led the world into the effects of equipment scaling on motor skill acquisition and performance and we are extending this research to other sports. A key question here is what are the effects of systematically manipulating equipment and playing area on the acquisition of sport specific motor skills in children?  
Collaborator(s): Dr Machar Reid (Tennis Australia)

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**DR NAT BENJANUVATRA**

1) **Swimming & Aquatic Exercise Research**  
   *Biomechanics, Motor Learning & Control*
   
   - Temporal coordination in breaststroke
   - Timing of the dolphin kick in the breaststroke pull out
   - Coaching expertise: what do expert coaches see that novice coaches don’t?

2) **Conditioning for Health & Performance**
   
   - Physical activity & health profile of undergraduate students: does Freshman 15 exist at UWA? Strength asymmetry and motor performance
   - Inter-segment coordination and efficiency measures in strength exercises

*For more information, please do not hesitate to contact Nat on 6488 2437 or nat.benjanuvatra@uwa*
ASSOCIATE PROFESSOR JAMES DIMMOCK AND DR BEN JACKSON

Any students with an interest in the psychology behind sport, exercise, physical activity, or other health issues (e.g., diet), please contact Ben or James for a chat. Similarly, Ben and James are also involved in the coordination and evaluation of several exercise, weight loss, and physical/mental health promotion programs – with a range of supportive community partners and agencies. If you are interested in learning more about any of these opportunities, and discussing projects that suit your particular interests, you are encouraged to speak with Ben and James.

For more information, please do not hesitate to contact James on 6488 1384 (james.dimmock@uwa.edu.au) or Ben on 6488 4625 (ben.jackson@uwa.edu.au)

ASSOCIATE PROFESSOR MICHAEL ROSENBERG AND ASSOCIATE PROFESSOR REBECCA BRAHAM

Technology based Sport Science and Health

Technological advances in the measurement of physical activity have created new opportunities to understand and influence how people engage in regular physical activity. Our research group has been involved in the development of several innovative technologies that have the potential to significantly improve the health of the population. If you have an interest in technology and its use in novel ways the following research opportunities might be of interest to you. We are always happy to discuss these and other research opportunities.

Study 1: The use of RFID technology to determine the effect of a simple experiment

Remote Frequency Identification (RFID) technology provides accurate information on whether a person is inside or outside an established boundary (Such as their house). The RFID system can also tell the amount of time a person spends within the boundary in certain locations (lounge room). We have developed the first available ad-hoc RFID system to determine the length of time people spend in a boundary and the amount of energy expended.

For an honours project we are interested in understanding the impact of simple household modifications to the way screen based activities, such as Fixed and portable screen use influences family sedentary behaviours. For example, does removing screen use before sunset influence activity levels and where people locate within their house, or outside? There is surprisingly little objective evidence to help answer these questions, as until now the technology has been unavailable.
Study 2: FITBIT (tracking of children’s physical activity)

Advances in relatively inexpensive user-friendly wearable activity trackers like the Fitbit® mean it is now realistic to continuously measure movement patterns of children over several months, without considerable participant burden. This level of data offers previously unavailable insights into daily, weekly, monthly and seasonal variations in physical activity (PA). Children’s PA and sedentary behaviours influence a range of health, social and academic outcomes and children’s development in the early years may influence the development of disease in later life. To date, patterns of PA have either relied on self-report surveys, or objective monitoring over at most two-weeks at any one time. Therefore, we propose to measure PA continuously over a six month period to develop the most comprehensive description of children’s PA to date. If you want to be involved in internationally leading research around children’s physical activity, please come and discuss this topic with us.

Study 3: Music based motor control development

The link between music and physical movement is both entrained and observable in neurological development. There is perhaps no stronger behaviour to unite humans than coordinated rhythmic movement. This is because humans have the capacity to become entrained with one another or an external stimulus. Entrainment is a powerful adaptive process that indicates a mutual perceptual and social experience from the sharing in time and space of music and rhythm. Evidence of the benefits of music entrainment in the development of motor control in children and in rehabilitation is plentiful. Recent advances in wearable sensor technology have transformed rhythmic entrainment into a self-sustaining biofeedback mechanism.

