Behavioural Medicine:
Making an Impact

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Session 1

New methods in health behaviour assessment

Levels and sources of personalisation in a complex behaviour change intervention to improve photoprotection in patients with xeroderma pigmentosum (XP)

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Background: Personalised behaviour change interventions can result in greater effects. Most personalisation is based on between-participant factors like demographics and theoretical constructs (e.g., intention vs. volition), although precision medicine using single-case data is increasing. XP is a very rare (~100 UK patients) genetic disease, involving an inability to repair ultraviolet radiation (UVR)-induced damage and increased melanoma risk. Management involves rigorous photoprotection from UVR.

Methods: A mixed-methods phase of formative research (n-of-1 studies over 7-weeks with 24 adults; qualitative interviews, objective UVR measurement, cross-sectional survey with 47 patients) was undertaken in UK summer 2016. Using intervention mapping, results were combined with stakeholder involvement to inform the development of the XPAND intervention. Generic and personalised modules targeted cue-based (time of day, weather), belief-based (motivation, priority), self-regulatory (effort, barriers, planning), and emotional (stress, self-consciousness, mental exhaustion) factors, social support, disclosure, habit, and willingness, using appropriately-matched BCTs. Sixteen non-adherent adults were randomised to receive the intervention in summer 2018 or 2019.

Results: A-priori, phase 1 data and a baseline screening questionnaire (sources) were used in XPAND to personalise: individual feedback on behaviour/risk and behaviour change target; selection of modules per person; and application of content within selected modules (levels; e.g., direction of relationships with protection, nature of barriers). Further in-session personalisation was based on patient response to feedback, identification of additional barriers (e.g., reasons for varying protection across contexts), and emergence of new barriers as improvements in protection were attempted or achieved (e.g., appearance concerns).

Conclusions: Dynamic multi-level personalisation based on mixed-methods in the XPAND intervention allowed for insights and decision-making not possible with cross-sectional quantitative or qualitative methods alone. This method may be of use in other rare conditions where small patient numbers mean that within-participant, individual-level personalisation is well-suited and feasible.

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Genomics – from evidence to practice

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Background: Genomic Medicine is becoming increasingly relevant to a broad range of clinicians. However, numerous challenges exist translating the scientific research into clinical practice. Knowledge translation (KT), the dynamic process of incorporating the synthesis, dissemination, exchange, and ethical application of knowledge, has been shown to be a successful method to bridge this gap between 'knowledge and practice'. This presentation describes the development of a knowledge translation protocol to support clinical adoption of genomics in clinical practice.

Method: The Melbourne Genomics Health Alliance has conducted implementation-effectiveness projects ('Flagships') towards long-term sustainability of genomics in clinical care. In this study, selected flagships will be used to pilot tailored KT strategies targeting secondary care clinicians, designed to enhance awareness and promote behaviour change congruent with research evidence. The Theoretical Domains Framework (TDF) is being used to provide a theoretical lens through which to view the cognitive, social and environmental influences on clinician decisions regarding genomic testing. The Knowledge to Action cycle is being used as a framework to assist in the process of knowledge creation and application to local contexts. A rapid literature review and flagship leader interviews are being conducted to inform the knowledge inquiry and synthesis phase. Concurrently, co-design of KT activities based on the TDF and the behaviour change wheel is occurring with flagship leaders in preparation for feasibility testing.

Discussion: An initial literature search found a lack of published KT studies targeting secondary care clinician use of genomics. A broader search has therefore been conducted, exploring KT studies targeting health care professionals. Flagship leader interviews have identified barriers and enablers to clinical adoption and provided detailed information on the flagship context.

Conclusion: Documenting the design and implementation plan for this knowledge translation study provides a theoretical and practical approach to reducing the gap between scientific evidence and clinical practice. Lessons learned from this study will inform future pragmatic trials, including wider implementation studies.

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The missing link: Using Consensus Conference methodology to bridge the gap between mixed-methods findings and complex intervention design

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Background: Systematic frameworks for intervention development promote mixed-methods formative research to fully understand the "problem behaviour". It is unclear how to integrate findings or translate results into intervention targets. We conducted qualitative, cross sectional and N-of 1 studies to identify drivers of photoprotection in patients with Xeroderma Pigmentosum-a rare genetic condition requiring complete protection from ultraviolet radiation. We propose a process to transform mixed-methods findings into intervention objectives with the support of stakeholders.

Methods: A consensus conference (CC) methodology adapted from a diabetes self-management programme, was used. Five steps were completed with emphasis on pre-conference tasks to set the course towards consensus: (1) Definition of CC aims; selection of stakeholder attendees. (2) Generation of evidence statements by research teams (photoprotection driver, supporting evidence and if modifiable); (3) synthesis into intervention recommendation statements (driver, supporting/conflicting evidence, contraindications) by the core team which were sent to CC attendees for review. The recommendation format enabled review by attendees with diverse expertise. (4) At the CC, each recommendation was discussed and approved/amended/rejected; an independent chair facilitated. (5) After the CC, attendees could suggest final changes.

Findings: 39 evidence statements were synthesised into 21 recommendations. 19 stakeholders (research teams, XP clinicians, patient and public representatives) attended the CC and approved 19 recommendations. Five related to photoprotection behaviour and 14 to psychosocial drivers [photoprotection beliefs, risk perception, acceptance; automaticity; social context; emotional impact of photoprotection]. Two were discarded; one due to content overlap; one because the supporting evidence was ambiguous.

Discussion: We successfully obtained consensus from a diverse group of stakeholders and distilled mixed-methods findings into concrete objectives. We recommend that designers of complex interventions include a CC, to bridge the gap between research and design. This process engages stakeholders, paving the way for implementation of interventions into routine clinical care.

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Dietary trajectories and cardiovascular risk phenotypes among 11-12 year children and their mid-life mothers: Australian population-based study

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Background: We aimed to determine the extent to which typical childhood and adulthood dietary trajectories predict cardiovascular phenotypes.

Methods: National population-based Longitudinal Study of Australian Children, followed biennially since age 2-3 years. *Exposure:* At each wave, brief 24 hour child dietary recall and maternal fruit/vegetable consumption. *Outcomes:* Measured at the Child Health CheckPoint in 1861 children (age 11-12y) and 1613 mothers (mean age 43y). Cardiovascular parameters included function (resting heart rate; blood pressure; pulse wave velocity; carotid elasticity) and structure (carotid intima-media thickness; retinal microvasculature). *Analysis*: Latent class analysis allocated participants to decade-long dietary trajectories based on Australian Dietary Guidelines (children) or fruit/vegetable intake (mothers). Adjusted linear regression models estimated associations between trajectories and cardiovascular outcomes.

Results: There were four child dietary trajectories: never healthy (9%), becoming less healthy (17%), moderately healthy (24%) and always healthy (51%); and two maternal fruit/vegetable trajectories: healthy (56%) and less healthy (44%). Adverse associations of trajectories with functional vascular phenotypes were observed while associations with structural phenotypes were not evident. In children, resting heart rate and diastolic blood pressure were higher for less healthy overall dietary trajectories (p-for-trend ≤.04). Compared to children following the 'always healthy' trajectory, those in the 'never healthy' trajectory had higher resting heart rate 2.7 bpm (95% CI 0.6 to 4.8) and lower arterial elasticity (-0.032% per mmHg, 95% CI -0.057 to -0.006). Mothers in the less healthy fruit and vegetable trajectory had lower arterial elasticity (-0.012% per mmHg, 95% CI -0.021 to -0.004).

Conclusions: Child lifetime dietary trajectories predicted functional vascular phenotypes. Lack of association with structural outcomes suggests an early-life window for prevention. Fewer associations were evident for mothers' fruit/vegetable intake which may reflect that this is not a comprehensive reflection of diet quality and that it is the intake of unhealthy foods (measured in children but not mothers) that drives the phenotypic changes.

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Latent Classes in health and healthcare beliefs

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Background: Misinformation in the health domain is rampant and contributes to beliefs that are inconsistent with scientific consensus and adversely affect individuals and society (such as the belief that particular vaccines cause autism). While past research has identified numerous psychological and value-driven determinants that increase vulnerability to individual unsupported health beliefs, interventions developed to target these beliefs and their determinants have had mixed efficacy. Research in the political domain suggests self-reported values and ideology may not reflect the underlying heterogeneity of beliefs. In the health domain, failure to account for heterogeneity in belief patterns and their underlying drivers may account for inconsistency in intervention effects. This study explores the possibility that health and healthcare beliefs demonstrate clustering, knowledge of emergent belief profiles, and the predictors that may differentiate them may enable researchers to address unsupported health beliefs more effectively.

