



School of Health Sciences

Summer Scholarship Research Program 2020

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Project 31: #BlackLivesMatter for Black Girls and Women in Australia

Supervisor(s): Tinashe Dune - t.dune@westernsydney.edu.au
Principal Supervisor

Project description

Australia's history is a Black History with multiple oppressions and discriminations against Indigenous peoples, migrants, refugees and people of colour that live in Australia. Colonisation, dispossession and violence is enacted through attitudes, policies and legislation that has resulted in inequity, racism and the disruption of Aboriginal and Torres Strait Islander cultures.

Indigenous women experience family violence and non-partner sexual assault at rates that are higher than non-Indigenous women and with more serious consequences, including hospitalisation and lethality. Immigrant and refugee women experience violence in ways that are unique to the socioeconomic consequences of migration to, and settlement in, Australia. Women on temporary visas, such as international students, can be exposed to physical abuse and sexual harassment during their stay. Women who have secondary visas – that is, whose visas are tied to those of their partners – are also vulnerable. Australia has a vast array of temporary visas and women on these visas are increasingly exposed to gender based violence. Their stay in Australia depends on their relationships with primary visa holders remaining intact. For many women who have experienced domestic violence, deportation threats keep them in a state of fear and reluctant to leave violent situations. Further ways that immigrant and refugee women are impacted include when perpetrators restrict mobility, take money, and prevent women from working or learning English and other skills. For LGBT migrant and refugee women and girls, not enough has been done to identify and respond to the issues faced in countries of resettlement. Structural factors that contribute to immigrant and refugee women's' exposure to violence include the intersecting dynamic of racism and sexism in workplace, education or public settings, and racial and gendered stereotypes perpetuated by the general community. In servicing violence against women and girls, migrants and refugees fall mainly under 'multicultural' services while Indigenous and Torres Strait Islander women access where available Indigenous services. By keeping the separation (and hierarchies) of 'Indigenous' 'Multicultural' and 'Mainstream' services the different forms of violence that impact on women's lives does not link to the meta-narrative on violence against women and girls and tends to maintain structural divisions which are not transformative or empowering for women.

This project will build momentum, mobilisation, consciousness and heighten visibility of Black women and girls from the African and Indigenous backgrounds in Australia. It will develop networks and alliances to work with Aboriginal and Torres Strait Islander networks and groups on the issue of the Elimination of Violence Against Women and Girls (EVAWG). By building conceptual clarity from a feminist, women's empowerment and anti-racist perspective this group will work with their communities to reframe the discourse in Australia and the Asia Pacific Region; address the points of silence in Australian policy affecting their communities; and bring about transformative change through creating dialogue and strengthening bridges to existing Aboriginal and Torres Strait Islander networks to develop a national discussion on being at the intersection of Racism, Gender, EVAW and COVID-19 in Australia, and how this impacts on the EVAW national frameworks.

Project Aims

This project therefore aims to:

- Build an alternative narrative for addressing violence against women and girls in the national context, thus building thought influence through radical action in a transformative way.
- Build opportunity to cross-link ideas and build solidarity platforms around issues that focus on structural transformation and link black women's experiences of violence against women and girls to other violent structures / systems. This will occur through virtual medium opportunities to link this group with other groups from EVAWG network and relevant international members thus building conceptual clarity.
- Work with the Australian women's sector to find ways to articulate the issues through articulation of collective struggles, provide a route to shift the dominant narrative through national summit on this issue (in 2022).
- Link into EVAWG as a movement of Black African and Indigenous Women from Australia.

Project Methods

This project uses qualitative focus groups to be conducted with Black African women and Indigenous women in Australia via Zoom.

The Summer Scholar Student will be engaged in:

- Qualitative focus groups with Indigenous and Black African women via Zoom
- The collaborative preparation of the project report
- Participating in qualitative data analysis

Opportunity for Skill Development

By engaging in this project the student will develop the following skills:

- Community engaged research skills
- International partnership and networking skills
- Social research skills
- Qualitative research skills
- Online research skills
- Report and academic writing skills

Students are required to have the following skills/meet the following pre-requisite(s) to apply

To be successful in this project students are required to have:

1. A high level of social and cultural competence especially with regards to awareness and sensitivity related to engaging with minority populations.
2. A sound knowledge of Aboriginal and Torres Strait Islander perspectives on colonisation and discrimination in Australia.
3. An appreciation of the barriers faced by racial minority groups in Australia.
4. A strong interest in and ability to engage in social research on sensitive topics and experiences.
5. The ability to communicate effectively with diverse people and in groups.
6. The ability to articulate ideas in writing and integrate feedback from stakeholders to ensure collaborative writing processes

Project 32: Learning research experience and evidence through participating in an online research project: Exploring evidence of effectiveness of Ba-duan-jin (mind-body exercise) on cancer-related fatigue in colorectal and breast cancer patients receiving adjuvant chemotherapy: a pilot randomised controlled trial

Supervisor(s): Xiaoshu Zhu - x.zhu@westernsydney.edu.au
Principal Supervisor

George Zhang - george.zhang@westernsydney.edu.au
Second Supervisor

Project description

Fatigue is recognised as a side effect of cancer treatment and accompanying symptoms, affecting 70% to 100% of the cancer patient population. In the past people with cancer were encouraged to rest if they felt fatigued, though it's less likely to be relieved by rest. It is important that individuals with cancer receive adequate support and care to help them cope with this consequence of their treatment, as it may also persist into post-treatment periods. According to the NCCN Clinical Practice Guidelines in Oncology for Cancer-Related Fatigue (CRF), physical exercise has been suggested as helpful in reducing the fatigue that is associated with cancer. A number of high-quality studies in Cochrane reviews have shown the therapeutic effects of aerobic exercise significantly reduced fatigue both during and after treatment, specifically those with solid tumours. The benefits of exercise are not limited to enhancing the physical aspect of fatigue; it may also serve to alleviate the cognitive and physiological aspects.

Ba-duan-jin is a well-known mind-body practice, as part of the Chinese Qigong. It is also regarded as a set of aerobic exercise.¹ It is the most widely used mind-body exercise in China. According to the American Sports Medicine Association and the American Centres for Disease Control and Prevention, Ba-duan-jin is a low-intensity exercise. The metabolic equivalent of the Baduanjin is < 3.0 and the maximum heart rate is 54%.¹⁶ It is believed that low-intensity exercise can expand the muscles, boost the energy, and improve the state of the patient's body function. It can also control stress and keep the body relaxed and calm, reduce the progression of serum-related anxiety markers, and alleviate anxiety.¹⁷

Overall, Baduanjin exercise training have been proven to reduce fatigue, increase maximum oxygen uptake and muscle strength, improve sleep quality and quality of life, without causing significant adverse events.¹⁻⁵

This is a collaborative study between WSU and South Western Sydney Local Health Services through Cancer Services at Liverpool Hospital. A pilot study with one intervention group (Ba-du-jin) and waiting list control group will be set up, intervention will be fully deliverable online in response to current COVID-19 pandemic.

The project will be partially funded through a philanthropic donation by the Chinese Medicine Centre, due to the limited funding being allocated to this project specifically, we are looking for a TCM student who is enthusiastic in learning this mind-body exercise and clinical research skills whilst to bridge the gap by providing additional online intervention (Ba-duan-jin) and assisting relevant research jobs for this project.

