

2023 Faculty of Education Postgraduate Research Symposium
“Empowerment through Education”

Program Booklet
25 March 2023

Faculty of Education

University of Macau



澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU



教育學院
Faculdade de Educação
Faculty of Education

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Symposium Introduction

This symposium provides opportunities for Faculty of Education (FED) postgraduate students at the master's and doctorate levels to: use English to practice giving conference papers and poster presentations in a friendly environment; present research to peers and experienced supervisors in a collegial and helpful environment; meet other postgraduate researchers in the faculty working on similar areas of research; receive constructive feedback from the audience; and get a sense of the wide range of postgraduate research being undertaken in FED.

This is the third year FED has held the postgraduate research symposium. This year's theme, "Empowerment through Education," has sparked my reflection on what inspired the idea for the symposium three years ago. We aimed to empower postgraduate students through supportive practice in presenting and discussing their research. However, in the age of "publish or perish" it appears that postgraduate students' essential skills of discussing and explaining research has fallen by the wayside. This issue has been exacerbated by the COVID-19 pandemic. During that dark time, few students had opportunities to attend international conferences. Now with that behind us, I hope both student presenters and attendees can reclaim their empowerment. Let this symposium be the first of many that they attend this year.

Our invitation for proposal submissions resulted in the acceptance of six paper and ten poster presentations on different aspects of education. Presentations this year cover state of the art research in language education, physical education, online instruction, mathematics education, and teaching methods, among others. In addition, we have the honor of having *Shuying Li*, Distinguished Professor at Shenzhen University, deliver a keynote speech on "Researching Lived Experiences – Emerging School of Thoughtful Pedagogy in Responding to the Technologizing World."

Organizing this symposium has been a labor of love. However, making the symposium a reality would not have been possible without the kind support of FED Dean Chuang Wang, my fellow symposium organizers, the abstract, poster, and paper reviewers, the FED administrative staff, and the student assistants. I hope everyone finds the presentations intellectually inspiring and rich in opportunities for learning.

Barry Lee Reynolds
Symposium Chairperson
1 March 2023

Symposium Organizers

<i>Chuang Wang</i>	Distinguished Professor Faculty of Education University of Macau	<i>Professional Consultant</i>
<i>Barry Lee Reynolds</i>	Associate Professor Faculty of Education University of Macau	<i>Symposium Chair & Budgeting</i>
<i>Tat Ming Sze</i>	Associate Professor Faculty of Education University of Macau	<i>Poster Presentation Coordinator</i>
<i>Si Man Lei</i>	Assistant Professor Faculty of Education University of Macau	<i>Paper Presentation Coordinator</i>
<i>Jin-Jy Shieh</i>	Assistant Professor Faculty of Education University of Macau	Food & Beverage, Transportation, & Venue Coordinator
<i>Yan Wang</i>	Assistant Professor Faculty of Education University of Macau	Proposal/Presentation Evaluation Coordinator and E-mail Monitoring
<i>Xiaowei Tang</i>	Assistant Professor Faculty of Education University of Macau	Proposal/Presentation Evaluation Coordinator and E-mail Monitoring
<i>Lijia Lin</i>	Assistant Professor Faculty of Education University of Macau	<i>Website Content Creator</i>
<i>Xin Lin</i>	Assistant Professor Faculty of Education University of Macau	<i>Symposium Program Book Coordinator</i>

Review Board

Paper Presentation and Poster Presentation Abstract Submission Review Board

Kan Kan CHAN	Shing On LEUNG
Fu CHEN	Lijia LIN
Weiwen CHEN	Xin LIN
Yu CHEN	Brian V. RUSK
Boby Ho-Hong CHING	Min-Chuan SUNG
Walter King Yan HO	Xiaowei TANG
Biying HU	Peggy Keang-ieng VONG
Chester KAM	Pingzheng WANG
On Kei LEI	Matilda Ming Wai WONG

Poster Presentation Review Board

Fu CHEN	Tat Ming SZE
Yang (Frank) GONG	Yan WANG
Chester Chun Seng KAM	Water Soi Po WONG
Zhaowei KONG	Nan ZHOU
Lijia LIN	