Methods: Cross-sectional data were collected from a sample of USA residents (via MTurk), principally assessing beliefs regarding the effectiveness of various health-related practices. In addition, participants' level of education, conspiracy ideation, trust in science, and previous experiences with healthcare professionals were assessed.

Results: Latent class analysis (LCA) was conducted to identify the clustering of health beliefs, using both factor analysed responses and raw beliefs. Results indicate that the assessed health beliefs broadly reflect two factors, one reflecting confidence in complementary and alternative medicines, and the second reflecting belief in health conspiracies (e.g. vaccination harms, wind turbine syndrome). LCA of these factors reveals three parallel clusters, which are differentiated on education, perceived sensitivity to medicines, and belief in conspiracies (p <.05).

Conclusions: Observed clusters do not reveal underlying motivation clusters, but provide novel insight into the overlapping beliefs in unsupported health practices.

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Session 2

Strategies for supporting people with cancer

Piloting the LYSCA intervention to enhance self-care self-efficacy and reducing symptom distress in women with breast cancer-related lymphoedema

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Introduction: Breast cancer-related lymphoedema (BCRL) is a chronic condition affecting more than 20% of breast cancer survivors. Physical symptoms, functional limitations and associated psychosocial concerns adversely impact women with this condition. Management of BCRL involves the enactment of self-care behaviours that are critical for successful lymphoedema management. We have developed a web-based intervention (LYSCA – **LY**mphoedema **S**elf-**Ca**re) to enhance lymphoedema self-care behaviours and lymphoedema symptom management via a goal setting process. We aimed to pilot the LYSCA intervention to determine its effect on self-care self-efficacy, lymphoedema symptom distress, and cognitive and affective lymphoedema-related illness representations in women with BCRL.

Methods: Applying a pre-post design, 97 women diagnosed with BCRL were recruited from the lymphoedema treatment clinic at Macquarie University Hospital and a private lymphoedema clinic (LK). Following consent, participants completed online study questionnaires including self-care self-efficacy, lymphoedema symptom intensity and distress, and adherence to self-care behaviours. Secondary outcomes included a range of cognitive and affective illness representations of lymphoedema measured by the IPQ-R. Participants were then given unlimited access to the LYSCA website, and an accompanying daily diary for goal setting and tracking of goal progress. Follow-up online assessments were undertaken at 1- and 2-months.

Results: Multilevel linear mixed model analyses indicated significant increases over time in self-care self-efficacy (p=.016), and reductions in lymphoedema-related symptom intensity and distress (p=.001). Adherence to self-care behaviours did not change (p=.210). Illness coherence improved (p=.041) and emotional representations regarding lymphoedema diminished (p=.009) significantly following intervention exposure.

Conclusions: These findings provide strong preliminary support for the use of the LYSCA intervention to reduce symptom intensity and enhance self-care management of lymphoedema. Future research utilising a randomised controlled design is needed to investigate the full potential of the LYSCA intervention for facilitating lymphoedema self-care.

Public perceptions of the importance of supportive care for cancer

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Background: Supportive cancer care aims to improve quality of life and help patients cope. Many cancer survivors are not aware of, or do not use, these services. It was hypothesised that, in the general population, a less positive opinion of supportive care would be evidenced by people with a more negative attitude to seeking psychological help, a stronger internal health locus of control and a higher level of self-efficacy for health.

Methods: 161 participants (129 females), aged 18-83 (M=34.5, SD=15.1) were recruited. A 20-minute online survey included demographic questions, the Health Locus of Control Scale, Health Self-efficacy, Attitude to Seeking Psychological Professional Help, and the Perceived Importance of Supportive Cancer Care (0-100 scale). Items for the last measure were derived from the NCCN's Problem Checklist. Participants were also asked to indicate the level of responsibility for supportive care of a number of different groups.

Results: Participants rated supportive care as very important. Support for emotional problems was rated most important, followed by physical, practical, spiritual and family problems. Support for each domain correlated positively with support for seeking professional mental health (p's<.01), but was not associated with an internal locus of control. Ratings of health self –efficacy correlated negatively with perceived importance of emotional, family, practical and spiritual support services (p's<.05), but not physical supportive services. Perceived responsibility for the provision of help differed in each domain. However, the patient and their family/friends were rated as having responsibility for the provision of supportive care across all domains.

Conclusions: The general public hold positive views about the provision of supportive cancer care. Given the positive relationship to attitudes to seeking help for mental health, strategies for breaking down barriers to mental health treatment may also be applicable in this domain. In all domains, the patient and their family/friends were described as sharing responsibility for supportive care. This attribution of responsibility to the individual and their family may help explain general reluctance to seek supportive care from external services.

The body is only the wrapping paper: A qualitative study of the 'My Changed Body' intervention for women with breast cancer and body image distress

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Background: Breast cancer (BC) treatment leads to adverse and often permanent side effects on the body, leading to significant body image distress. The My Changed Body (MyCB) intervention was developed to alleviate this distress in women with BC using self-compassionate focused writing. Randomised controlled trials have demonstrated that the MyCB intervention is effective in addressing body image distress in breast cancer survivor populations with quantitative evidence that this is through the mediating role of enhanced self-compassion. The aim of this study was to qualitatively analyse the content of writing from participants in a prior trial of the MyCB intervention to determine the extent to which the writing is self-compassionate, as an integrity check of this intervention.

Methods: We investigated a random selection (N = 30) of scripts provided by participants in a previous feasibility trial of the MyCB intervention, all of whom were previously diagnosed with BC. Scripts were analysed using thematic analysis using a six-phase process of identifying codes and themes across scripts.

Results: Women wrote about a range of significant negative body image related events following BC treatment. All participants were found to write self-compassionately when engaging with the MyCB intervention. This self-compassionate writing was captured in four themes: You are more than your changed body, Connection with others, Looking after the self, and My experiences as a journey.

Conclusions: Despite experiencing significant negative body image related events following BC treatment, all women wrote self-compassionately when engaging with the MyCB intervention. These results confirm the integrity of the MyCB intervention and support its use in women with body image distress following BC treatment.

The role of fatigue and job demand in subjective cognitive impairment among cancer survivors

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Background: Many cancer survivors report experiencing subjective cognitive impairment (SCI) following cancer treatment. Fatigue is a known predictor of SCI, however, the relationship between fatigue and SCI has not been thoroughly examined in the context of returning to work. With approximately two thirds of cancer survivors returning to work following treatment, the mental demand they experience due to their job may have a significant impact on the relationship between fatigue and SCI.

Methods: 104 participants (73 females), aged 22-77 (M=52.2, SD=10.7) participated in a 20-30 minute online survey. As part of a larger study, participants completed demographic questions, measures of subjective cognition (FACT-COG), "cognitive failures" in perception, memory and motor function (Cognitive Failures Questionnaire), fatigue (FACIT-F), job demand (Subjective Quantitative Workload Scale), anxiety and depression (Hospital Anxiety and Depression Scale) and sleep (Pittsburgh Sleep Quality Index Scale). Participants were recruited from workplaces, government departments, support groups and through social media. All participants had returned to work following treatment for cancer in the last 3 years.

Results: Preliminary analyses indicated that more fatigue, poorer sleep, higher depression and anxiety are related to poorer perceived cognition and more "cognitive failures". Higher job demand was associated with more "cognitive failures", but was not associated with perceived cognitive ability. Preliminary analyses suggested that that higher fatigue predicted more cognitive failure specifically *for those participants experiencing higher job demand*.

Conclusions: The results indicate that for the relationship between fatigue and self-reported cognitive ability among cancer survivors may be influenced by the demandingness of their job. These results indicate the importance of return to work initiatives that aim to ease the transition for cancer survivors, such as physical modifications to the work environment, temporary or permanent re-allocation of tasks or the provision of supportive services. These results also suggest that addressing fatigue as a purely physiological symptom may not be enough to facilitate the return to work process.

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Examining the impact of perceived practical and social support from the workplace on the experience of returning to work after cancer

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Background: Although many cancer survivors return to work following cancer treatment, relatively little is known about the individual and organisational factors that facilitate a positive return to work experience. This study investigated the impact of practical and social support from workplace colleagues on the quality of the return to work experience for cancer survivors.

Methods: 89 participants (62 females), aged 22-77 (M=52, SD=10.76) participated in a 20-30 minute online survey. As part of a larger study, participants completed demographic questions, measures of perceived practical support from colleagues (Work Practice Questionnaire), perceived social inclusion from the workplace (Workplace Loneliness Scale) and satisfaction with the return to work experience. The latter measure consisted of 7 items and was designed for the purpose of the study and on the basis of previous qualitative findings. Participants were recruited from workplaces, government departments, support groups and through social media. All participants had returned to work following treatment for cancer in the last 3 years.