Project Aims

The aim of the study is to examine the effectiveness and safety of Ba-duan-jin in cancer patients suffering from cancer-related fatigue receiving chemotherapy within six months.

This project is aligned with the strategic objectives defined in the Western Sydney University Securing Success, that is, Goal 2, A Research-led University with Regional, National and Global Impact; and Goal 4, An Expanding International Reach and Reputation. It also fits perfectly well with the one of the key research themes/concentrations, live well after cancer, at NICM.

Project Methods

Interested participants with colorectal or breast cancer will complete one question on a Brief Fatigue Inventory (BFI) score. If the screening process determines that fatigue is at a moderate level, the patient will be queried about their functional status, including changes in exercise or activity patterns and the influence of deconditioning. The oncologists will also collect information on CRF contributing factors including pain, emotional distress, sleep disturbance, poor sleep hygiene, anemia, nutrition, activity level, medication side effects profiles, alcohol/substance abuse, and co-morbidities. Eligible participants will be identified and referred by their treating oncologist. The patients who meet the inclusion criteria will be randomly assigned in a 1:1 ratio to the Ba-duan-jin exercise or control groups respectively.

Ba-duan-jin (mind-body exercise) group:

Using the Zoom app, the participants will be invited to watch Ba-duan-jin (mind-body exercise) demonstration videos explaining how to perform the exercises. At the initial course (40 mins), the instructor will explain and demonstrate the eight movements and natural breathing methods. A picture-based educational brochure and a performance record form will be given by email (only mailing as required). The participants will practise the Ba-duan-jin (mind-body exercise) for at least 5 sessions/week and 20 mins/session for 12 weeks at home. They will be asked to join in a coached Zoom exercise program with the instructor. The Ba-duan-jin (mind-body exercise) exercise session will be led an instructor (the role that the student is required in assistance).

Waiting list control group:

Participants in the control group will receive only the usual care/medications and undergo no intervention. Participants in the control group will be advised to maintain their usual lifestyle. After completing study, participants in the control group will receive one course (40 mins) of Ba-duan-jin (mind-body exercise) training for free.

The objectives and outcome measurement are as below:

- To explore any meaningful reduction in severity of cancer-related fatigue symptoms measured by the Brief Fatigue Inventory (BFI) with evidence.
- To achieve an improvement in any of health domains in physical function, fatigue, pain interference, depressive symptoms, anxiety, ability to participate in social roles and activities, and sleep disturbance measured by PROMIS–29 Profile v2.0, the number and severity of adverse events and the feasibility aspects of conducting the trial.

- To understand a feasibility of conducting this pilot trial for a future large-scale of the study
 - Recruitment rate
 - Number of enquiries and number of enrolments per month of active recruitment;
 - Percentage conversion to enrolment measured as n enrolled/n of enquiries, and n enrolled/n potentially eligible.
 - Retention rate: n completing 12-week intervention (60 sessions) and outcome measures/n enrolled.
 - Adherence rate: n completing at least 4 of 6 Baduanjin exercise sessions/total n allocated to the intervention group.

Adverse events will also be evaluated.

Sample Size

For a pilot study, a sample size of $n = 29$ is necessary in order to have a 95% confidence of detecting an event which has a true probability of $\pi = 0.10$. As the participants will be randomised to two groups with a 1:1 allocation ratio, and in order to overcome the probable potential loss of participants during research and availability of sufficient participants, a sample size of $n=40$ will be used in this study.

Student will only participate in online delivery of this mind-body exercise helping individual patient via ZOOM. Student may also assist in literature search if needed.

Opportunity for Skill Development

Through this hands-on experience, student will have an opportunity to grow their interest in research, and value the needs of using scientific evidence-based approaches. In particular, student will learn the following skills:

- Learning Ba-dun-jin (mind-body exercise);
- Learning how to deliver the intervention online;
- Learning application of evidence-based practice in a real world;
- Developing clinical research skills.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

The project is open to any year of students enrolled in the Bachelor of Traditional Chinese Medicine who is willing to learn this ancient mind-body exercise and research skills as well as how to apply evidence-based practice in the field of complementary medicine.

Project 33: Learning research experience and evidence through conducting a Cochrane Systematic Review and publication: Chinese herbal medicine for immunological function in women with breast cancer or a history of breast cancer

Supervisor(s): Xiaoshu Zhu - x.zhu@westernsydney.edu.au
Principal Supervisor

Yu-Ting Sun - yu-ting.sun@westernsydney.edu.au
Second Supervisor

Project description

Many cancer patients or survivors often use Chinese herbal medicine (CHM), an Australian survey on women with breast cancer reported that one of desires of using CHM was for 'boosting the immune system', however there has been a lack of scientific evidence to support the claim or empirical experience. A few systematic reviews in the relevant field were previously conducted, although immune impact was investigated in one of these reviews, the investigation and discussion were rather brief since the focus of the review was mainly on managing symptoms induced by conventional therapies. This means an overall role of CHM with cancer immunogenic properties, if there is any is still unknown. This proposed review may shed light on this research question.

The Cochrane Collaboration is recognised as having an international gold standard for high quality research, one of its major publication domains is the Cochrane Database of Systematic Review, which has a significant impact factor of 6.103 according to the 2015 Journal Citation Report. The Cochrane systematic reviews prior to publication are required to undergo rigorous peer reviews so the highest quality of research is ensured and maintained.

The title, 'Chinese herbal medicine for immunological function in women with breast cancer or a history of breast cancer' has been registered with the Cochrane Database of Systematic Review. The researchers and authors who work on this project are affiliated with the Western Sydney University, the South Western Sydney Local Health District, Beijing Xiyuan Hospital, affiliated hospital of the China Academy of Chinese Medical Science, with background in traditional Chinese medicine, medical oncology and integrative oncology. Hence, this is an international collaboration and an inter-disciplinary project. A protocol for this systematic review will soon be published, the actual systematic review with statistical analysis are anticipated with proposed assistance from the student researcher.

A process of preparing a new joint grant application with these national and international partners has pressured for a speedy progress of this joint project. The Summer scholarship is therefore sought for supporting a publication on a high impact journal and a possible joint grant application in the near future.

Project Aims

This project aims to:

- To evaluate the clinical effectiveness and safety of Chinese herbal medicine for immunological function in women with breast cancer or a history of breast cancer;
- To produce a high quality of scientific research publication on a high impact journal (IF 6.103, the first highest quarter in medicine);
- To train students to develop research interest and skills;
- To prepare for a joint grant application as evidence of track record of collaboration as well as actual preliminary research findings.

This project is aligned with the strategic objectives defined in the Western Sydney University Securing Success, that is, Goal 2, A Research-led University with Regional, National and Global Impact; and Goal 4, An Expanding International Reach and Reputation. It also fits perfectly well with the one of the key research themes/concentrations, live well after cancer, at NICM.

Project Methods

The methods have been developed in accordance with the Cochrane standards for preparing a protocol of the Cochrane systematic review. Student will be required:

1. To conduct a literature, search in MEDLINE, EMBASE, CINAHL, AMED, CENTRAL, PsycINFO and Chinese databases (CNKI, WanFang);
2. To screen search results for relevant articles;
3. To extract data and run English translation;
4. To learn how to analyse and synthesise data under the supervisor's guidance;
5. To compile results in report.