We have developed the first music based rhythmic entrainment mobile phone app that incorporates Bluetooth enabled wearable sensors to provide real time feedback. This breakthrough technology uses a range of Bluetooth enabled accelerometers, Stretch Sense material and force place sensors in socks to entrain the user to move rhythmically. It is like learning to dance or run with wearable sensors that give you feedback on how to achieve this goal.

We are looking for interested students to conduct a range of experience with this new technology on typically developing children, children with delayed coordination, and children undergoing rehabilitation.

Study 4: Classification of movement during active video gaming

For several years we have been capturing children’s movement during active video game play. Our research team has developed software to classify fundamental movement skills of children to parse game play data and count the number of movements children perform within a 15 minute game play situation. The advancement of this system requires several experiments using the Vicon System to match movements captured by our system and the gold-standard Vicon System. If you are interested in this study, or any research related to the health impact of active video gaming please speak with us.
KIDDO – Improve your Move

Team of potential supervisors: A/Prof Michael Rosenberg, Dr Ashleigh Thornton, Dr Rebecca Braham, Dr Hayley Christian, Amanda Derbyshire

KIDDO is offering a $5000 Honours scholarship to encourage and assist a student to undertake an Honours course with a thesis related to the KIDDO program.

KIDDO is a physical literacy program run in Primary Schools and Early Childhood Education and Care Centres in Western Australia that has been developed and implemented since 2014 by the UWA School of Human Sciences. KIDDO received Healthway funding (2017-2019) to expand the program and in collaboration with the Department of Education and the Department of Sport and Recreation is working towards a vision of having all children ‘Ready to Move’ by the beginning of primary school and ‘Moving Well’ by the end of primary school. To find out more see our website: www.kiddo.edu.au

The following topics are suggestions for research areas:

1. Are children ready to move when they start school? Describe the current prevalence of children’s FMS before they start Year 1
2. Does participating in KIDDO lead to increased overall physical activity levels?
3. Gender differences in skill acquisition and development
4. Validation of the KIDDO assessment
5. The role of parents in developing their children’s physical literacy
6. Can children’s mental health and wellbeing be improved as part of an 8 week physical activity program
7. Does a child’s physical literacy differ by socioeconomic status?
8. Implementing KIDDO in a disadvantaged community
9. Evaluating the implementation of KIDDO in an Early Childhood Care setting
10. Will an online professional development and accreditation program assist early childhood teachers to teach FMS?
Risk Perception in Children’s Sport

We are partnering with Kidsafe to investigate the risk perception from a parental and coaches perspective of injury in sport. There is the potential to complete projects in a variety of areas around this core topic. If you are interested in injury surveillance, prevention and children in sport, then please come and speak to us.

The PLAYCE Study: Play Spaces & Environments for Children’s Physical Activity and Health

Team of potential supervisors: Asst/Prof Hayley Christian, A/Prof Michael Rosenberg, A/Prof Leanne Lester, Dr Ashleigh Thornton, Ms Clover Maitland.

Background: There is growing interest in environmental interventions targeted at increasing children’s physical activity because of their potential reach and impact on the health and well-being of future generations. In the last decade there has been a 20% increase in the number of 0-4 year olds in WA with 63% of WA 2-3 year olds attending some type of child care. The child care setting is where children spend a considerable portion of their time, thus it is an important setting in which children should have the opportunity to accumulate physical activity and other forms of unstructured physical play to facilitate their health and development.