Results: Preliminary results indicate that greater perceptions of practical workplace support and lower perceptions of loneliness *at the time of returning to work* were both associated with greater satisfaction with the return to work process. Multivariable analyses indicated that perceptions of loneliness had a greater impact on return to work satisfaction than practical support provided by the workplace. Further analyses indicated that feelings of loneliness at the time of returning to work had a negative impact on return to work satisfaction regardless of whether social contact was maintained with co-workers during time away from work for cancer treatment.

Conclusions: The results indicate that practical and social support are both crucial factors in facilitating a positive return to work experience. However, the results suggest that feeling isolated, abandoned or disconnected from others at work can have a much greater impact on the return to work experience than a lack of practical support such as performance feedback or the ability to ask for help. This appears to be the case even when a social relationship is maintained during time away from work.

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Session 3

Strategies to support chronic disease prevention

Use of a Population Level Prevention Service for Chronic Disease Risk Behaviours by People with a Mental Health Condition

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Background: An increased risk of chronic disease is associated with a range of mental health conditions, and a higher prevalence of modifiable chronic disease risk behaviours is implicated in this greater disease burden. In New South Wales (NSW), Australia, a free telephone coaching service is available to the general population to support behaviour change for physical inactivity and nutrition; the NSW Get Healthy Information and Coaching Service (GHS). The aims of this study are to 1) examine the extent to which people who report a mental health condition are represented among the clients of the NSW GHS and 2) compare the risk behaviour profiles of clients with and without mental health conditions, as well as confidence to make changes to risk behaviours.

Methods: Secondary data analysis was conducted on information collected as a part of the coaching process for 11,928 participants who contacted the GHS for the first time between January 2015 and December 2017. Chi-square analyses were used to compare clients with and without a mental health condition on risk behaviours (including physical activity, fruit and vegetables, weight status), and confidence.

Results: Twenty six percent (n = 3109) of participants identified as having had a significant mental health condition that required treatment from a health professional. At program intake, when compared to those who did not report such a condition, these participants were less likely to be meeting guidelines for physical activity (37% & 47%) and fruit (47% & 51%) and vegetable (11% & 13%) consumption, more likely to be obese (64% & 49%) and were less confident in their ability to make changes to their diet, weight, and exercise levels (p<0.01).

Conclusion: People with a mental health condition represent a sizeable portion of those using the NSW GHS to improve their physical activity and/or nutrition. At the time of their initial contact with the service, this group of participants engage in higher levels of health risk behaviours, and express a lower confidence in changing them than those without such a condition. These characteristics may mean that participants with a mental health condition will require additional support to achieve their health related goals; a supposition that future research might address.

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Optimising Evidence-Based Strategies to Increase Participation in Mail-Out Bowel Cancer Screening Programs; a Systematic Review and Meta-Analysis

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Background: Morbidity and mortality rates of colorectal cancer can be greatly reduced through nationwide FOBT screening programs. Unfortunately, participation in such programs are low with interventions aiming to increase participation only showing modest improvements. This meta-analysis aims to explore if intervention's effectiveness can be increased by (1) targeting specific subpopulations with specific interventions or by (2) combining interventions.

Methods: Six databases were searched for interventions aiming to increase participation in mail-out FOBT screening. To test if interventions should target subpopulations, pooled risk ratios (RR) were calculated within alternate subpopulations (male vs female; low vs high SES; <60 years vs 60+ years). The difference between these groups was then tested for significance. To test if interventions should be combined, uptake rates of interventions were compared to uptake rates of combined interventions. The quality and risk of bias of each study was assed using the National Health and Medical Research Council's level of evidence guidelines and the Cochran Collaboration tool.

Results: Initial search strategy found 3093 articles of which 26 met the inclusion and exclusion criteria. These included 27 trials that reported separate uptake rates for subpopulations and 16 trials that combined interventions. Of the five different intervention types, only General Practitioner endorsement (GPE) showed alternate effects across subpopulations, with the effect being larger for those <60 years (p = .001). Additionally, combining interventions also led to greater effects, RR = 1.07, 95%CI [1.03;1.11].

Conclusions: There is evidence to suggest GPE interventions work particularly well for those under the age of 60. Given the cost and logistics involved with GPE, targeting this subpopulation may be the most efficient use of resources. Further, combining interventions also leads to a larger average effect. Future studies should aim to report subpopulation data so more of these moderating effects can be found. Also, greater understanding of how to combine interventions is needed to maximise effects. Findings can inform the development of future interventions aimed to encourage health behaviours such as cancer screening and prevention.

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Effects of a mobile phone text messaging program on health behaviour change in people with type 2 diabetes in Bangladesh

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Background: Diabetes is a significant health challenge in many developing countries with increasing prevalence and healthcare costs. Mobile phone health programs have shown to improve health outcomes at low cost. However, there is currently a paucity of information on such interventions on self-management behaviour change in a developing setting. The aim of this study is to determine the effect of a mobile phone text messaging interventions on health behaviour change in type 2 diabetic patients in Bangladesh.

Methods: A prospective, parallel-group, randomized, controlled clinical trial was performed at a tertiary hosptial in Dhaka, Bangladesh. Patients with type 2 diabetes were recruited and randomized to a text messaging intervention plus standard care or standard care alone. The intervention group received daily text messaging for 6 months, with the content of the messages promoting treatment adherence and healthy lifestyle habits. Health behaviours (maintaining foot hygiene; walking/exercising; measuring blood pressure; and monitoring weight) were self-reported and assessed via questionnaires taken at 6 months. Logistic regression models adjusted for age, sex, education and occupation were performed to determine the effects of text messaging on health behaviour change.

Results: A total of 236 patients were randomized to either the intervention (n=118) or standard-care (n=118). At baseline, groups did not differ in health behavioural outcomes. Individuals that received the text messaging intervention were more likely to report caring for their feet within the last week (OR 2.2, 95% CI 1.21–3.87). No statistically significant differences were observed for the other health behaviour outcomes, as well as the total health behaviour measure.

Conclusions: Mobile phone text messaging was shown to be effective in promoting foot care among people with type 2 diabetics in our study. Larger studies with a longer longitudinal design need to be performed to obtain more reliable conclusions on health behaviour outcomes.

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GP endorsement of mail-out colorectal cancer screening: The perspective of non-screeners

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Background: Population screening for colorectal cancer (CRC) through mail-out bowel screening kits leads to higher survival rates, decreased cancer burden and substantial savings in treatment costs. Despite this, participation is well below 50% in most national programs throughout the world. One of the most consistently effective interventions has been to include letters with kits from general practitioners (GP) endorsing the program. To date, however, the optimal endorsement platform and the mechanisms by which GP endorsement is effective have not yet been investigated. This study evaluates the potential effectiveness GP endorsement letters and text messages as strategies to encourage non-compliant recipients to participate in national mail-out bowel cancer screening programs. In addition, the study aims to identify mechanisms underlying positive and negative responses to GP endorsement. Findings can inform future endorsement-based health behaviour interventions.

Methods: A cross section of recipients of the Australian National Bowel Cancer Screening Program (n=92) that did not return their screening kits were randomly assigned to view a GP letter or SMS endorsing participation in the program. Participants then responded to survey items measuring the degree to which they felt the endorsement would be effective for them as well as the degree to which factors such as trust in the GP and the medical knowledge of the practitioner influenced their response. Open-ended responses regarding other influences and suggestions for other potential endorsers were also collected. Percentages, means and 95% confidence intervals were calculated and compared. Qualitative data were coded and tabled according to common responses.

Results: Fifty-two percent of participants reported that they would return a screening kit based on the GP endorsement and this response did not differ between SMS and letter formats $\chi^2(1)$ =2.77, p = .14. Demographic characteristics did not significantly affect responses to endorsement. Trust in the GP influenced 95% of participant responses to GP endorsement and had more influence on a yes response (M = 1.7, CI = $1.30 - 2.06$) than a no response (M = 0.70, CI = $.32 - 1.10$). Other health professionals and cancer survivors or sufferers were commonly suggested as an alternative sources of endorsement.

Conclusions: CRC screening participation could benefit from the routine implementation of endorsement letters or text messages from GPs, other health professionals or cancer survivors. In developing and implementing such endorsement strategies one should consider the degree to which the recipient has trust in and familiarity with the endorser, as well as how relevant their role is to health and cancer screening.

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Management of depression in patients with chronic obstructive pulmonary disease (COPD): a Cochrane systematic review.