Opportunity for Skill Development

Through this hands-on experience, student will have an opportunity to grow their interest in research, and value the needs of using scientific evidence-based approaches for appraising clinical findings through publications. In particular, student will learn the following skills:

- Organising and managing the review process;
- Understanding search methods;
- Applying the Cochrane risk of bias tool and assessing risk of bias in critical appraisals;
- Understanding the rationale and basic methods of meta-analysis;
- Using RevMan for review writing and meta-analysis;
- Using evidence to manage studies, risk of bias and data.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

Student is at the second Year or above of the Bachelor of Traditional Chinese Medicine or equivalence; bilingual skills in English and Chinese may be required since a large amount of literatures in the area are published in Chinese.

Project 34: Learning Styles and Educational Outcomes in Occupational Therapy Students before and after the Coronavirus Pandemic

Supervisor(s): Kristy Coxon - k.coxon@westernsydney.edu.au
Principal Supervisor

Karen Liu - karen.liu@westernsydney.edu.au
Second Supervisor

Project description

Learning is a complex process involving intake and registration of sensory information, memory, executive functioning and behavioural output (Chapparo, 2010). The learning styles account is popular in literature and posits that individual students may benefit from particular types of instruction (Pashler, McDaniel, Rohrer & Bjork, 2008) and that it may be beneficial for educators to learn about student learning styles in order to design effective learning experiences. Executive functioning skills are involved in learning and comprise higher order cognitive processes including regulation of attention, planning and evaluating responses (Chapparo, 2010). These skills are utilised by tertiary students in order to successfully complete their studies.

In 2020, university study changed dramatically with the onset of the coronavirus pandemic (Witze, 2020). Western Sydney University underwent a shift from face to face learning to online learning and this changed the context of university study for many students, especially those in their first year of study. This may necessitate the importance of evaluating learning styles and educational outcomes post COVID-19 and comparing this to data on learning styles and educational outcomes from 2019 to determine changes which have taken place and responses which may best suit student learning needs.

The aim of this study is to evaluate student demographics, learning styles and educational outcomes in 2020 and compare this to data collected from 2019 and determine whether there are any differences pre and post COVID19. This information will assist occupational therapy educators to design suitable learning experiences to meet student learning needs going forward.

Project Aims

The aim of this study is to:

- Evaluate student demographics, learning styles and educational outcomes in 2020 in light of COVID 19 disruptions to teaching and learning.
- Compare this to data collected from 2019 and similarities and differences in student learning pre and post COVID19.
- Use this information to assist occupational therapy educators to design suitable learning experiences to meet student learning needs going forward.

Project Methods

This research utilises survey methodology. Data was collected during semester time. Data collected by student participants comprises the following self-reported standardized assessment measures:

Learning Styles: KOLB Learning styles questionnaire (Kolb & Kolb, 2013) commonly used model of learning styles which will be used to assess student learning styles.

Educational Outcome: Final semester grades from Introduction to Occupational Therapy (IOT)-1 and first year GPA. Approval has been sought from the Office of Student Experience to access student grades. The summer student will not be given access to identifying information regarding student grades. This information will be de-identified by the Student Experience Office before being given to students.

Demographic information: will be collected from each participating student during their first year of university study.

The student's role in this project will be to collate information collected from participants, learn the scoring of the professional assessment measures and work with researchers to conduct initial statistical analysis to determine preliminary findings.

In addition, the student's role on this project will be to work with supervisors to conduct a systematic literature review on this topic which will involve conducting literature searches and working with supervisors to draft a peer reviewed paper outlining the findings from the study. This would include contributing to the literature background, methodology, data analysis, results and discussion sections. The student will be given the opportunity to be an author on this paper.

Opportunity for Skill Development

Students will be given the opportunity to take part in scoring standardised assessments and collating the data onto a spreadsheet and to work with researchers to conduct preliminary statistical analysis using data. Students will be given the opportunity to work with supervisors to conduct a literature review on the topic and to link this with the data. Students will be given the opportunity to work on an initial draft for a journal article manuscript and will be given the opportunity to earn authorship on this peer reviewed paper.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

This project would be ideally suited to a high performing student in occupational therapy who has completed 2nd or 3rd year.

This project would suit a student who has an interest in quantitative research methodology.

Project 35: Evaluation of COVID-19 health promotion messaging for Pasifika communities in Greater Western and South Eastern Sydney

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Principal Supervisor

Kate McBride - k.mcbride@westernsydney.edu.au
Second Supervisor

David Simmons - da.simmons@westernsydney.edu.au
Third Supervisor

Project description

Our research team have an NHMRC Partnership grant (P00025457) focused on reducing the impact of diabetes on Pacific communities in Greater Western and South Eastern Sydney through a church-based community intervention (an ethics application is under review with the South Western Sydney Local Health District (LHD) HREC at this stage for delivery and evaluation of the intervention). Health Promotion and Population Health Units from LHDs in South Western Sydney, Western Sydney, Nepean Blue Mountains and South Eastern Sydney are partners in this project. These units requested that due to Pasifika communities being a high-risk population for developing COVID-19 and the current poor communication links that they have with these communities, our Western research team act as brokers in disseminating their COVID-19 online informational resources to Pasifika communities within their districts through the existing networks that we have formed for our Partnership project.

As part of the development and preparation for our NHMRC project, we have built-up an extensive Pasifika community network and have had over 60 individual churches express their interest in participating in the study from across Greater Western and South Eastern Sydney. We have ongoing regular contact with the leaders of these churches through a Community Activator (who is Samoan and led delivery of our pilot intervention) that has been recruited by our team to oversee community engagement and intervention delivery for this project. In addition, we have a Pasifika Community Reference group formed in 2016 and made up of 25-30 community leaders who steer all aspects of our research. Church leaders and the Community Reference group have expressed to us their concern for COVID-19 within their communities and have supported the use of our existing networks with churches and the reference group to disseminate COVID-19 resources to their communities.

Our Community Activator has contacted, via telephone and online video conferencing, all church leaders through our networks to make them aware of the COVID-19 resources being promoted by the LHDs and has sent each of the leaders links to these resources, with a request that leaders circulate these by online means (e.g. direct email, church social media pages) to their church communities. This project will evaluate this process in terms of its reach into the Pasifika community and the understanding, use and acceptability of the COVID-19 informational resources from their perspectives.

Project Aims

- To determine the reach of LHD endorsed COVID-19 resources in the Pasifika community through dissemination in church and community reference group networks (e.g. number of emails sent from church leaders to community members, number of posts on social media pages and consequent sharing of posts) (quantitative)
- To explore if Pasifika community members are able to understand LHD endorsed COVID-19 resources (qualitative data)
- To determine how Pasifika church leaders and community members have utilised LHD endorsed COVID-19 resources (e.g. if they shared the resources further since receiving them and if so how have they done this) (qualitative data)
- To identify Pasifika community members' perceptions of LHD endorsed COVID-19 resources including whether they are culturally acceptable (e.g. are resources currently missing consideration of important cultural considerations) (qualitative data)
- To identify ways of improving COVID-19 health promotion resources for Pasifika communities (qualitative data)
- To explore ways of strengthening the capacity of Pasifika church and community reference group networks to deliver health messages (qualitative data)

Project Methods

We will invite Pasifika church leaders and community members to participate in online focus groups to explore their perceptions of the use of, and understandability and cultural acceptability, COVID-19 resources. We will also ask them about their online analytics (e.g. number of posts, shares) and collect quantitative data from church leaders on the number of communications they have made with community RE COVID-19 (e.g. number of emails, number of video conference calls) as part of the interviews and focus groups. This will provide us with data on the reach of the resources. The student will be trained in qualitative data collection, analysis and write-up, as well as in collating basic descriptive summary data from on online analytics.