Full Paper and Paper Presentation Review Board

Fu CHEN
Chester Chun Seng KAM
Audrey Min-Chuan SUNG

Schedule of Events

Saturday 25 March 2023				
Time	Event	Presenter	Location	Topic
9:00-9:30	Registration		E33-G021 Entrance	
9:30-9:40	Preamble	Barry Lee Reynolds	E33-G021	
9:40-10:00	Opening remarks	Chuang Wang	E33-G021	
10:00-11:00	Keynote Speech	Shuying Li	E33-G021	Researching Lived Experience – Emerging School of Thoughtful Pedagogy in Responding to the Technologizing World
11:00-11:25	Presentation #1	Yanchao Yang	E33-G021	English Pronunciation Self-Efficacy Scale: Development and Validation
11:30-11:55	Presentation #2	Qile Liu	E33-G021	How Do Teachers’ Teaching Methods Affect the Reading Literacy of Resilient Students? The Mediating Role of Students’ Reading Interest, Mastery of Goal Orientation and Perception of Cooperative Atmosphere
12:00-12:25	Presentation #3	Xiaofei Li	E33-G021	Co-developmental Trajectories of Academic Achievement, Internalizing and Externalizing Symptoms in Childhood: The Role of Parenting
12:30-12:55	Presentation #4	Ruili Zhao	E33-G021	The Effects of Mathematics Anxiety and Self-regulated Learning of Grade-12 Chinese Students on their Achievement: Structural Equation Modeling
13:00-14:30	Lunch		E33 GF Learning Commons	
14:30-14:55	Presentation #5	Sin Yi Louisa Cheong	E33-G021	Online 1-on-1 Yoga Teaching using AmazingTalker: A Case Study
15:00-15:25	Presentation #6	Guanlin Wang	E33-G021	A Literature Review of the Influence of Circuit Training in Juvenile Short Distance Swimming Events
15:25-17:00	Tea Break / Poster Session		E33 GF Learning Commons	
17:00-17:15	Best Presentation Awards and Closing Remarks	Barry Lee Reynolds	E33-G021	
18:00	Courtesy Dinner for Keynote Speaker, Conference Committee, and Best Paper/Poster Presenters		Bei Shan Lou, Galaxy Macau	

Keynote Speech

Keynote Speaker

Dr. Shuying Sean Li is distinguished professor in the Faculty of Education at Shenzhen University. Prior to this position, he was the Executive President of City University of Dongguan, the Pro-Rector of City University of Macau, Dean of Faculty of Education and Director of Macau Education Development Research Center. Professor Li worked in Macau SAR, Hong Kong SAR, Mainland China, and Canada for over 30 years. He is a leading professor in phenomenological pedagogy and human science research methodology. He is also a renowned scholar in teacher professional development, thoughtful pedagogy, classroom-based action research, teaching innovation and higher education administration. He is Senior Editor/Editor of four international journals in education.

Researching Lived Experience – Emerging School of Thoughtful Pedagogy in Responding to the Technologizing World

Shuying Sean Li

Distinguished Professor, Shenzhen University

In this keynote presentation, the speaker starts with the large context of contemporary tendency of technologizing education. It is no overstatement that “our culture has more than once” been called a technological culture. Technological thinking becomes today the basis, the motor, and the mark of nearly every cultural activity or field. This culture has many advantages in comparison with the past. However, the reverse is also true: we are more and more confronted with the major problems and threats as a result of technological thinking. By introducing several anecdotes of students’ LEDs (lived experiential descriptions), the speaker elucidates a new school of thoughtful pedagogy and research methodology: the phenomenological pedagogy with examples of philosophical thinking and research cases. From this keynote, the audience will be able to get a brief understanding of the phenomenological pedagogy, its research methodology and humanistic thinking in living with students.

Paper Presentations

English Pronunciation Self-Efficacy Scale: Development and Validation

Yanchao Yang

124985392@qq.com

The goal of this study was to develop and validate English Pronunciation Self-Efficacy Scale (EPSEA). Based on the pronunciation features proposed by Burns and Claire (2003), segmental feature and suprasegmental feature, nine items of two dimensions (segmental feature and suprasegmental feature) were generated and retained after being reviewed by experts. The scale was then distributed to 1,500 college students in a private university in China on the first and final week of one semester, 12 weeks apart. Of these, 1,322 students answered twice. The results of internal consistency reliability and test-retest reliability results indicated that the English Pronunciation Self-Efficacy Scale is reliable. In addition, results of cross-sectional CFA, longitudinal CFA and multi-group CFA provided evidence for the structural aspect of construct validity of the scale. At last convergent validity was verified by significant correlation between EPSEA and the adapted English Pronunciation Self-Efficacy Sources Scale. To conclude, this two-dimension English Pronunciation Self-efficacy scale is reliable and valid. This scale is anticipated to fill the gap in the literature about self-efficacy in relation to English pronunciation, and to provide further impetus to future empirical research about this intriguing concept.