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Background: COPD is a leading cause of disability and mortality worldwide. Depression is a major comorbidity and the prevalence rates can be as high as 80% due to limited functioning, lack of cure and progressive nature of COPD, association with smoking, hypoxia, as well as stigma and self-blame. Depression is often untreated in this population, leading to worse quality of life, worse compliance with medical treatment, increased exacerbations, hospital admissions and healthcare costs. COPD clinical guidelines lack evidence base to recommend effective management of COPD-related depression. The aim of the review and meta-analysis was to assess the effectiveness of psychological interventions in management of depression in COPD patients.

Methods: A systematic review of the literature and meta-analyses were performed. The following databases were searched to identify published and unpublished trials: CENTRAL, MEDLINE, EMBASE, CINAHL, PsycInfo and trial registries. The main inclusion criteria were randomised controlled trials (RCTs) with adult participants who had clinical diagnosis of COPD and depression. Any form of psychological intervention for the treatment of COPD-related depression was included; compared to no intervention, education or co-intervention.

Results: Eleven studies (N=1366 participants) were included in the review, of which nine were included in the meta-analyses. There was a small effect size for the effectiveness of cognitive behaviour therapy (CBT) for the treatment of COPD-related depression when compared to 'no intervention' (SMD 0.19; 95% CI 0.05 to 0.33; P=0.009; N=764 participants; 6 studies). The quality of evidence was low due to small sample sizes, methodological heterogeneity and selection, performance and detection bias. No data were reported on adverse events.

Conclusions: The findings suggest that a CBT-based approach can reduce depressive symptoms in this population; however, the results need to be interpreted with caution as the effect size was small and the quality of evidence was low. Future RCTs with longer follow up periods and improved methodological quality are needed.

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Session 4

Influences on food consumption behaviours

Why do people reduce or eliminate meat from their diets? A qualitative survey study

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Background: The consumption of meat is linked to a number of health conditions, including cancer and heart disease. Yet research indicates that meat intake is on the rise in Western countries. Paradoxically, incidence of vegetarianism and veganism are also rising. Since the adoption of a plant-based diet may lead to health benefits, investigation of the factors that lead to adoption of vegan and vegetarian diets may help support meat reduction within the broader population. This study will examine the reasons why people adopt these diets using a qualitative survey methodology.
Methods: Vegans and vegetarians will be recruited to complete an online qualitative survey through social media. Participants will be asked whether they follow an omnivore, vegetarian, or vegan diet and then to provide the reasons why they follow this diet. Responses will be examined using thematic analysis.
Results: Results of the studies will be presented. **Conclusions:** We expect that individuals will report following vegan and vegetarian diets for a number of different reasons, including social justice, health, and animal welfare. However, this method will also allow us to identify and examine other less common justifications that might play an important role in attitudes towards meat consumption and reduction. The development of a nuanced understanding of why individuals choose to eliminate meat and animal products from their diet is important for the development of strategies to motivate others to also make this change.

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Exploring Temporal Self-regulation Theory to Understand Sugar-sweetened Beverage Consumption

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Background: Sugar-sweetened beverage consumption is associated with increased risk of adverse health outcomes such as weight gain, obesity, type 2 diabetes (Basu, McKee, Galea, & Stuckler, 2013) cancer (Hodge, Bassett, Milne, English, & Giles, 2018) and dental caries (Bernabé, Vehkalahti, Sheiham, Aromaa, & Suominen, 2014). As such, it is important to understand the psychosocial factors involved in consumption behaviour. The present research applied temporal self-regulation theory to test the predictive utility of three constructs (intention, behavioural prepotency, and self-regulation) to explain variance in sugar-sweetened beverage consumption in an adult sample.

Methods: A prospective correlational design was used, with two waves of data collection, one week apart. Participants were a convenience sample of 372 Australian adults, aged 17 to 72 years (M = 24.9, SD = 7.9, 74.2% female, 25.5% attrition) and completed online questionnaires measuring intention, past behaviour, habit strength, environmental cues, and self-regulation. One week later, participants completed a follow-up questionnaire measuring actual sugar-sweetened beverage consumption over the previous seven days.

Results: Hierarchical multiple regression analyses were conducted with variables entered into the model in the order specified by temporal self-regulation theory (Hall & Fong 2007). Age, gender, and level of education were entered into the first block as covariates. Intention was entered into the second block, followed by behavioural prepotency, and self-regulation respectively. Finally, the mean centered interaction terms between intention and behavioural prepotency and intention and self-regulation were entered into the fifth block of the model.

Conclusions: Analyses were in general supportive of temporal self-regulation theory and reveal interesting directions for future research. Not all hypotheses were supported, nonetheless, this research has provided interesting insights into motivations influencing sugar-sweetened beverage consumption behaviour in Australian adults.

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Investigating the Relationship Between Stress and Eating: The Use of Self-Compassion as a Moderator.

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Background: Emotional eating is an increasingly common coping strategy used to manage stress, however, it may lead to negative health consequences. Self-compassion, the ability to show self-directed kindness when suffering, may be a key factor that reduces stress-related eating. The primary aim of the study was to test the potentially moderating effect of self-compassion on stress-related eating behaviours.

Method: First-year psychology students (*N = 133)* were recruited from Macquarie University, and self-assessed their eligibility against the inclusion criteria that they must have experienced recent examination stress. Respondents completed a 30-minute online questionnaire assessing emotional eating (regarding general negative affect, and three specific negative mood states: anger, anxiety, and depression), self-compassion, perceived stress, and cognitive appraisal.

Results: ANCOVA analyses indicated that perceived stress was significantly associated with general negative affect and anxiety-emotional eating, but was not related to anger- and depression-emotional eating. Self-compassion was significantly negatively related to perceived stress, and was unrelated to all measures of emotional eating. Controlling for gender, dieting status, body mass index, and cognitive appraisal, contrary to predictions, ANCOVA analyses indicated that self-compassion did not moderate the relationship between perceived stress and emotional eating.

Conclusions: These findings suggest that self-compassion does not moderate stress-related emotional eating. Results provide greater insight into stress-eating regarding specific mood states, and illustrate that examination stress may promote predominantly anxiety-emotional eating. The study provides competing evidence to self-compassion's role as a protective factor, and highlights the robust effect of stress on over-eating. Given that self-compassion did relate to stress, future studies should assess the mediating effect on self-compassion on this relationship.

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The effect of response conflict about healthy and unhealthy food on eating behaviour: The moderating role of trait self-control.

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Background: Self-control is usually defined as the effortful inhibition of impulses or temptations. More recently, researchers have argued that there is more to self-control than effortful control alone, and that what distinguishes successful self-controllers (those high in trait self-control) from less successful ones is the extent to which they experience response conflict (i.e., competing behavioural tendencies), and the way they deal with response conflict when it does occur. The aim of the current study is two-fold. First, to replicate findings by Gillebaart et al. (2015) that higher trait self-control is related to lower response conflict ratings (operationalised as reporting opposing evaluations) about healthy and unhealthy foods. Second, if it is the case that those high in self-control cope with response conflict differently (i.e., more successfully), then trait self-control should moderate the relationship between response conflict about healthy/unhealthy foods and eating behaviour.

Method: 156 participants completed questionnaires at baseline and 18 months later. Trait self-control, response conflict (degree and strength of opposing evaluations) in relation to 3 food groups (fruit & vegetables (FV), sweet snacks, savoury snacks) were assessed at baseline. Eating behaviour was assessed at baseline and follow-up. Age, sex and BMI were included as covariates.

Results: Participants high in trait self-control reported less response conflict about FV, but not about sweet and savoury snacks. Moderator analyses (interaction effects $p < .05$) showed that higher response conflict about FV was related to unhealthier eating behaviour concurrently and prospectively, but only for individuals with low self-control. Higher response conflict about sweet snacks was related to healthier eating behaviour prospectively, but only for individuals with high self-control.

Conclusion: This study contributes to our understanding of what makes people with high trait self-control successful. It seems that they are able to avoid the negative consequences of experiencing response conflict about healthy foods, while using response conflict about unhealthy foods (sweet foods) to their advantage. The latter is in line with counteractive control theory.

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Acceptability and feasibility on an online intervention targeting parents feeding behaviours

Barbara Mullan

Background: Rates of child obesity are a global concern. In Australia, it is accepted that approximately 25% of children have overweight or obesity. Many interventions have been developed to improve eating habits in this age group with mixed success. Conducting good quality formative research before intervention design is thus of vital importance. The aim of this study was to develop material for an online intervention that establishes healthy eating habits in toddlers by targeting parents' feeding behaviours.