Opportunity for Skill Development

The skills gained will include:

- Subject content regarding community-engaged research with a CALD community and how to deliver health messages appropriately to this community
- Literature Review methods
- Qualitative data collection
- Transcription
- Qualitative data analysis
- Quantitative data summarizing (descriptive information)
- Report and journal article writing.
- Working as part of a research team

Students are required to have the following skills/meet the following pre-requisite(s) to apply

Students are expected to have basic knowledge in use of Excel and Word and preferably have an interest in working with CALD communities. Their communication skills should be of high quality.

Project 36: How does the relationship between physical activity and mental health vary in different physical activity contexts?

Supervisor(s): Rhiannon White - rhiannon.white@westernsydney.edu.au
Principal Supervisor

Project description

Mental health disorders are the largest contributor to burden of disease, and the largest cause of disability worldwide (Begg et al., 2007; Prince et al., 2007; Whiteford et al., 2013). The impact of mental health disorders is so extensive that a 14-year gap in life expectancy exists between those with a mental health disorder and the general population (Lawrence, Hancock, & Kisely, 2013). Not only is positive mental wellbeing a protective factor against the onset of a mental health disorder (Saxena, Jané Llopis, & Hosman, 2006), but it is also associated with self-esteem; and the ability to maintain positive interpersonal relationships, work productively, and contribute to society (Herrman, Saxena, & Moodie, 2005). Abundant evidence supports a positive relationship between physical activity and mental health and wellbeing (Bize, Johnson, & Plotnikoff, 2007; Thompson-Coon et al., 2011). However, findings regarding the optimal duration, frequency, and intensity of physical activity for mental health benefits remain inconsistent.

This project involves working across a number of different studies within this research field, all with the aim of better understanding how to optimally promote mental health through physical activity. One project focuses on how exercise which promotes the satisfaction of psychological needs may better promote positive mood after exercise. Another project involves qualitative data collected during lockdown in Australia in 2020 and supplements the quantitative data by looking at how a change in people's physical activity context (e.g., the environment, nature, group settings, a new novel activity) influenced people's perceived mood after exercise.

Project Aims

The overarching aim of this project is to better understand when physical activity is most associated with positive mental health outcomes.

Some specific research questions include:

1. Do changes in positive and negative affect from before to after exercise vary systematically with autonomous motivation and the satisfaction of psychological needs?
2. Do the above relationships occur among group classes and individual training alike, and across all exercise intensities?
3. What is the strongest predictor of post-exercise affect – exercise duration, exercise intensity, or needs satisfaction (i.e., in terms of mental wellbeing outcomes, is it more important how much exercise you do, how intense it is, or that the exercise itself satisfies psychological needs)?
4. What contextual factors influence the perceived mental health benefits of physical activity?
5. How are different physical activity environments differently associated with mental health?
6. Do novelty and variety influence post-exercise mood?

Project Methods

Both quantitative and qualitative data has already been collected for both studies within this project. However, the student will be involved in reviewing literature, and will have the opportunity to learn how to develop a research question (a number of different questions could be answered within these two datasets) and to conduct some basic quantitative and/or qualitative analyses using the data in order to answer a research question and have ownership over new research findings to present at completion of the summer scholarship period.

Opportunity for Skill Development

Upon completing this project, the student will have exemplary skills in survey data collection. The student will also have gained experience in reviewing literature, managing data, and conducting introductory analyses. The student will also gain practical organisational and time management skills. The project will provide an understanding of research in the physical activity and mental health field and could also be useful in a future sport, health, or PE career if the student does not go down a research path.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

A 2nd year Health and Physical Education, Sport and Exercise Science, Health Promotion, or Psychology student would be an ideal candidate. But, this is not required. What is required is a hardworking, organised student, with a genuine interest in research.

Project 37: Understanding the relationship between bluespace and health

Supervisor(s): Rhiannon White - rhiannon.white@westernsydney.edu.au
Principal Supervisor

Nicki Taylor - nicole.taylor@westernsydney.edu.au
Second Supervisor

Project description

Recent public health research indicates that exposure to natural environments is inherently 'good' for human health and wellbeing (Keniger et al., 2013). More specifically, a significant number of research studies have investigated the potential benefits of outdoor 'green spaces' to human health (Kondo, Fluehr, McKeon, Branas, 2018). However, far less is known about the impact of 'blue space' on health and wellbeing (Grellier, et.al, 2017). In Europe, emerging research has been conducted in only a small number of countries, and while some results have lacked statistical power (Grellier, et.al, 2017), the early results from this blue space research do look promising, and some researchers are beginning to suggest that spending time near water may have even greater health benefits than visiting 'green space' such as a forest or park (Pasanen, White, Wheeler, et al, 2019). Given the lack of strong research broadly connecting bluespace to health and wellbeing, and more specifically the paucity of research that exists outside European contexts, the objectives of our research project are to investigate the impact of bluespace on the health and wellbeing of Australian people. More specifically, we want to determine whether bluespace predicts physical activity behaviour or mental health.

Project Aims

There are three broad research questions we aim to answer within this broader project.

1. To understand the relationship between bluespace and physical activity and mental health
2. To understand how active people are at bluespaces
3. To understand the quality of bluespaces and whether the quality influences physical activity

Project Methods

This project involves a number of different data collection methods the student will be exposed to including:

- Quantitative and qualitative survey data collection
- Observational data collection to measure physical activity levels in bluespace locations
- GIS mapping to create a proxy measure of proximity to bluespace

The student will also be involved in reviewing literature, and will have the opportunity to learn how to develop a research question (a number of different questions could be answered within this project data) and to conduct some basic quantitative and/or qualitative analyses using the data in order to answer a research question and have ownership over new research findings to present at completion of the summer scholarship period.

Opportunity for Skill Development

Upon completing this project, the student will have exemplary skills in survey and physical activity data collection. The student will also have gained experience in reviewing literature, communicating with staff in the exercise and sport sectors, managing data, and conducting introductory analyses. The student will also gain practical organisational and time management skills. The project will provide an understanding of research in the physical activity field, as well as practical knowledge to improve their ability as a future PDHPE teacher if they do not go down the research path.

Students are required to have the following skills/meet the following prerequisite(s) to apply

A 2nd year Health and Physical Education, Sport and Exercise Science, Health Promotion, or Psychology student would be an ideal candidate. But, this is not required. What is required is a hardworking, organised student, with a genuine interest in research.

Project 38: Gait characteristics of people with Alzheimer's disease: a systematic review and meta-analysis

Supervisor(s): Roy Cheung - roy.cheung@westernsydney.edu.au
Principal Supervisor

Luke Jenkins - luke.jenkins@westernsydney.edu.au
Second Supervisor

Project description

Alzheimer's disease (AD) is the major leading cause of cognitive function decline. Previous studies have reported that people with AD display a different gait pattern. For instance, they tend to walk in a lower walking speed, shorter stride length, and a greater variability. These characteristics are even more observable when they are asked to perform a dual task (either cognitive or motor task) during walking. In this systematic review, we will summarise the evidence in the literature and combine the datasets from the past studies.