How Do Teachers' Teaching Methods Affect the Reading Literacy of Resilient Students? The Mediating Role of Students' Reading Interest, Mastery of Goal Orientation and Perception of Cooperative Atmosphere

Qile Liu

mc24612@umac.mo

Teachers are known to be crucial role models for students and play a significant role in promoting resilience among students. Enhancing teachers' instructional methods can lead to improved reading proficiency among students. However, the link between teachers' guidance and the reading proficiency of resilient students remains unclear. The distinctive characteristics of resilient students during the learning process warrant further investigation. Previous studies have shown that teacher can influence students' academic performance by improving instructional methods. Nevertheless, existing studies have not involved resilient students, and few clearly explain how varying teacher instruction affects students' reading achievement. Based on PISA 2018 data of 625 resilient students and 3,150 non-resilient students in Macao, China, this study explores the effects of teachers' instructional methods on reading achievement of resilient students, then compared resilient students and non-resilient students. Results indicate that reading interest completely mediates the impact of teacher instruction, perceived teacher interest, and teacher stimulation for reading engagement on the reading achievement of resilient students. On the other hand, mastery goal orientation completely mediates the relationship between teacher's instruction, students' perceived teacher interest, and reading achievement of resilient students but not non-resilient students. Moreover, the cooperative atmosphere perceived by students significantly influences the reading learning of non-resilient students. Therefore, it is necessary to adopt different instructional strategies for resilient and non-resilient students in reading instruction. This study highlights the importance of recognizing the unique needs of resilient students and tailoring instructional methods accordingly.

Co-Developmental Trajectories of Academic Achievement, Internalizing and Externalizing Symptoms in Childhood: The Role of Parenting

Xiaofei Li

yc27111@um.edu.mo

Although increasing evidence has indicated that low academic achievement and mental health problems often co-occur in children and adolescents and lead to many adverse outcomes, the heterogeneity in their joint developmental trajectories is unclear. This study investigated the co-developmental trajectories of academic achievement (AA), internalizing (INT), and externalizing (EXT) problems in Chinese elementary school students. A total of 3283 students (43.6% girls; $M_{\text{age}} = 9.50$ years, $SD = 0.56$) from eight elementary schools in China participated in this study on five occasions at 6-month intervals. By using the parallel-process latent class growth model (LCGM), this study identified six heterogeneous developmental trajectories: (1) High AA & Moderate low symptoms, 49.7%; (2) High increasing EXT and Moderate AA & INT, 8.9%; (3) High increasing INT & Moderate high AA, and moderate EXT, 6.7%; (4) Congruent-moderate, 21.9%; (5) Low AA & Moderate symptoms, 10.2%; (6) Low decreasing AA & Moderate high symptoms, 2.6%; Multivariate logistic regression (LCGM with predictors) revealed that autonomy-supporting parenting served as a protective factor for the positive developmental trajectory of academic and mental health; whereas psychological control or harsh punishment parenting were both risk factors for the adverse co-development of academic and mental health problems. Our findings supported considerable heterogeneity in the development of academic performance and mental health problems. The finding of this study also indicated that comprehensive intervention should contain both academic and emotional/behavioral aspects, in which improving parenting may be a promising strategy.

The Effects of Mathematics Anxiety and Self-Regulated Learning of Grade-12 Chinese Students on their Achievement: Structural Equation Modeling