Methods: Interviews were conducted with 35 parents of children aged 2-3 years. A semi-structured interview schedule was used to illicit parents' views on a mock-up of the intervention. Questions focused on the types on content that was desired, the convenience or otherwise of an online intervention; issues of navigation and relevance. Parents were also explicitly asked to describe what they would want from an online tool to support their child's healthy eating behaviour.

Results: Of the participants 30 were female, most were married or in a de-facto relationship, had two children and were working part time. Characteristics for a good tool included ease of use, not too much information, use of pictures, easy accessible and visual appeal. All parents agreedsuch a tool would be very convenient for them to use, as long as it was helpful and personalized for their needs. Ideas to enhance the material provided included meal plans for several weeks with an included shopping list, a forum to talk to other parents, and providing personalized feedback. Parents want to choose themselves how long they interacting with the material, however in general. Six weeks would be a very good time for the length of the intervention and that 30 minute online sessions performed every three days over the intervention period would be optimum.

Conclusions: These data provide insight into the desires of parents who would be interesting in taking part in an online intervention. It develops our understanding of the strategies that should be included to change behaviour, it helps determine what intervention content would be considered acceptable, and informs the intensity and delivery of the intervention that will lead to optimal fidelity.

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Session 5

Correlates of physical activity and overweight

Physical Activity in Inner-Regional Australia: Does social and environmental context impact conscious and non-conscious processes?

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Background: Inner-regional Australians experience poorer health than their city-dwelling neighbours. Physical activity represents an effective preventive health strategy, however, 70% of inner-regional Australians are insufficiently active. The aims of this study were to understand the impact of the environmental and social context in inner-regional Australia on physical activity, and to examine the mechanisms through which through which these effects might operate (including both conscious and non-conscious processes).

Methods: The study adopted a cross-sectional design. Participants (N = 271) completed measures of environmental and social contextual variables in addition to measures of autonomous motivation, intentions, attitudes, subjective norms, perceived behavioural control (PBC), behavioural automaticity, and past physical activity (PPA). The variables representing environmental and social context were hypothesised to predict physical activity intention and behavioural automaticity alongside motivational and social cognitive variables, and past behaviour.

Results: Aesthetics, social cohesion, community participation, and neighbourhood selection were correlated with intentions and automaticity, and were included in the model. Path analysis revealed that PPA, autonomy, social norms, and PBC were significant predictors of intentions. Unexpectedly, despite significant bivariate associations, attitudes did not predict intentions. PPA and autonomy were significant predictors of behavioural automaticity. Relationships between contextual variables and the motivational and social cognitive variables were non-significant, with the exception of neighbourhood selection, which predicted PBC, and indirectly predicted intentions through attitudes, social norms and PBC.

Conclusions: It is important to recognise the impact of context upon the formation of behavioural intention and habit when designing strategies to encourage physical activity. Ecological variables (e.g. neighbourhood selection) influence the formation of beliefs that lead to the development of intentions to perform (or not to perform) physical activity, and thus are likely to impact actual behaviour (assuming that intentions are predictive of behaviour).

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Physical activity and self-esteem outcomes in young people: what can we conclude from research syntheses?

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Background: Self-esteem is considered a prime indicator of mental health and physical activity and has often been claimed to be an important contributor to self-esteem. But the field is replete with definitional and conceptual ambiguities.

Methods: We conducted two systematic reviews concerning physical activity and mental health in young people. One focussed on the mechanisms of mental health outcomes from physical activity and the other was an updated review of 10 systematic reviews of self-esteem outcomes. For the latter review we also conducted an analysis of causality using the Bradford Hill criteria from epidemiology.

Results: The single systematic review of mechanisms concluded that there was evidence for a causal link between physical self-perceptions and indicators of well-being, including self-esteem. But the causality analysis from 10 recent systematic reviews concluded that evidence was insufficient to conclude that there was a causal relationship. Evidence showed support from experimental studies, partial support for strength of association and biological plausibility/coherence, but no evidence for consistency, temporal sequencing, or dose-response relationship.

Conclusions: There is conflicting evidence regarding whether physical activity in young people is causally associated with self-esteem. It is important to recognise the complexity of this field and to consider the context of physical activity behaviours, the population being studied, and to consider the physical sub-domain of global self-esteem rather than self-esteem in isolation.

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A weight loss programme for overweight and obese men delivered in professional Australian Football League settings (Aussie-FIT): A feasibility and pilot randomised controlled trial

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Background: In Australia approximately 71% of men are classified as overweight or obese. However, the majority of weight loss programmes have targeted and engaged women. Professional sports settings such as the Australian Football League (AFL) may act as a powerful 'hook' to engage men in Australia in weight loss, as demonstrated in recent successful studies such as the Football Fans in Training (FFIT) delivered in professional soccer clubs in Scotland. The aim of this study was to develop and pilot a weight loss programme in AFL settings for overweight/obese middle-aged men, to promote weight loss and healthier lifestyles.

Methods: Overweight/obese (BMI > 28) middle aged men (35-65 years old) were randomised to an intervention group or wait list control group. The intervention group received 12 weekly 90-minute sessions, each incorporating a classroom component on nutrition education, behaviour change techniques and principles of effective motivation followed by group-based physical activity sessions delivered by coaches. Measures were taken at baseline, 3 and 6 months. The primary outcome included here is a mean difference in weight loss between groups at 3 months, expressed as absolute weight loss. Self-reported measures (e.g., motivation, psychological well-being) and objective measures of physical activity, waist size, and blood pressure were also included. This abstract describes results from a sub-sample of participants who have already completed 3 months measures. Data collection will be completed mid-December this year.

Results: 130 men participated in the intervention (mean age: 45.78, SD:8.01; mean weight: 111.42kg, SD:18.23kg; mean BMI: 34.48, SD:4.87), with even split to intervention and control group (65 each). At 3 months the mean difference in weight loss between groups for the subsample of 71 men who already completed 3 months measures was 3.85kg (95% CI: 2.53-5.16) in favour of the intervention group ($p < 0.0001$).

Conclusions: The Aussie-FIT programme can help men to lose weight and it offers an effective strategy to challenge male obesity in Australia. This programme can be tested and implemented on a larger scale and across other sport settings and to other population segments.

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Session 6

Resilience, self-compassion and the body

Enhancing self-compassion in individuals with visible skin conditions: Piloting the My Changed Body Self-Compassion Writing Intervention

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Background: Abnormalities in the appearance of skin are commonly associated with compromised self-body perceptions, arising from physical manifestations of the skin condition that deviate from the individual's idealised body image. These body image concerns are linked with a range of psychological issues including negative affect, anxiety, depression, fear of negative evaluation, and suicidal ideation. Unfortunately, stigma and embarrassment associated with these body image concerns mean that these issues are rarely discussed in clinical medical consultations. There is thus a need for a highly accessible and acceptable intervention to address skin-related body image concerns. The web-based My Changed Body self-compassion writing intervention has proven efficacious for enhancing self-compassion to address body image concerns in women with breast cancer. This pilot study investigated the feasibility of applying the My Changed Body intervention to the visible skin disorders context in terms of its impact on self-compassion and affect.

Methods: Participants (N=72) with a range of visible skin conditions provided online informed consent, then completed measures of demographic and medical history, body image disturbance, self-compassion and positive and negative affect. Participants were then allocated either to an active control expressive writing condition or to the My Changed Body condition. Immediately after completing their allocated writing exercise, participants completed self-compassion and affect measures.

Results: ANCOVA analyses revealed that self-compassion (p=.005, d=.80) and negative affect (p=.013, d=.73) significantly improved after the My Changed Body writing exercise, compared to the control condition. There was no difference between groups in positive affect.

Conclusions: This study suggests that the My Changed Body writing intervention may provide benefit to individuals with visible skin conditions. However, a larger randomised controlled trial is needed to further confirm these results.

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Self-Compassion's Indirect Association With Health-Promoting Behaviours Through Health Self-Efficacy and Emotion Regulation

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Background: Future projections of Australia's burgeoning chronic disease burden highlight the importance of identifying factors which could help individuals successfully perform health promoting behaviours. Greater levels of self-compassion (i.e., self-kindness during adversity) have been associated with more frequent practice of health-promoting behaviours, yet the underlying nature of this association remains unknown. Additionally, both health self-efficacy and emotion regulation have been linked with self-compassion. Therefore, this study investigated whether self-compassion may be indirectly associated with health-promoting behaviours through health self-efficacy and emotion regulation.