Project Aims

With this systematic review, we aim to:

- Include all relevant papers in the area;
- Extract the gait data from these articles;
- Conduct a meta-analysis and combine all datasets;
- Identify gait difference between people with normal cognition, people at different stages of AD, and pre-clinical dementia;

More importantly, this review may setup key foundation work for future development of wearable sensors/ technology for early identification/ screening.

Project Methods

This systematic review will follow the PRISMA guidelines. In addition, we will register this review at PROSPERO.

Opportunity for Skill Development

The student will master the skills to conduct a systematic review and meta-analysis, which includes the training to use relevant software for paper screening (e.g. Endnote), data synthesis and interpretation (e.g. Revman), and academic writing.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

The student is expected to have basic skill for a Medline search. Otherwise, there is no pre-requisite for this project.

Project 39: Nature-based solutions for health and wellbeing

Supervisor(s): Arianne Reis - a.reis@westernsydney.edu.au
Principal Supervisor

Nicole Peel - n.peel@westernsydney.edu.au
Second Supervisor

Tonia Gray - t.gray@westernsydney.edu.au
Third Supervisor

Project description

With every growing demand for mental health services and a sector that struggles to have the available resources to meet this demand (Nathe, 2018), there is a pushing agenda to ensure that we review all approaches that may be available to improve individuals' mental health and wellbeing.

There is burgeoning interest in the benefits of being in nature within the literature; however, studies are limited and dependant on individual interventions. There is a need to undertake a larger scope of the wider benefits for health and wellbeing that nature immersive activity brings.

This project is the beginning of a larger collaborative project between the School of Education and the School of Health Sciences as a foundation for a repository and dissemination of research on the connections between nature and health to assist practitioners who work in this space.

This project will involve the undertaking of a rapid review and development of a repository of research tools used to measure the impacts of nature-based solutions on the mental health and wellbeing of participants.

Project Aims

This project aims to identify, map and classify instruments and assessment tools that are used to evaluate the impact of nature-based activities, their purpose, validity and extent of use in the literature. An online platform will be established with this newfound information and act as a future gateway for research dissemination.

Project Methods

This project will involve the student learning how to search the literature, how to select the appropriate articles for review, how to appraise the articles selected and then write a full review of selected articles into a comprehensive document. The student will also collate the assessment tools identified through the review into an online repository for open consultation.

Opportunity for Skill Development

The student will develop skills in literature searching, critically appraising literature and conveying their readings into a written form. In essence, early research development skills.

Students are required to have the following skills/meet the following prerequisite(s) to apply

- Passion and attention to detail.
- Interest in nature-based activities.
- Curiosity in scientific principles.
- A background in therapeutic recreation or outdoor/adventure education is desirable.

Project 40: Leisure and children in foster care

Supervisor(s): Nicole Peel - n.peel@westernsydney.edu.au
Principal Supervisor

Project description

Children and young people stay in care until they are able to return to their birth families or until they transition out of the OOHC system at age 18. Leisure is an activity that all individuals can experience but they may not have the capacity due to their environment. As a child in care your entire environment and activities are controlled by others, including foster parents and case workers. Leisure has the potential to transform lives (Edginton, 2014), transcend negative life events and assist in coping with stress (Iwasaki, 2003). Leisure has been suggested as a method of self-protection and as self-restorative (Kleiber, Hutchinson & Williams, 2002). Leisure is an ideal lens in which to research and communicate with children who have experienced trauma and continue to be at the demands of a multicomplex system.

This project is part of a larger project where a greater understanding of leisure in the lives of children, adolescents and families is being undertaken. The project builds on my PhD thesis of adolescents' leisure and moves along the earlier development life cycle to children.

This project will involve the searching of literature and undertaking the beginnings of a scoping review. This project fits into a bigger picture of the leisure of children and adolescents in foster care.

Project Aims

This project aims to explore the leisure experiences of children in foster care.

Project Methods

This project will involve the student learning how to search the literature, how to select the appropriate articles for review and how to appraise the articles selected for review and write these into a comprehensive document.

Opportunity for Skill Development

The student will develop skills in literature searching, critically appraising literature and conveying their readings into a written form. In essence early research development skills.

Students are required to have the following skills/meet the following prerequisite(s) to apply

- Passion and attention to detail.
- Interest in social justice issues.
- Curiosity in scientific principles.

A background in social sciences, psychology, health sciences, education is desirable

Project 41: Recreation Therapy and Telehealth

Supervisor(s): Nicole Peel - n.peel@westernsydney.edu.au
Principal Supervisor

Stewart Alford - stewart.alford@westernsydney.edu.au
Second Supervisor

Project description

Many recreation therapy professionals, who work directly with clients in health, community and private facilities are being called into unprecedented circumstances because of the coronavirus pandemic. Recreational therapy professionals who work in early-intervention, outpatient, and mental health settings have found themselves having to alter or decrease service provision. Others have increased their service delivery through telehealth services. Telehealth is the use of communication technology to assist in education and treatment of health related conditions.

This project is part of a larger project where a greater understanding of telehealth application for recreation therapy. This Project will follow the principles set out by the JBI Manual for Evidence Synthesis – Scoping Reviews. This entails a comprehensive search strategy, inclusion and exclusion criteria, data extraction, analysis and presentation of results. This Project will involve the searching of literature and undertaking the early stages of the scoping review under supervision.

Project Aims

This project aims to explore the current use of telehealth within recreation therapy, guided by the following research questions;

- What types of telehealth interventions are being used in recreation therapy?
- What is the impact or effectiveness of these telehealth interventions.?

Project Methods

This project will involve the student learning how to search the literature, how to select the appropriate articles for review and how to appraise the articles selected for review and write these into a comprehensive document.

A three-part search strategy will be conducted, an initial search with developed from the research questions to ascertain key words and mesh terms, followed by a comprehensive search strategy deployed to CINAHL, PubMed, APA Psycinfo, and ProQuest Central and grey literature via TROVE, Pandora, AGWA and Greymatters.

The Student will be encouraged to utilise the JBI Manual for Evidence Synthesis – Scoping Reviews and relevant data extraction and analysis tools.

Opportunity for Skill Development

The student will develop skills in literature searching, critically appraising literature and conveying their readings into a written form. In essence early research development skills.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

- Passion and attention to detail.
- Interest in recreation therapy/health promotion/public health.
- Curiosity in scientific principles.

A background in therapeutic recreation is desirable

Project 42: Treatments for Anxiety Disorder using non-pharmacological treatments – A Scoping Review

Supervisor(s): Stewart Alford - stewart.alford@westernsydney.edu.au
Principal Supervisor

Charlise Bennett - President@diversionaltherapy.org.au
Second Supervisor

Project description

Mental Illness is a growing concern in contemporary society within Australia and further abroad with a general recognition that the current treatment frameworks are rooted in the medicalised model of health and wellbeing focusing on an individual's symptoms and risk of harm rather than supporting the individual's self-determination, resilience and personal journey of recovery.

Therapeutic Recreation is a growing profession around the world with a developing evidence base. This review aims to identify the existing knowledge and evidence surrounding Therapeutic Recreation treatments/interventions targeting Anxiety disorders the specific modalities employed and effectiveness of such.