Ruili Zhao

aooyraolin@126.com

Mathematics anxiety plays a negative role in students' mathematics learning and their mathematics achievement. In this research, we studied mathematics anxiety not only in the test context, but also in the learning of different mathematics domains. We also investigated its effect on students' mathematics achievements together with self-regulated learning. The purposes of this research were: 1) To validate a self-developed content-based mathematics anxiety questionnaire, named Mathematics Anxiety Questionnaire for High School Students (MAQ-HS); 2) To explore the gender differences of mathematics anxiety; 3) To determine the effect pathway of mathematics anxiety and self-regulated learning on mathematics achievement; and 4) To investigate the best predictor of mathematics achievement in learning strategies and mathematics anxiety. Two studies were designed, and two questionnaires were administered to 638 Chinese high school students in Grade 12 from three schools at different levels. Study 1 was to validate the self-developed MAQ-HS and explore gender differences. Five-component construct that contained numbers and operations anxiety was validated, and four components were retained based on the EFA results. CFA results showed adequate psychometry properties of MAQ-HS with 20 items measuring four factors: math test anxiety, algebra anxiety, geometry anxiety, and statistics and probability anxiety. And girls performed significantly higher-level anxiety in math test anxiety and geometry anxiety. Study 2 determined the impact pathway of mathematics anxiety and self-regulated learning (intrinsic goal orientation, extrinsic goal orientation, and learning strategies) on mathematics achievement using Structural Equation Modelling (SEM). By using the mid-term scores of 338 Grade-12 students as mathematics achievement, the fit of the model was examined. The results indicated that extrinsic goal orientation could significantly predict mathematics anxiety, intrinsic goal orientation significantly predicted the learning strategies, and both mathematics anxiety and learning strategies had good predictability on mathematics achievement. In addition, the elaboration strategy was the best predictor of mathematics achievement, followed by math test anxiety. The significance of mathematics anxiety in self-regulation for Chinese students' mathematics learning is clarified in this thesis. The questionnaire provides reliable psychometric tools for assessing mathematics anxiety in the Chinese context. And the mathematical self-regulating learning research was well supplemented by the mathematics anxiety as well. Additionally, the limitations and implications of the findings were discussed.

Online 1-on-1 Yoga Teaching Using AmazingTalker: A Case Study

Sin Yi Louisa Cheong

mc14651@um.edu.mo

There is no absolutely right or wrong in education, and it deserves wide latitude to meet the market. Face-to-face teaching has been a traditional way of tutoring and learning, while online teaching became a modern one and impelled fiercely since the outbreak of COVID-19. The latter was originally started by static lessons, however, due to various factors, dynamic lessons such as yoga, dancing and fitness also become popular in the category of online teaching. When online teaching provides more freedom for both students and teachers, other issues come as follow. Existing literature shows that much research on online yoga with business have been studied, and there is still lack of studies on analyzing the drawbacks of online yoga. The purpose of this study is to examine the effect and satisfaction of students learning yoga online and influencing factors. And it aims to study the degree of freedom and restrictions for online yoga tutors using AmazingTalker, as well as the impact on the quality of education, comparing to face-to-face teaching. This is a 12-week qualitative case study, including data from two interviews with each of the four online yoga students and two online yoga tutors from AmazingTalker, questionnaires from online yoga students and tutors after 12-week, virtual classroom observations, field notes, and the researcher's reflections. The results of this study will be concluded to make directive analysis to provide suggestions and solutions for tutors and students to offer great experience, to make them enjoy the comfort and convenience of this modern way of teaching.

A Literature Review of the Influence of Circuit Training in Juvenile Short Distance Swimming Events

Guanlin Wang

mc24724@connect.um.edu.mo

In 1964, in the process of learning Guo Xingfu's teaching method put forward the training principle of "three from one", and gradually entered the era of "scientific training", during the period of scholars and coaches through continuous exploration, formed a variety of training methods including circuit training method. But each training method is implemented in each area, the application is not comprehensive. To fully understand the application of circuit training in swimming training, it is necessary to summarize the research of previous scholars in this area. The study was undertaken to examine (1) how circuit training could contribute to swimmers and improve performance and (2) the effectiveness of circuit training programs on swimmers. and expect to provide more reference data for future swimming training for coaches to choose appropriate training methods. which form of strength training resulted in the largest improvement in swimming performance. In this paper, the keywords and search terms such as circuit training, youth, short-distance swimming, and swimmers were selected from databases such as in china database including Zhiwang, CNKI, Weipu, and Wanfang. The research literature of publications from January 12, 2013, to January 12, 2023. Following the guidelines, there were 17 studies were included in the current review. Through the reading and analysis of the literature, it can be seen that the current literature mainly analyzes the general direction and thinking of swimming training or conducts research on the improvement of a certain aspect of the ability, but does not give specific training methods. Very little research has been done on the specific application of circuit training. It is found that the current domestic application research of circuit training in swimming events mainly focuses on the technical level. Most of them have conducted in-depth and detailed studies on strength training, speed training, technical training, training recovery, and the theories and methods of juvenile swimming training, analyzing the adaptability of juvenile short-distance swimming students to the circuit training method and whether the circuit training method has improved the athletic level of these students. The application of the circuit training method applying in swimming training for teenagers is still relatively simple, and evidence base program is absent. In addition, there is insufficient comparison study and quality rematch to prove the impact of circuit training on swimmers. Therefore, suggest conducting various studies to explore the effectiveness for different age, gender, and level.