Methods: Undergraduate psychology students and adults living in Australia (N=170, *mean age* = 20.8, 66.9% female) completed an online survey measuring self-compassion (SCS-SF), health self-efficacy (SRAHP), difficulties in emotion regulation (DERS), and frequency of health-promoting behaviours (HPLP-II). Separate bootstrap analyses were run using PROCESS to assess the indirect associations for each variable.

Results: As expected, self-compassion was associated with health promoting behaviours (r = .40, $p < .001$), emotion regulation (r = .70, $p < .001$) and health self-efficacy (r = .35, $p < .001$). Self-compassion's indirect negative relationship with health-promoting behaviours via emotion regulation difficulties was significant [95% bias-corrected bootstrap confidence intervals; -0.014, -0.002]. However, the indirect relationship via health self-efficacy was not significant [95% bias-corrected bootstrap confidence intervals; -0.010, 0.007].

Conclusions: The present study confirms the positive association between self-compassion and health-promoting behaviour practice, and further supports emotion regulation's potential underlying role in this relationship. Findings suggest that self-compassion interventions may assist in promoting the adoption and maintenance of health-promoting behaviours by targeting the ways individuals evaluate and manage their negative emotions. Future longitudinal studies should aim to replicate these results with individuals currently diagnosed or at risk of being diagnosed with chronic health conditions.

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Exploring the relationship with the body in women with endometriosis

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Background: Endometriosis is a chronic health condition that affects a woman's reproductive system. It is thought that approximately 10% of women of reproductive age are affected by the condition, which is often associated with intense bouts of pain, fatigue, bladder and bowel problems, and infertility. Previous literature has established a link between endometriosis and poor mental health outcomes, such as anxiety, depression, and subjective wellbeing, however, very little research to date has explored how the condition affects an individual's relationship with their body. The current study aimed to address this gap by investigating the impact of endometriosis on how an individual perceives their body, from both an appearance and a functionality perspective.

Methods: Women aged over 18 were targeted for recruitment through various endometriosis support services. An online mixed-methods design was used, involving open-ended qualitative questions about individuals' experiences with endometriosis and their relationship with their body, and quantitative measures of a range of psychosocial outcomes, including body esteem and functionality, as well as subjective wellbeing. Thematic analysis and linear regressions will be conducted to analyse the qualitative and quantitative data, respectively.

Results: The key themes emerging from the qualitative data will be presented, with a particular focus on young women's experiences, such as how the way they view their body relates to their romantic and sexual relationships and self-esteem. Preliminary quantitative findings will also be discussed.

Conclusions: It is expected that the findings from the study will further health professionals' understanding of the lived experience of endometriosis and encourage additional attention and support to be given to the psychosocial aspects of the condition in treatment and management efforts.

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The Relationship of Resilience and Self-Compassion towards Psychological Wellbeing

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Background: Wellbeing is a vital part of mental health and has previously been associated with resilience and self-compassion individually. Resilience is the ability to withstand and overcome difficult scenarios, whereas, self-compassion is defined by being kind to oneself, feeling a sense of common humanity, and being mindful. As yet, no study has compared both constructs to wellbeing simultaneously. The purpose of this study was to investigate the relationship between resilience and self-compassion towards psychological wellbeing.

Methods: Participants (N = 186) completed an online survey including measures for resilience, self-compassion, demographics, wellbeing (measured by optimism, life satisfaction, affect, and psychological distress). Multiple linear regression was used to regress each outcome variable against resilience and self-compassion.

Results: Only one aspect of wellbeing, namely optimism, was significantly predicted by both resilience, $p < .05$ 95% CI [0.02,0.15], and self-compassion, $p < .0005$ 95% CI [2.45,4.85], whereby self-compassion had a stronger effect than resilience. Resilience demonstrated a medium effect size (*partial* $\eta2 = .04$), while self-compassion demonstrated a large effect size (*partial* $\eta2 = .19$). Positive affect was significantly predicted by resilience, $p < .0005$ 95% CI [0.23,0.45] with a large effect size (*partial* $\eta2 = .21$), and not self-compassion. All other wellbeing measures; life satisfaction $p < .005$ 95% CI [1.17, 4.57], negative affect $p < .0005$ 95% CI [-7.72, -4.93], depression $p < .0005$ 95% CI [-3.86, -1.53], anxiety $p < .0005$ 95% CI [-3.64, -1.60], and stress $p < .0005$ 5% CI [-4.32, -2.41], were significantly predicted by self-compassion, but not by resilience. Effect sizes demonstrated for life satisfaction was small (*partial* $\eta2 = .07$) while remaining outcomes (negative affect, depression, anxiety, and stress) demonstrated large effect sizes (*partial* $\eta2 = .19$; *partial* $\eta2 = .10$; *partial* $\eta2 = .13$; *partial* $\eta2 = .20$, respectively).

Conclusions: Self-compassion has stronger predictive value towards wellbeing compared with resilience. Further, the relationship between resilience and self-compassion is more complex than originally expected. Future research is required to elaborate and explore the complex association identified above.

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Stress, eating and weight change in first-year university students: The role of self-compassion.

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Background: Due to rising obesity rates worldwide, it is important to identify and target high risk periods for weight gain. One such period is the first year of university when students often gain weight at significantly higher rates than non-students of the same age. Stress is commonly experienced by students and has been associated with both weight gain and weight loss, as well as affecting eating behaviour. The complex relationship between stress, eating and weight change suggests that moderator variables may play a role. The current study examined self-compassion as a potential moderator. We hypothesized that higher levels of stress during the first year of university would be related to a decrease in healthy eating and an increase in weight, but only for students low on self-compassion. We expected students high on self-compassion to be buffered from these negative effects.

Methods: 143 first-year students completed questionnaires 4 times during the academic year (equally spaced between February and November). At Time 1 and Time 4 students reported their weight and height, and completed measures on healthy and unhealthy eating behaviour, exercise and alcohol intake. Self-compassion was measured at Time 1. Stress was measured at all 4 time points and then averaged. Hierarchical regression analyses were used to examine the moderating role of self-compassion. Exercise and alcohol intake were included as covariates in the analyses.

Results: Students on average gained 1.61kg during their first year. As predicted, self-compassion moderated the relationship between stress and BMI change (p = .02): students who reported high levels of stress during the year gained weight, but only when they scored low on self-compassion. This effect was not found for those with average or high levels of self-compassion. Self-compassion did not moderate the relationship between stress and eating behaviour.

Conclusions: The current findings suggest that those low in self-compassion are at increased risk for stress induced weight gain. There is accumulating evidence that self-compassion can be raised through interventions. Teaching university students self-compassionate and adaptive ways of coping with stress may have positive effects on weight management.

Session 7

Influence of emotional and cognitive judgements on health decision making

"Extraordinary Claims Require Extraordinary Evidence." What Difference do Psychosocial Interventions Really Make to the Treatment of Infertility?

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Aim: There is now substantial literature demonstrating the adverse emotional impact of infertility and its treatment. This clear identification of psychological vulnerability in the ART patient population has resulted in the automatic assertion that users of ART will benefit from psychosocial counselling services and other emotional support strategies. Peak organisations such as FSA, ASRM and ESHRE have developed guidelines supporting ART service infrastructure which includes psychosocial support. However, efforts to incorporate psychosocial support as a standard component of ART care are frequently frustrated by a lack of awareness of which psychosocial interventions significantly contribute to patient outcomes and wellbeing. As a result, many clinicians remain reluctant to refer patients to psychosocial counselling and other support services, and uptake of psychosocial support remains low amongst ART users. The current paper aims to examine the extent to which psychosocial services have been demonstrated to significantly "value-add" to Assisted Reproductive Technologies (ART).

Method: A comprehensive analysis of the recent literature (2014-2018) on the topic of psychosocial interventions for infertile couples undertaking ART.

Results: A comprehensive review of recently published English-language research studies, systematic literature reviews and meta-analysis was conducted to identify the most recently published evidence regarding whether any demonstrated benefit exists for psychosocial counselling and other emotional support strategies for users of ART.

Conclusion: The most recent evidence into psychosocial support for users of ART demonstrates the benefit of specific psychosocial support for this population. Psychosocial interventions should be available as a routine component of care for infertile couples undertaking ART. Recent research demonstrates which psychosocial interventions for those undertaking infertility treatment can be efficacious, both in reducing psychological distress and in improving clinical pregnancy rates.