Note a Protocol has been submitted by the Supervisory team to PROSPERO.

Project Aims

This project aims to identify and review current Therapeutic Recreation interventions that support individuals with anxiety disorders, their impact and effectiveness guided by the following research questions;

1. What types of Therapeutic Recreation interventions support individuals with Anxiety Disorders?
2. What impact do the Therapeutic Recreation interventions on individuals with anxiety disorders?

Project Methods

This Project will follow the principles set out by the JBI Manual for Evidence Synthesis – Scoping Reviews. This entails a comprehensive search strategy, inclusion and exclusion criteria, data extraction and analysis and presentation of results.

The following has been retrieved from the submitted protocol for this study currently under review;

A search strategy will be developed from the review questions, with an initial search undertaken followed by an analysis of the text contained in the title and abstract of related hits as well as any index terms used to describe the article, this information will assist in further developing the search for deployment.

The search will be conducted in CINAHL Plus, MEDLINE, PsycINFO, SocINDEX, The Cochrane Library and Trove Pandora, AGWA and Greymatters. A review of the reference list of all identified reports, reviews and/or articles will be searched for additional studies. Only Studies published in English language will be considered for inclusion in this review.

The review will consider both experimental and observational study designs for inclusion: randomized controlled trials, nonrandomized controlled trials, quasi-experimental, before and after studies, prospective and retrospective cohort studies, case-control studies, cross sectional studies, ecological studies and case series.

Studies will be independently screened by the two authors to identify articles potentially meeting the inclusion criteria relevant to the review questions. Any disagreements by the authors will be discussed and re-screened together to determine whether they meet inclusion criteria. Due to the limited number of studies both quantitative and qualitative studies will be included.

Data Extraction will be using adapted versions of the JBI template source of evidence details, characteristics and results extraction instrument. Form: <https://doi.org/10.46658/JBIMES-20-09>

This will be adapted to extract data related to the specifics of treatment/intervention and impact of the treatment/intervention. Results to be tabulated and presented relevant to the findings and research question.

Opportunity for Skill Development

The Student will develop strong analytical research skills, assisting in extrapolation and synthesis of data. The student will develop high level skills in referencing using reference management software, reviewing literature and academic writing.

Students are required to have the following skills/meet the following prerequisite(s) to apply

Strong Academic writing skills, high level IT skills (MS word and excel) and ability to pick up new software programs, and a keen interest in the research process and development of evidence based practice.

Project 43: Management of resident's quality of life and wellbeing through leisure and lifestyle programs in residential aged care

Supervisor(s): Stewart Alford - stewart.alford@westernsydney.edu.au
Principal Supervisor

Charlise Bennett - President@diversionaltherapy.org.au
Second Supervisor

Project description

There are 2700 aged care facilities across Australia. Quality of life and Wellbeing through the provision of leisure and lifestyle is an expectation for residents within facilities to meet accreditation. Recreational therapy also known as therapeutic recreation and diversional therapy usually deliver the leisure and lifestyle programs in aged care facilities. With this being said, the provisioning of leisure and lifestyle programs appears to vary significantly with the skills and knowledge staff have, and the variance within program offerings. Aged care service managers generally set the expectations of service provision within aged care settings and antidotally members of the DRTA have reported that aged care managers have a significant impact on the ability of staff to implement programs. A variety of programs have been developed for residential aged care with little reported on the ongoing evaluation and effectiveness of programs for residents. The project aims to understand the complexities and expectations between aged care managers and the provision of leisure and lifestyle programs with staffing. Findings will consolidate the baseline understanding of lifestyle programs in residential aged care.

Project Aims

This study aims to understand the management of residential aged care relating to a residents' quality of life and wellbeing through the leisure and lifestyle programs offered onsite. Specifically, it aims to explore:

1. Managers perspectives of leisure and lifestyle offerings at their facility
2. Leisure and lifestyle staff perspectives of the offerings at their facility
3. Ideological programs and staffing levels for best practice

Project Methods

Separate focus groups of both aged care service managers and leisure and lifestyle staff will seek to explore both what currently happens in practice and how practice should ideally look from both perspectives. The focus group participants will also develop potential strategies to improve practice. To understanding the provisioning of leisure and lifestyle from two perspectives: the aged care managers and the leisure and lifestyle staff.

Opportunity for Skill Development

The student would develop skills throughout the project through developing the literature review to get a background understanding of the issues, recruiting participant, assisting in the moderation of focus groups, the development of the final report and a publication of the findings in a relevant aged care journal.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

Ideally the student should have been exposed to residential aged care prior to the project.

An interest or key program in health services management and or recreation therapy would be advantageous, but not essential.

Project 44: Core Competencies of Aged Care Managers - Content Analysis of Job Descriptions

Supervisor(s): Stewart Alford - stewart.alford@westernsydney.edu.au
Principal Supervisor

Charlise Bennett - President@diversionaltherapy.org.au
Second Supervisor

Project description

Aged care management roles are evolving, changing from being clinical in nature with nursing focused roles to positions that focus more so on governance, business acumen and service management -as such the requirements of these roles are also changing. Recent issues highlighted in the aged care royal commission have (2019 Royal Commission and 2019/20 COVID-19 response) have identified a variety of workforce issues demonstrating how ill prepared residential aged care is for the challenges associated with mid-level management roles and a significant skill inequity between organisations.

Project Aims

The project will aim to identify the essential skills (professional competencies) and desirable attributes of Aged Care Managers requested by organisations in current practice as well as the remuneration associated with positions. The research may also contribute to further developing and strengthening of the industry co-designed Aged Care Management courses (GCACM, GDACM & MHsc HSM) to maintain relevance and currency at Western Sydney University.

This Project aims to identify the essential requirements and core competencies for aged care managers through a content analysis the advertisements and job descriptions of 100 positions in aged care management.

Project Methods

Aged care manager roles throughout Australia, that are publicly advertised over a 3-month period or once one hundred advertisements (whichever occurs first) will be collected. The advertised including the position descriptions will be collected. A content analysis will then be done to identify core competencies and essential requirements of the positions. This will also be compared with DoHA legislative requirements for staffing/management of residential aged care facilities.

Opportunity for Skill Development

The Student will develop strong organisational and analytical research skills, assisting in extrapolation and synthesis of data. The student will develop high level skills in reviewing literature and government policy, data analysis and academic writing.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

Strong Academic writing skills, High level IT skills (MS word and excel) and ability to pick up new software programs, Keen interest in the research process and development of evidence based practice.

Project 45: Building an Ethics of Care and Moral Resilience in Health Science Practice

Supervisor(s): Belinda Kenny - b.kenny@westernsydney.edu.au
Principal Supervisor

Project description

This project fits within a program of research that will explore strategies to facilitate health professionals' ethical practice. Individual studies will investigate the effectiveness of bioethical approaches to ethics education, the development of health science students' ethical reasoning skills, transitioning from ethical student to ethical health professional and building ethical culture in health care workplaces.

This project will explore the development of an ethics of care and moral resilience in health professionals. Ethics of care provides a moral framework for caring derived from feminist ethics (including work by Carol Gilligan & Nel Noddings). This framework has received growing support from medical and health science educators who have recognised the importance of equipping graduates to listen, empathise and accept responsibility for providing quality client care experiences. Ethics of care focusses on the importance of understanding relationships between individuals, and actively responding to ethical issues to empower individuals to make health care decisions. Importantly, ethics of care encompasses both attitudes and actions that create safe and supportive health care environments for professionals and clients.