Poster Presentations

Exploring Conflict Dynamics in Chinese Collaborative Writing Classrooms: A Case Study

Qianhong Zeng

mc14572@umac.mo

Global pioneers had done quite a lot of theoretical and pedagogical research on peer conflicts, among which they considered the Second Language (L2) peer assessment, teachers' assessment, and the classification and identification of conflicts. While few scholars stand in Chinese L2 collaborative writing classrooms in early attempts to abstract the conflicts that learners confront in producing peer feedback. In fact, it is a dynamic and unpredictable process of interaction. This study involved data gathered from a Chinese university, containing a sample of 163 participants who submitted the demographic questionnaire as a pilot study and 6 semi-structured individual interviews. More than 60% of the questionnaire participants declared that they had experienced various forms of conflicts while they were pressing ahead with collaborative writing tasks. Writing samples from 6 interviewees were collected for investigating if peer conflict forges an impact on further L2 writing development. This qualitative study employed Symbolic Interactionism theory to aid in this establishment of a dynamic conflict model. And the results illuminate that intragroup relational conflicts embrace open-ended denouement, which means they are ultimately unresolved but avoided instead. In addition, team members primarily sympathized harmony-oriented writing goals. Their self-reflective statements also reveal that family education and collectivist responsibility in East Asian societies play an important role in their decision-making, conflict management styles, and interpersonal skills. And task conflict moves toward closure, considering the instructional intervention from teachers. Suggestions from teachers are more authoritative from the view of learners, which accelerates the process of task conflict resolution. This study proposes a broad perspective for studying the influence of culture traditions and interpersonal relationships on the process of conflict management. It is of great reference value for teachers to enact in much of teaching design in China since the data is initially extracted from Chinese classrooms. Implications for teaching are addressed along with recommendations for future research.

Online Vs. In-Campus, Comparative Analysis of Student Leadership Self-Efficacy and Activity Engagement: A Way Forward for Post-COVID-19 Era

Yijie Li & Ye Zhao

yc27101@um.edu.mo & yc27113@connect.um.edu.mo

Astin's involvement theory proposes that participation in activities is an important part of student development and academic success and will affect a student's sense of leadership efficacy (Astin, 1999; Komives & Johnson, 2009; McCormick et al, 2002). As universities have been affected by the epidemic in recent years, many online activities have been held to develop students' leadership. This quantitative study aims to explore the relationship between on-campus and online student activities and leadership self-efficacy in higher education. A questionnaire survey was conducted among 259 students from a joint venture college in China. The quantitative analysis revealed that active participation in on-campus school activities significantly impacted gaining the consensus of group members on leadership self-efficacy. The results of this study will have implications for the development of campus activities that cultivate student leadership in the post-pandemic era. In the later stages of the pandemic, colleges and universities should organize face-to-face school activities, encourage students to take on leadership roles, and help them improve their team communication and collaboration skills. After the pandemic, the findings promote students' leadership skills and contribute to the higher education field.

International Students' Investment in Learning Cantonese, Mandarin, Portuguese, and English in Multilingual Macao

Ning Ren

mc24561@um.edu.mo

Second language (L2) learning is a socially constructed practice. L2 learners' social interactions within a community can shape L2 learners' identities and subsequently influences their investment in L2 learning. However, most previous social L2 studies have mainly investigated international students' L2 learning from a monolingual perspective. While the world is becoming increasingly multilingual, international students nowadays encounter more complicated language contexts than before. This cross-sectional qualitative study investigated the L2 learning investment and identity of international student sojourners in the multilingual context of Macao. Through semi-structured interviews, this study examined 1) 15 international student sojourners' L2 learning investment in four languages (Cantonese, Mandarin, English, and Portuguese); 2) Participants gained L2 proficiencies in the four languages during their sojourn in Macao; 3) How their self-positioning and negotiation of membership in Macao affect their investment in the four target L2. Three main findings of this study were: 1) Taking courses and daily communication were the main routes participants took to learn target L2s; 2) Participants generally invested more and gained more proficiency in English and Mandarin than Portuguese and Cantonese; 3) Participants' multiple and changing identities competed across time and space, leading to dynamic L2 investment. Participants' L2 learning is more likely to be sustained if a target L2's benefit is coherent across individuals' identities. This paper provides insight into the current global language ecology and individual L2 learners' situations within this context from a fresh perspective of international student sojourners in a multilingual context.