Outline: The PLAYCE (Places Spaces & Environments for Children’s Physical Activity) program of research investigates the influence of the physical, social and policy environment on young children’s physical activity, sedentary behaviour, eating behaviour, weight status, sun exposure and development across different behaviour settings (childcare, home and the neighbourhood). PLAYCE aims to provide information on how best to create healthy environments for young children and families to enable them to lead healthy and fulfilling lives. A range of PLAYCE research projects are available. Some of these include: ‘Professional development programs to improve young children’s fundamental movement skills’; Professional development programs to increase young children’s time spent in outdoor-nature based play’; ‘Evaluate the effect of childcare care centre outdoor space upgrades on children’s and educators physical activity’; ‘Using GPS to understand where and how young children move around their home and neighbourhood’; ‘Qualitative research with children, parents, staff and key stakeholders in the childcare setting’. Students are welcome to arrange a time to meet and discuss potential research topics.

Suitable for Honours/12 or 24 point Masters dissertation or project/Masters by Research thesis/Phd or able to be tailored to any of these.

How does contact with nature facilitate young children’s health and development?

Supervisor/s: Asst/Prof Hayley Christian, A/Prof Michael Rosenberg, A/Prof Leanne Lester, Ms Clover Maitland.

Background: Contact with nature (plants and animals) is associated with children developing a sense of identity, autonomy, psychological resilience, self-regulation, gross motor skills and learning healthy behaviours. However, while the pathways through which contact with nature facilitates child health and development have been examined in older children, studies to date have not examined the effect of nature contact on young children’s health and development.

Outline: This project will involve collaboration with industry partner Nature Play WA. The project will evaluate the impact of Nature Play WA’s education program aimed at providing early childhood education and care staff with the knowledge and skills to create nature play spaces within the childcare setting. The student will conduct
a literature review on the effects of nature contact on young children’s health and development. The student will undertake a follow-up survey of early childhood education and care staff to ask them about changes to their childcare centre (e.g., changes to the outdoor physical environment, program content, care and teaching practices) post taking part in the Nature Play WA program. Visits to childcare centres to objectively assess changes to the childcare environment and its effect on young children’s health and development can also be done.

Benefits of Family Dog Ownership for Children’s Physical Activity and Health

**Supervisor/s:** Asst/Prof Hayley Christian, A/Prof Michael Rosenberg, Ms Clover Maitland, Dr Westgarth-University of Liverpool-UK

**Background:** Physical inactivity and rising levels of overweight and obesity are a public health concern. Dog ownership is associated with higher levels of physical activity in adults but few studies have examined the physical, social and emotional health benefits associated with dog ownership in children.

**Outline:** The aim of this study will be to examine the association between dog ownership and physical activity, sedentary behaviour and overweight/obesity in children. The relationship between family dog ownership and dog-facilitated physical activity from active play with a family dog or walking with a dog will be examined for different child age groups (e.g., early years, primary school and adolescents). The influence of socio-demographic, social and physical environment factors on these relationships will be considered. There is scope for qualitative research with parents and children on the motivators and barriers to dog walking and dog-centred play as well as intervention research to determine strategies for improving the child health benefits of family dog ownership.

Physical Activity Intervention Targeting Dog Owners

**Supervisor/s:** Asst/Prof Hayley Christian, A/Prof Michael Rosenberg, Ms Clover Maitland, Dr Westgarth-University of Liverpool-UK

**Background:** There is growing awareness about the importance of dog ownership to physical and emotional human health. Almost half of all Australian households own a dog. Dog owners do more walking and are more physically active compared with non-owners. Importantly, dog walking has been shown to be a potentially viable strategy for increasing the proportion of the community who are sufficiently active for health benefit.

**Outline:** This project will involve intervention research to examine the potential of dog walking to contribute to owners overall level of physical activity and increase the proportion of people who meet the recommended level of physical activity. There is scope for interventions targeting adults and or children. The project is likely to have significant implications for health promotion policy and practice and will involve working closely with industry partners.
**WA Department of Sport and Recreation Projects**

*Supervisor/s:* Asst/Prof Hayley Christian, Dr Ashleigh Thornton, A/Prof Michael Rosenberg, Ms Clover Maitland, WA Department of Sport and Recreation

*These projects are in collaboration with the WA Department of Sport and Recreation and align with the Department’s Strategic Directions 6 (2016-2020).*

- **Understanding the role of informal social networks in facilitating accessible low-cost physical activity options.** What role do informal social networks play as barriers and or motivators for physical activity behaviour? How do these informal social networks function across different life stages (e.g., new parent, retiree, married no children etc)?