In healthcare literature, moral distress is recognised as an unwanted consequence of working in complex care environments when health professionals perceive that their practice conflicts with their professional and personal values. Moral distress is typically characterised by perceived powerlessness and concerns that external factors are exerting continued and significant deleterious effects on health professionals' capacity to care well. Clearly, moral distress may have significant negative impacts for health professionals, including contributing to burnout. Yet, moral distress may also provide opportunities for significant professional growth, if managed appropriately. Moral resilience is required for agile responses in complex or changing health care environments so that health professionals maintain their professional and personal wellbeing and deliver effective health services. However, while moral distress has been empirically investigated, there is a dearth of information available on the development of moral resilience by health science students and professionals. This project takes an innovative approach by integrating literature from ethics of care and resilience studies. Outcomes from this project will provide a conceptual foundation for a series of studies that will focus on care and resilience in professional practice. Understanding the features of moral resilience and how they may be developed may transform approaches to ethics education and facilitate health sciences graduates to not only respond to ethical issues but to proactively contribute to ethics culture in their future professional workplaces. Findings will be equally relevant to maintaining the wellbeing of practising health professionals.

Project Aims

The aims of this project are to:

- Identify and describe key features of an ethics of care in health professional practice
- Identify and describe key features of moral resilience in health professional practice
- Integrate findings from ethics of care and resilience literature to propose an educational framework for fostering a 'culture of care' within health professional preparation programs
- Recommend theoretically and pedagogically sound strategies for evaluating the development of ethical caring and resilience in health science students

Project Methods

This study will utilise a scoping review of ethics literature. Scoping reviews provide comprehensive reviews of existing evidence and are helpful in identifying priorities and gaps in complex and emergent areas of research with a view to influencing future policy and practice development. The study will implement Arksey and O' Malley's (2005) five stage framework for scoping reviews to:

1. Identify goals of the review;
2. Identify appropriate database sources;
3. Select relevant studies,
4. Chart data and;
5. Collate, summaries and report results.

The student will be involved in all of stages of the scoping review.

Opportunity for Skill Development

The participating student will develop knowledge and understanding of ethical practice, including approaches to developing an ethical approach to caring and strategies to respond proactively in complex care situations.

The student will apply skills in database searching.

This project will facilitate the students' analytical and problem solving skills as they critically appraise and integrate findings from two ethics topics areas to create a conceptual framework for facilitating ethical practice.

The student will have opportunities to develop verbal communication skills through scholarly supervisory interactions. Academic writing skills will be developed with constructive feedback during preparation of a manuscript for publication.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

Strong verbal and written communication and ICT skills.

Project 46: Consumer involvement in Speech-Language Pathology research: An analysis of reporting trends from 2010-2019

Supervisor(s): Leigha Dark - l.dark@westernsydney.edu.au
Principal Supervisor

Project description

Within the discipline of Speech Pathology and in allied health disciplines more broadly there is a need for greater understanding of the factors that influence the decision of clinicians and researchers to partner with consumers in research. 'Consumers' are people who have lived experience of a health issue. They might receive health care or advice, or otherwise use health care services. They include patients, their friends, families, carers and members of the general public. Consumers can also be people who represent the views and interests of a consumer organisation, a community or a wider constituency (Kelson, et al., 2012). It is well recognised that involvement of consumers in development of practice guidelines, health decision making, service development and quality improvement, education, and research is considered best practice (Shelef et al., 2016). There are numerous recent systematic reviews that outline the benefits of consumer involvement (Oldfield et al., 2019), explore the experiences of both consumers and health care personnel involved in partnerships (Hoven et al., 2020), and examine the feasibility of consumer involvement across multiple settings (Domecq et al., 2014). Yet despite this evidence, there is underrepresentation of consumers involved in the co-design, co-development, implementation, evaluation and dissemination of research. In Speech Pathology, there are no published studies that establish the extent of consumer involvement in research within and across areas of speech pathology practice. This project has been designed to address this gap. Using systematic literature searching techniques within 6-8 Q1 Speech Pathology journals between the years 2010 – 2019, each occurrence of reported consumer involvement will be identified. Descriptive approaches be used to establish (a) the frequency of studies reporting consumer involvement (relative frequency and percentage frequency) (b) the nature of the consumer involvement (using the GRIPP-2 framework) and (c) the characteristics of the discipline-specific research contexts in which consumers were involved (customised data extraction tool). This project will help inform subsequent exploratory research into the factors that influence and shape involvement of consumers in speech-language pathology research.

Project Aims

Despite a rich evidence base promoting involvement of consumers in research, in the discipline of Speech Pathology, there are no current published studies that report on the extent of consumer involvement in research within and across areas of speech pathology practice. The aims of this project are to:

- Identify the frequency of published articles that explicitly report details of consumer involvement in speech-language pathology research, during the period 2015-2020
- Describe the nature of consumer involvement in research where it is reported
- Describe the characteristics of the research context in which the reported consumer involvement took place

Project Methods

Systematic sourcing, review and analysis of research articles published within 6-8 core, Q1/Q2 speech-language pathology journals between the period 2015-2020 will be conducted. Relevant speech pathology journals will be identified using the Scimago Journal Rankings tool. The 'Health Professions' subject area and 'Speech and Hearing' subject category will be used to narrow the search for eligible publications. Frequency counts of total number of research articles and total number of articles reporting consumer involvement will be conducted within each identified journal. Relative frequency and percentage frequency consumer involvement in research will be calculated. Using a customised data extraction tool, descriptive information about the nature of consumer involvement (informed by the categories contained within the Guidance for Reporting Involvement of Patients and the Public – 2nd Edition (GRIPP2)-Short Form) and discipline specific features of the research context, will be collected and analysed using a content analysis framework. The student will be directly involved in the searching, extraction and analysis of data from identified journals.

Opportunity for Skill Development

The student involved in this research will have opportunity to develop skills in the systematic searching of published literature using research data bases, development and implementation of a customised data extraction tool, analysis of data using descriptive statistics (frequency analysis, measures of central tendency etc...) and (possible) use of SPSS software, analysis of data using content analysis, interpretation of data patterns and meaning (with supervisor support). The student will also experience research supervision processes such as regular meetings, workflow conversations and working to negotiated timelines and quality standards. A product of this research will be a comprehensive data collation document, which will be used to inform related research projects. The student will have opportunity to be named on any publications arising from this work.

Students are required to have the following skills/meet the following pre-requisite(s) to apply

Students who have completed a Level 2 subject in Research Methods e.g. (400864 Research Methods [Quantitative and Qualitative] or similar), would be well placed to undertake this project. The ability to systematically collect, collate and analyse written data from published literature and perform simple descriptive statistical methods would be beneficial. The student would also need to be able to work independently and be able to proactively seek clarification or assistance from the supervisor as required.