**Medical School Students' Preferences for and Perceptions of Teacher Written
Corrective Feedback on English as a Second Language Academic Writing: An
Intrinsic Case Study**

Xiaofang Zhang
yc17111@umac.mo

This intrinsic case study investigated English as a foreign language (EFL) medical students' preference for and perceptions of teacher written corrective feedback (WCF) on their academic writing. As an intrinsic case study, the focus is on the case itself rather than an overarching theory—the case presents a unique situation in the Taiwanese EFL learning context. Chinese speaking second year first semester undergraduate medicine majors ($n = 71$) enrolled in an academic EFL “reading to write” course at a university in northern Taiwan were recruited as participants. Qualitative content analysis, as well as some descriptive statistics, was used to investigate data gathered from participants' responses to an open and closed ended questionnaire. The questionnaire enquired about their preferences for and perceptions of teacher WCF relating to writing structure, writing content, and writing mechanics. Qualitative content analysis of two in depth semi structured interviews with the English teacher uncovered why the participants preferred certain WCF types and perceived them as helpful. Questionnaire data revealed that students showed a preference for WCF relating to writing structure over content and mechanics, and direct feedback over indirect feedback for both writing content and structure. Compared to writing structure and writing content, the examples given by students of the most ($n = 25$) and least helpful ($n = 14$) feedback were predominantly related to writing mechanics. The interview transcript data underscored the influencing factors of EFL medical students' preferences, and the perceived benefits and challenges related to feedback. These findings suggest that writing teachers should consider the specialized preferences of particular learner groups (e.g., EFL medical school students) prior to administering feedback. Specifically, we suggest teachers provide more effective comments on students' English academic writing. Furthermore, EFL medical students expected to receive more emotional support, especially positive encouragement, from their teachers and to establish effective communication.

Learner Beliefs about using Dialogue Journals for Practicing General and Academic Second Language Writing

Xiaoke Bai

MC24643@um.edu.mo

Second language writing is receiving increasing attention, and teachers are trying to integrate writing activities into second language writing learning. However, learners rarely have the opportunity to practice their second language writing. Dialogue journal writing is a practical activity for learners to practice their writing under the constraints of limited class time. This qualitative study explores the feasibility of dialogue journal writing activity by investigating the learners' beliefs on dialogue journal general and academic writing. The study included 49 first-year undergraduates from a technical university in Taiwan majoring in Applied English. Their English abilities were at the B1-B2 levels according to CEFR (The Common European Framework of Reference for Languages). They went through one-semester practice for dialogue journal general writing and one-semester practice for dialogue journal academic writing. The data consisted of the written reflections collected at two points in time during the academic year: at the end of the first semester and at the end of the second semester. The concept-driven coding frame was used in the qualitative content analysis of the students' reflections. The preliminary findings showed seven broad themes, comprised of 15 subthemes, regarding (1) knowledge, (2) learning, (3) self-efficacy, (4) goal orientation, (5) interest, (6) outcome attribution, and (7) teacher. The primary themes were documented in the literature, but several subthemes were newly shaped and identified in this study context. The findings were interpreted in relation to the content of the activity, the learners' prior experiences of writing practice, and the local language education and context. Learners in this study generally believed they could benefit from dialogue journal writing activities in general and academic writing. An interesting finding was that the empowerment and autonomy of learners might be affected, because some learners took the teacher's preference into the standards of dialogue journal writing. Implications and suggestions for this activity were discussed that could serve as a reference for second language teachers to use dialogue journal writing as a writing practice activity for their learners in second language teaching classrooms.