Predicting intention to receive a seasonal flu vaccine: A Protection Motivation Theory Study

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Background: Vaccination is the most effective way to reduce infection and serious complications from influenza. Despite this, current vaccination rates are sub-optimal. This study used Protection Motivation Theory (PMT) to predict intention to receive a seasonal flu vaccine among a cohort of American adults. PMT predicts that protective behaviour, such as getting vaccinated for influenza, is motivated by high levels of perceived severity, vulnerability, response efficacy and self-efficacy and low levels of perceived response costs and maladaptive response rewards. However, no studies have examined all PMT components together in the context of seasonal influenza

Methods: Participants (n=541) were recruited via Amazon MTurk. Participants in the study completed measures of beliefs about flu and flu vaccination relevant to PMT constructs (Severity, Susceptibility, Maladaptive Response Rewards, Self-Efficacy, Response Efficacy, and Response Costs). The extent to which PMT constructs predicted intention to vaccination was investigated using multiple regression.

Results: Overall, PMT constructs accounted for 61% of intention to vaccination. As expected, severity, susceptibility, self-efficacy and response costs were positively associated with intention, whereas maladaptive response rewards were negatively associated with intention. Contract to expectations, response costs was not associated with intention. Response efficacy was the single strongest predictor of intention.

Conclusions: Beliefs about flu and flu vaccination are associated with intention to vaccinate. All other things being equal, individuals are most likely to intend to receive the vaccine when they perceive themselves to be personally susceptible to flu, that flu is a severe illness, that they are personally capable of receiving the flu vaccine, that the flu vaccine is effective in reducing risk of contracting the flu, and when the perceived advantages of contracting the flu are low. This is the first study to include all core PMT constructs to investigate intention to receive a seasonal flu vaccine, the relative importance of response efficacy as a predictor of intention to vaccinate provides useful directions for strategies to increase uptake.

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Brand switching can be sickening: Predictors of adverse effects following a medicine switch

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Background: As governments try to stretch their health budgets, medicine switches are unavoidable. Some patients report negative experiences following a switch such as side effects and reduced drug efficacy. Adverse effects are not always pharmacological; they can be induced through a patient's negative expectations–a phenomenon known as the nocebo effect. Furthermore, patients with depression and anxiety can be more susceptible to the nocebo effect, resulting in a greater adverse response. The aim of this study was to investigate the factors associated with reduced perceived efficacy and side effect complaints following a switch in the funded brands of the antidepressant venlafaxine in New Zealand.

Methods: Participants were 310 patients taking either the originator or generic venlafaxine prior to a compulsory switch to another generic version of the medication in 2017. Participants completed an anonymous online questionnaire assessing sources of brand switch information, perceived sensitivity to medicines, medicine efficacy beliefs, number of side effects and demographics. Multiple regressions were conducted to investigate the factors associated with side effects and efficacy reports.

Results: Participants who were older (B = 0.04, p = .045), had a lower education level (B = -1.51, p = .002) and a lower perceived efficacy of the new generic venlafaxine (B = -0.39, p < .001) reported a greater number of side effects from the drug. Those with a lower trust in pharmaceutical agencies (B = 0.12, p < .001), who were informed of the brand switch by someone other than their doctor (B = 1.78, p = .037) and reported a greater number of side effects (B = -0.21, p < .001) rated the efficacy of the new generic lower.

Conclusions: A person's self-rated efficacy of a new medicine and the number of side effects they experience can be influenced by factors in the management of the brand switch and individual characteristics. Demographic factors seem to be more associated with side effects, and situational factors with efficacy beliefs. Ensuring doctors discuss medicine switches with their patients and interventions that target medicine beliefs or increase trust in pharmaceutical agencies could be beneficial in reducing the negative effects of brand switches in the future.

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Using Protection Motivation Theory based messages to promote intention to receive the seasonal influenza vaccination

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Background: Worldwide, annual epidemics of seasonal influenza result in approximately 3 to 5 million cases of severe illness, and 290,000 to 650,000 respiratory deaths each year (World Health Organization, 2018). Vaccination is the most effective way to reduce infection and serious complications from influenza (World Health Organization, 2018). Despite this, current vaccination rates are sub-optimal. This project used Protection Motivation Theory (PMT) to design and evaluate persuasive messages to increase intention to receive the seasonal influenza vaccine. The aim of the present study was to evaluate the impact of short messages based on PMT on intention to receive the seasonal flu vaccine. Secondarily, we sought to investigate the extent to which messages designed to target specific PMT constructs were successful in changing those constructs.

Methods: A total of 3830 participants were recruited via Amazon MTurk. Participants were randomised to receive one of six intervention messages or to a no message control group. Each intervention message was designed to target a single PMT construct. The primary outcome is protection motivation (defined as the intention to be vaccinated against seasonable influenza). It was hypothesised that intervention messages targeting PMT constructs will increase intention to be vaccinated relative to control. The secondary outcomes are the PMT constructs. It was hypothesised that intervention messages targeting a given PMT construct would increase/decrease that construct relative to control.

Results: Individuals in the Severity message group reported significantly higher perceived severity of the flu than control participants (p = .005). However, messages were not effective at increasing intention to vaccinate relative to control (p's <.05).

Conclusions: Overall, these PMT based messages did not lead increase intention to vaccination. While it is unclear whether this reflects a broader failure of the causal model suggested by the PMT or simply the difficulty of designing messages to change vaccination-related beliefs. Qualitative feedback from participants suggests important avenues for future investigate that may clarify these findings.

Pre-registration: The pre-registration for this project is available at: https://osf.io/nhcfv.

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Disclosure of payment to a health spokesperson does not impact perceived trustworthiness nor audience intention to act

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Background: Social marketing is a commonly used strategy to promote cancer prevention behaviours. Both celebrities and doctors are used in social marketing campaigns as spokespersons. In the commercial marketing setting, when a spokesperson receives payment for participating, this reduces audience trust in the spokesperson reducing believability and credibility. No previous research has explored the impact of payment disclosure for differing spokesperson types in a health advertising context.

Aim: To investigate whether source trustworthiness mediates the association between disclosure to the audience of spokesperson payment and intention to act on a cancer prevention message.

Methods: 3(spokesperson: celebrity, doctor, celebrity doctor) x 3(payment disclosure: paid, unpaid, non-disclosure) between-subject design was used. Participants were presented with a mock Cancer Council NSW ad featuring a spokesperson accompanied by 1-of-3 disclosure statements. Intention to act on prevention message, trustworthiness of the spokesperson and participant preference for spokesperson was measured.

Results: Participants (n=443; male=51%) aged 18-80 years from across Australia took part. A significant effect was observed for the association between source trustworthiness and behavioural intention for each spokesperson type across all payment disclosures tested (p<0.001). No significant effects were observed between payment disclosure type and behavioural intention; nor between payment disclosure type and trustworthiness. Most respondents (94%) preferred health messages from a doctor.

Conclusions: A spokesperson considered trustworthy by an audience is more likely to increase intention to follow cancer prevention messages. Disclosure of spokesperson payment status did not impact perceived trustworthiness, nor audience behavioural intention. Unlike commercial marketing, audiences appear less sceptical of social marketing messages and more accepting of different spokesperson payment scenarios. Taking into account audience preferences matching the principles of many cancer charities that promote consumer involvement in service planning, this study suggests use of a trustworthy doctor for cancer prevention messages, with spokesperson payment transparency at discretion of the organisation.

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Session 8

Optimising health outcomes for adolescents and young adults

Effectiveness of a universal school-based 'resilience' intervention in reducing pain in adolescents: a cluster-randomised controlled trial

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Background: Musculoskeletal pain is the leading cause of disability worldwide. Pain during adolescence is common, with persistent pain during adolescence associated with an increased risk of chronic pain in adulthood. Emerging evidence suggests the potential of resilience interventions in improving pain outcomes in chronic pain populations, however there are no studies that investigate this in children. The aim was to investigate the effectiveness of a school-based 'resilience' intervention in reducing pain frequency, problematic pain and pain intensity, and increasing pain self-efficacy and resilience in secondary school students.

Methods: A cluster-randomised controlled study that examined the effectiveness of a school-based resilience intervention in Grade 9 students (aged 14-15 years) in 32 Australian secondary schools (20 intervention; 12 control). A three-year intervention involving school staff implementation of programs and resources that addressed individual and environmental resilience protective factors was implemented. Outcome data was collected online and included the primary outcome of pain frequency, and secondary outcomes of problematic pain, pain intensity, pain self-efficacy and resilience protective factors (individual and environmental).

Results: Data from 1831 students (intervention=1201; control=630) were analysed. No significant differences were found between intervention and control for primary: pain frequency: OR 0.98 (95%CI: 0.73 to 1.31, p=0.88) or secondary outcomes: problematic pain prevalence: OR 0.93 (0.74 to 1.18, p=0.54); pain intensity: MD -0.09 (-0.34 to 0.16, p=0.47); pain self-efficacy: MD 0.61 (-1.38 to 2.61, p=0.53); individual resilience: MD -0.02 (-0.11 to 0.07, p=0.65); environmental resilience: MD 0.04 (-0.07 to 0.14 p=0.48). Post hoc mediation analyses showed resilience was not a mediator of pain frequency.