- **What are the factors associated with participation in sport and recreation at various life stages?** Interests and motivations for participating in sport and recreation evolve and change, as do barriers to participation, and people are likely over the course of their lives, to be involved in a range of activities and challenges.

- **What intervention strategies would encourage children’s participation in physical activity, with a focus on fundamental movement skills?** In Australia, we face the most inactive generation of all time.

This project focuses on strategies for encouraging physical activity in children through targeting those not currently enrolled in sporting clubs but who would like to participate.
Thriving – Physical Activity Program for Kids & Youth (www.thrivingfit.com.au)
The Thriving program is a community based physical activity program for kids and youth, provided in partnership with the School of Human Sciences. The mission of Thriving is to improve the physical literacy of children and youth for the benefit of their mental and physical health.

Projects Include:

i. Improving physical literacy outcomes in children: Feasibility of the Thriving physical activity program utilising parent coaches.

$5000 Student Scholarship Available

The Thriving scholarship is open for students eligible to undertake a BSc (Honours) or Research Masters course in 2020. The aim of the scholarship is to assist the successful applicant with conducting the project listed above and to present the results at an appropriate national or international conference.

Skills: You will acquire training on a range of different testing areas including:
  o Movement assessment
  o Cardio-pulmonary exercise testing
  o Strength and Power assessments
  o Heart rate and GPS systems

Eligibility:
To be eligible to apply for the Thriving Scholarships the applicant must be:
  • Enrolled or eligible to enrol in the Bachelor of Science (Honours) or Research Masters for 2020.
  • Eligible or already have a Working with Children Check, First aid & CPR.
How to Apply:
To apply email kemi.wright@uwa.edu.au, with:

• Why are you interested?
• What skills and experience do you have that complements the projects?
• Brief CV

ii. Investigating the feasibility and outcomes of an exercise program for youth with a substance use disorder within the Drug and Alcohol Youth Service (DAYS)

*Areas of Expertise/Knowledge* include clinical exercise physiology (AEP), youth exercise prescription & delivery, mental health/illness, qualitative and quantitative research methods

Substance (i.e., alcohol, drug) use disorders (SUDs) are prevalent and growing among Australian youth, and accompany depression, suicidal thoughts, and poor physical health. Health promotion efforts may alleviate these health risks and support reductions in the likelihood of re-use. Although exercise participation has been shown to be a powerful health promotion and recovery tool for adults with SUDs, little research has been conducted to examine the health benefits of regular exercise among youth with SUDs. This study is the *first in Australia to provide regular, structured exercise participation* for youth with SUDs, and to *evaluate the health promotion potential* of the program.

**For more information contact:** Dr Bonnie Furzer (bonnie.furzer@uwa.edu.au)

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**DR JAY EBERT**

Dr Ebert is currently involved in a range of research projects aimed at evaluating specific aspects of orthopaedic and musculoskeletal rehabilitation/biomechanics, pertinent to the improvement of current clinical practice. Areas of research are varied and, while a number of smaller student research projects may be available, the primary areas of research include:

- anterior cruciate ligament (ACL) injury, reconstruction, rehabilitation and return to activity/sport
- lateral hip pain, including hip abductor pathology (tendinopathy and gluteal tendon tears), surgical intervention and rehabilitation
- Hip pathology, including the investigation of conservative management, as well as improving outcomes after arthroscopic hip surgery
- knee and hip osteoarthritis and joint replacement surgery

Should any of these research areas be of interest to you at Honours, Masters of PhD level, please do not hesitate to contact Dr Ebert on 9386 9961 or jay.ebert@uwa.edu.au.