Review of Moderate-Intensity Exercise to Improve Health Status in Sedentary Population

Jialin Xu

mc24713@connect.um.edu.mo

Sedentary behavior in daily activities is becoming more common, and the problems of fatigue and pain caused by sedentary behavior are becoming more serious. It is necessary to introduce sedentary people to physical activity. Moderate intensity physical exercise is important for the health of sedentary people. According to the World Health Organization (WHO) and the United States Physical Activity Guidelines, moderate-intensity physical activity can improve the symptoms of fatigue and pain caused by sitting, which can reduce the risk of these problems. However, very few people in the sedentary population achieve sufficient levels of moderate-intensity exercise. It is important to introduce these people to exercise, which will bring great benefits to their health. To study the exercise habits of sedentary people with symptoms of fatigue and pain, and the improvement of these problems after moderate intensity exercise. Available evidence suggests that significant health improvements can be seen when moderate-intensity aerobic exercise is performed more than 3 times per week for more than 9 weeks under professionally supervised conditions. Further research on the unique effects of moderate-intensity exercise is warranted. Data sources and research selection: Studies of sedentary people aged 18-48 years using cross-sectional, longitudinal, or experimental study designs were retrieved from four electronic databases (PubMed, EMBASE MEDLINE, Cochrane Library, and SPORTDiscus) from March 2003 to March 2023. Search keywords include moderate intensity exercise, physical fatigue, body metabolism, obesity, overweight, health status. Associations with health outcomes including obesity, pain, fatigue, cardiometabolic, respiratory function, and exercise status were examined. We conducted a series of narrative reviews of health problems in this population and identified future research directions, focusing on understanding the role of moderate-intensity exercise training in ameliorating these health problems. To better understand whether moderate-intensity exercise is a unique determinant of health in sedentary people, high-quality evidence from well-designed and methodological studies is needed to objectively measure moderate-intensity exercise and examine its association with various health outcomes (pain, fatigue).

Effect of TPSR Integrated College Physical Course on Mental and Physical Well-being of College Students

Wenze Fang

mc24714.umac.mo

Physical education elective courses in college are designed to stimulate students' interest toward physical activities, provide an initiative for students to participate in physical activities to enhance physical wellbeing, and develop good mental status and a habit for lifelong exercise during the process of athlete skills learning. Teaching Personal and Social Responsibility (TPSR) was developed by Professor Don Hellison. TPSR was designed to improve teenagers' mental well-being through implementation in physical education course. It is still unclear that whether TPSR can create positive impact on college students' social and personal responsibility and physical wellbeing while acquiring athletic skills. This study will implement TPSR in college physical education course and investigate effect of TPSR integration in physical course on college students' social and personal responsibility and physical well-being. The study is expected to provide new direction for developing future teaching method in college physical education courses and investigating new education practice for social and personal responsibility development and physical ability enhancement. The study will select two sections of students from physical education course in Beijing Normal University – Hong Kong Baptist University United International College as participants. Participants will be divided into control group and intervention group according to section number. To eliminate significant differences among groups prior to experiment, the study will recruit 64 participants with 32 students in each section from year one students in Department of Business Management. All participants will be required to sign on informed consent form. Basic information will be collected prior to the experiment. Experiment will be conducted in a five-week duration with one time a week and 100 minutes each time. Experimental data will be collected in the first week before class and the fifth week after class. TPSR arrangement in intervention group will strictly follow TPSR syllabus. Arrangement of the course will be carried out mainly by conducting group study, increasing interactions between lecturer and students, giving time for student self-evaluation, and carrying out activities in the form of group competition. Control group will follow traditional teaching method, in which lecturer conduct teaching following demonstration method, and students learn mainly through imitating and self-practice. Psychological measurement of the study will adapt measurements in Personal and Social Responsibility Scale for Physical Education Settings (Lei et al. 2020). Physical measurement of the study will adapt measurements of BMI, anteflexion, and single-legged closed-eyed standing test. The study will use SPSS 24.0 to conduct data processing, and repeated ANOVA tests to analyze data before and after experiment, and data within and between two groups. The study is expected to conclude that TPSR has positive effect on improving social and personal responsibility and physical well-beings on college students.