Project 47: Self-directed stress-management strategies used by university students: a scoping review

Supervisor(s): Nerida Klupp - n.klupp@westernsydney.edu.au
Principal Supervisor

Arianne Reis - a.reis@westernsydney.edu.au
Second Supervisor

Project description

This project is a scoping review of stress management strategies used by university students. Stress experienced by higher education students is an emerging topic of concern locally, nationally and globally. The skills developed by students for stress management during university are essential for success, resilience and readiness for the workplace. In 2018 this project's researchers (A.Reis and N.Klupp) were awarded a Western Sydney University Partnership Grant with Wayahead Mental Health Association NSW to research stress management in university students. Specifically, the project created health promotion material "Ten Tips to Stress Less" from best available evidence, consultation with industry experts, and student survey results. The research team are committed to expanding upon this first project, and the search for evidence highlighted potential avenues for research and publication.

This scoping review will build upon this work to map and synthesise self-directed stress management strategies in university student, and to identify future systematic reviews and studies, particularly suitable for HDR students. The researchers of this project have developed the scoping review protocol with the Joanna Briggs Institute Centre of Excellence at Western Sydney University. The project will involve performing updated searches, identifying papers, extracting and analysing data, and preparing the review publication. The project researchers will also be the partner scoping reviewers through this process and will therefore be able to provide training and support during all stages of the research.

Project Aims

Research question

What are the intervention types, characteristics, results and challenges of self-directed strategies used by, or promoted to, post-secondary students to manage stress?

The aims of this scoping review are to:

1. Identify what types of self-directed stress-management strategies by university students have been evaluated in included studies
2. Map the characteristics and research methods used in identified studies
3. Synthesize reported results, challenges and limitations of included studies
4. Identify knowledge gaps and propose recommendations for future research studies
5. Identify appropriate and useful systematic review topics

Project Methods

The proposed scoping review will be conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews (Aromataris & Munn, 2017).

This scoping review will consider studies that include students currently enrolled in a tertiary/post-secondary institution, including: university; college; trade/vocational schools; polytechnic; technical college; TAFE. It will include experimental and quasi-experimental study design. The search strategy will aim to locate both published and unpublished studies. The databases to be searched include Academic Search Complete, APA Psych Info, Google Scholar, ProQuest Central, PubMed and Scopus. Following the search, all identified citations will be collated and uploaded into EndNote X9.3.1 (Clarivate Analytics, PA, USA) and duplicates removed. Titles and abstracts will then be screened by two independent reviewers for assessment against the inclusion criteria for the review. Potentially relevant studies will be retrieved in full and their citation details imported into the Joanna Briggs Institute System for the Unified Management, Assessment and Review of Information (JBI SUMARI) (Joanna Briggs Institute, Adelaide, Australia) (Munn et al., 2019). The full text of selected citations will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of full text studies that do not meet the inclusion criteria will be recorded and reported in the systematic review. Data will be extracted from papers included in the scoping review by two independent reviewers using a data extraction tool developed by the reviewers. The extracted data will be presented in diagrammatic or tabular form in a manner that aligns with the objective of this scoping review. A narrative summary will accompany the tabulated and/or charted results and will describe how the results relate to the reviews objective and question/s.

Opportunity for Skill Development

Scoping or systematic reviews are an ideal introduction to research. They apply research method/evidence-based practice knowledge from previous studies and further develop skills in:

- Sensitive and specific search strategies
- Database literacy
- Identifying research study type
- Identifying research level of evidence
- Reporting guidelines of studies
- Critical appraisal of studies
- Project organisation/ management
- Scoping/ systematic review software programs
- Summarising and synthesising evidence
- Research team communication and collaboration skills
- Publication writing skills

Students are required to have the following skills/meet the following pre-requisite(s) to apply

N/A

Project 48: Assessment of pulmonary diffusion capacity during exercise: implications for assessing physiological effects of COVID-19

Supervisor(s): Simon Green - simon.green@westernsydney.edu.au
Principal Supervisor

Belinda Cochrane - belindacochrane@bigpond.com
Second Supervisor

Chloe Taylor - c.taylor@westernsydney.edu.au
Third Supervisor

Project description

COVID-19 is fundamentally a disease of the lungs, associated with primary pathophysiological effects on the airways (epithelial cells) and vasculature (endothelial cells) of the lungs and usually accompanied by breathlessness, especially provoked by mild exertion. These effects should manifest as an impairment in the diffusion capacity of the lungs – termed pulmonary diffusion capacity – either at rest or during mild exertion. However, the long-term effects of COVID-19 or related syndromes on pulmonary diffusion capacity at rest or during exercise have not been established. Clinically, there is no standardised test of exercise-related pulmonary diffusion capacity.

This project is focused on developing an exercise-related test of pulmonary diffusion capacity for clinical application. The summer scholarship project will involve the development of a new experimental protocol using a small number of healthy subjects (n = 3-4) that will then be used in a larger study of breathlessness in respiratory patients in 2021. The design of the new experimental protocol will involve the troubleshooting of an exercise protocol combined with repeated measurements of pulmonary diffusion capacity, with its clinical application in mind. The summer scholarship student will be guided along a learning journey where he or she will begin to learn and apply the basic techniques (exercise testing, pulmonary diffusion capacity assessment), analyse some data, and create a presentation that demonstrates an understanding of pulmonary physiology contextualised to COVID-19.

Alternative Project: If COVID-19 prevents access to the research laboratory, the student will write a literature review focused on 1) technical aspects of measuring pulmonary diffusion capacity at rest and during exercise, as well as 2) effects of exercise on pulmonary diffusion capacity. The primary supervisor has started developing the technique for measuring pulmonary diffusion capacity and data, if collected before November, might be used to support the student's learning of technical aspects of the measurement of pulmonary diffusion capacity.

Project Aims

The aim of this project is to initiate the development of an experimental protocol that, in the longer-term, will be used clinically to assess exercise-related pulmonary diffusion capacity in different clinical research scenarios, including COVID-19. The academic aims of this specific project are to 1) introduce an undergraduate student to scientific research and an important area of clinical physiology, 2) teach the student new laboratory and data analytical skills, and 3) hopefully help the student make an informed decision about studying in the Masters (Research) program. Several of the experimental techniques require a substantial theoretical and technical background which the vast majority of undergraduate students do not have. The student involved in this project will also be engaged in some learning of this background.

Project Methods

This summer student project is a 'pilot study' that will involve a maximum of 3-4 healthy participants. Within a single testing session, each participant will undergo a series of evaluations of pulmonary diffusion capacity at rest and then during a stepwise exercise protocol. Pulmonary diffusion capacity will be assessed using the 'DLCO' technique. Exercise will be performed using a computer-controlled recumbent cycle ergometer. The student will be introduced to all experimental techniques and the complexity of controls and calibrations required, focusing mainly on the DLCO technique. The student will perform some basic analyses of data to present in their final report and oral presentation (if required).

Opportunity for Skill Development

The summer scholarship student will be guided carefully along a journey of developing basic scientific skills (e.g., rigorous note-keeping, 'quality' control), preliminary learning of experimental techniques related to exercise testing and assessment of breathing, working with human subjects, as well as a constrained analysis of data. The focus of learning will be on careful reading and clarity of thinking, patience and discipline of behaviour, and experimental rigour. The 'size' of the experiment will be kept small so that these scientific virtues can be better appreciated and developed by the student.

Students are required to have the following skills/meet the following prerequisite(s) to apply

Eligible students must be in the third year of a Sports and Exercise Science degree OR third year of a Medical Sciences degree and have studied exercise physiology.