A Review of the Effects of Different Exercise Modes on Depression in College Students

Xinyue Zhang

MC24718@umac.mo

Universities are the epitome of modern society. Factors such as interpersonal relationships and academic pressure of college students may affect the psychological state of college students, resulting in negative emotion, and severe cases may lead to depression. With the gradual attention of people to psychological problems, there are endless research on alleviating and curing depression with different intervention methods. A large number of studies have pointed out that exercise therapy has a positive effect on alleviating depression. Although a large number of scholars use different sports events to conduct research, the complexity and variety of sports events make the research on the improvement of depressive psychology by sports in a scattered state. Therefore, this review will roughly divide the relevant research into public sports and competitive sports, and take Professor Tian Maijiu's sports events group theory as the theoretical basis for the classification of competitive sports. This review classifies the sports events in the psychological research on college students' depression, and explores which type of sports is effective for depression of college students and has a better effect of improving and alleviating depression. This review aims to help people with depression and related fields better understand different sports events group and maximize the benefits of different sports events. In this study, keywords such as depression, exercise, sport, and college students were used to search for relevant studies on global and Chinese academic websites such as CNKI and Wanfang Database, Google scholar, PubMed, Cochrance Library and Web of science. After detailed screening of intervention time, intervention methods, exercise intensity, etc., experimental research articles in Chinese and English related to this topic from January 2019 to January 2023 with an intervention duration of 6-30 weeks were selected. Analyze and summarize the publication time, sports events, experimental methods, and experimental data of the article. The expected result is that there are many studies on the improvement of depression in college students by competitive sports, and the effect of net-separated confrontational sports on improving and relieving depression is better. The effect of net-separated confrontational sports on improving and relieving depression is better.

Effects of High-Intensity Interval Training on Cognitive Function in Young People: A Mini-Review

Meng Wang

mc24715@connect.um.edu.mo

According to the most recent physical activity recommendations, people should perform 75 minutes of vigorous exercise or 150 minutes of moderate exercise per week. However, lack of time is a significant barrier to physical activity. It has been discovered that leading such a sedentary lifestyle exacerbates the age-related effects on cognitive function. In order to counterbalance the consequences of physical inactivity on cognitive and brain health, there is a growing tendency to promote physical activity. It is well documented that physical activity can improve cognition and performance, and high-intensity interval training (HIIT), a time-efficient and effective form of physical activity, can provide comparable or even superior advantages to much more traditional forms of physical activity. In the past few years, there has been an increasing amount of research supporting the potential for HIIT to affect cognitive and brain health. The objective of this article is to review the research on the influence of HIIT on young people's cognitive function. Four electronic databases (PubMed, Web of Science, Google Scholar, and Scopus) were searched from January 12, 2013 to January 12, 2023. Used keywords such as "high-intensity interval training", "high-intensity interval exercise", "sprint interval training", HIIT, HIIE, HIT, SIT, "cognition" and "cognitive". Search results include English writing and experimental studies only. The main focus is on investigating how HIIT impacts cognitive function, in addition to the ability of HIIT to affect executive function in young individuals. We suggest that the results of the study will provide insights to better understand the connection between physical activity and cognition and to open up new opportunities for the promotion of HIIT as a daily physical activity in the future.

Research on Physical Activity Intervention of College Students with the Help of WeChat Platform- Based on Self-Determination Theory

Ruisen Feng

mb94881@umac.mo

In order to meet the psychological needs of college students and improve their physical activity level, an eight-week extracurricular physical exercise intervention based on the Self-Determination Theory (SDT) was carried out for freshmen through the WeChat platform. Quasi-experimental method with randomized controlled was applied to recruit 72 healthy freshmen in experimental group and control group. And the experimental group is based on the SDT theory and uses interpersonal counseling strategies to establish and provide a counseling environment for exercise and physical activities to support participants' basic psychological needs. The questionnaire consisted of basic psychological needs satisfaction, PARS and POMS, and administrated before and after the intervention. SDT intervention improved autonomy ($t = -2.573, p = 0.014$) and competence ($t = -2.356, p = 0.024$). After the experiment, with 64.86% of the participants' sense of autonomy and competence increased, and 45.95% of the participants reported an increase in their sense of relationship. The sense of exercise autonomy has a very significant positive correlation with the intensity and duration of sports activities; There is a very significant positive correlation between exercise competence and exercise intensity; There is a significant positive correlation between the sense of relationship of exercise and the intensity and volume of exercise. The sense of autonomy, competence and relationship of exercise has a very significant positive correlation with the positive emotional energy and self-esteem of POMS. The positive exercise psychological environment created by the WeChat platform can provide the social needs environment and autonomous support environment mentioned in the SDT for college students' extracurricular physical exercise, which can effectively satisfy the participants' psychological needs for exercise, and further promote their physical activity behaviors and improve the emotional state.