Conclusions: The school-based resilience intervention was not effective in reducing pain frequency, problematic pain, pain intensity, or improving the pain self-efficacy or resilience in secondary school students. The results suggest resilience, as defined and measured in this study, may not be a suitable intervention target for reducing pain frequency in general adolescent populations.

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Predicting Binge Drinking Amongst University Students in Australia

Kym Murray & Barbara Mullan

Background: Binge drinking can be detrimental to short- and long-term health, negatively impacting individuals physically and mentally (World Health Organisation, 2014). More university students engage in binge drinking more than their non-university peers (Kypri, Cronin, & Wright, 2005), incurring additional adverse consequences, such as poor assignments and low grades (Burns et al., 2015). As such, the current study tested the predictive utility of temporal self-regulation theory, and the additional construct of 'sensitivity to reward', to account for variance in binge drinking behaviour amongst Australian university students.

Methods: Utilising a prospective correlational design with two data collection points one week apart, 502 Australian university students were recruited through convenience sampling to an online survey. At time one, participants completed measures assessing temporal self-regulation theory constructs (intention, behaviour prepotency, self-regulation), as well as 'sensitivity to reward'. At time two, after attrition, 396 participants *(76.5 % female)* completed an online self-report account of their alcohol use over the previous seven days.

Results: Utilising hierarchical multiple regression analyses, variables were entered in to the models in the order outlined by temporal self-regulation theory (Hall & Fong, 2007). Co-variates (e.g., age, gender) were entered into the first block. Intention into the second block, followed by behaviour prepotency and self-regulation in the third block and 'sensitivity to reward' in the fourth block. Mean-centred interaction terms (intention x behaviour prepotency; intention x self-regulation; intention x 'sensitivity to reward') were entered into the final and fifth block.

Conclusions: Analyses were largely supportive of temporal self-regulation theory, although not all hypotheses were supported. However, this study has contributed further insight into influencing factors of alcohol consumption amongst Australian university students, offering compelling direction into future research regarding interventions surrounding habitual behaviour whilst at university.

Consistency of associations between adolescent tobacco and alcohol use risk and protective factors

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Background: Tobacco and alcohol use contributes significantly to global rates of morbidity and mortality with initiation to such use typically occurring during adolescence. A large number of studies have sought to identify the factors that either increase (risk factors) or decrease (protective factors) the likelihood of such use. However relatively fewer studies have attempted to determine the relative association between such factors and tobacco and alcohol use, nor the consistency of associations between such factors and both tobacco and alcohol use. Such investigation may identify common risk and protective factors that can be prioritised as intervention targets for reducing both tobacco and alcohol use within a single prevention intervention. The study aimed to determine the strength and consistency of associations between use of tobacco and alcohol, and tobacco and alcohol risk and protective factors.

Methods: A cross sectional survey of Grade 9-10 (aged 15-17 years) students from 32 Australian secondary schools was conducted (2014). A self-report survey collected data regarding tobacco use (ever/recent), alcohol use (ever/recent/'binge drinking'), risk factors (e.g. tobacco and alcohol use/permissive attitude to tobacco and alcohol by friends/sibling/parents), and protective factors (e.g. self-efficacy; school/home/community support; peer caring relationships).

Results: Risk factors were the variables with the strongest association for each tobacco and alcohol use outcome. Friends use of tobacco (OR range:3.79-4.35) and alcohol (OR range:4.27-5.32), and permissive attitude to tobacco (OR range:3.41-4.78) and alcohol (OR range:2.11-2.82) consistently had the strongest associations with each of the five measures of tobacco and alcohol use. Sibling use of tobacco and alcohol, belief health not damaged from smoking, personal income and pro-social were also important factors for some outcomes (OR range:1.64-2.47).

Conclusions: The strength and consistency of associations of certain risk factors suggest such factors should be prioritised for interventions focused on reduction of both tobacco and alcohol use.

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Motivational interviewing strategies for exploring parental attitudes towards early intervention

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Developed by William Miller and Stephen Rollnick, Motivational Interviewing is an active, person-centred style of interacting with people. Motivational Interviewing is not a technique, but rather a collaborative, goal-oriented style of communication that incorporates the language of change. It helps to strengthen personal motivation towards achieving a specific goal by creating an atmosphere of acceptance and compassion and eliciting and exploring the person's inner reasons for change (Britt, Gregory, Tohiariki, & Huriwai, 2014; Miller & Rollnick, 2013). Research has shown that this style can increase the natural desire of families for change. Parents of children with complex developmental disabilities often have a variety of different, and sometimes conflicting, emotions, thoughts and beliefs in relation to early intervention supports and services available for their children. The success of early intervention, however, largely depends on the relationships between early intervention professionals and family members and the extent to which these professionals recognise and validate parents' feelings and beliefs as well as their needs and aspirations (Guralnick, 2016). This presentation will describe practice of using Motivational Interviewing for helping parents of children with complex developmental disabilities to examine and move forward with their thoughts and feelings about early intervention and help their children to integrate early intervention strategies into daily living and learning at home. Strategies such as these can be easily learned by clinicians and become a valuable part of family-centred clinical practice.

Preventing misattribution of the contraceptive oral pill as protection against STI: Insights from a young adult sample

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Background: Misattributing the contraceptive oral pill as a method of protection against sexually transmissible infection (STI) can increase the prevalence of STI. The aim of this research was to understand the extent of misattribution of the pill against STI and to examine methods that can be employed to reduce misattribution.

Methods: A cross-sectional research design involving an online survey was used to collect data from 1451 Queenslanders aged 15-29 years. Convenience sampling was used to recruit participants. Chi-square test and *t*-test were employed to analyse data.

Results: Overall rates of reported misattribution for the pill were 59.8% with 58.6% of males and 61.4% of females misattributing the pill as a method of STI protection. Significant associations were observed between pill misattribution and diversity in culture and language ($\chi^2(1)=10.222$, p=.001); sources of information and education about sexual health [i.e., parents ($\chi^2(1)=9.779$, p=.002), school class ($\chi^2(1)=8.001$, p=.005), friends and peers ($\chi^2(1)=11.253$, p=.001), internet search ($\chi^2(1)=20.098$, p=.000), sexual partners ($\chi^2(1)=5.005$, p=.025) and books ($\chi^2(1)=7.453$, p=.006)]; feelings of fear ($\chi^2(1)=6.779$, p=.009), shame ($\chi^2(1)=4.423$, p=.035), shy ($\chi^2(1)=10.421$, p=.001), nervous ($\chi^2(1)=27.398$, p=.000) and embarrassed ($\chi^2(1)=6.810$, p=.009) when thinking about discussing sexual health with health professionals.

T-tests identified significant differences in knowledge about STIs [*t*(912)=-4.364 (95% CI, -5.327 to -2.022), p=.000]; attitudes to sexual health education [*t*(935)=-3.352 (95% CI, -3.384 to -.885), p=.001]; attitudes to sex while drunk [*t*(583)=2.456 (95% CI, .490 to 4.397), p=.014]; attitudes to health professionals [*t*(877)=-4.075 (95% CI, -3.385 to -1.184), p=.000]; and sexual health competency [*t*(920)=-6.239 (95% CI, -4.155 to -2.166), p=.000] between participants who did and did not misattribute pill.

Conclusion: Enhancing knowledge and education about STI protection, focussing on influential educational sources, and improving attitudes towards sexual health education are essential to prevent misattribution of the pill as a protection method against STI. Sexual health education is a requisite precondition to decrease rates of misattribution of the pill as an STI prevention method.

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Session 9

Social Identity, Stress and Self-regulation – relevance to health outcomes

Implicit Identity as a Predictor of Eating Behaviours

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Background. Many people do not eat a healthy diet, putting them at risk of negative health outcomes. Understanding the predictors of eating behaviour is important to identify people in need of help and to design effective interventions. Explicit predictors, such as the theory of planned behaviour, have been well researched. Recent research has begun investigating implicit predictors, which according to dual-process models should influence behaviour independently from explicit predictors. Implicit identity is one implicit variable that has not yet been studied in relation to eating. This study was therefore conducted to assess whether implicit identity is indeed a significant predictor of eating behaviour.

Methods. Participants were recruited through Mechanical Turk (N = 152, 76 Male, 75 Female, M_{age} = 40 years). Participants completed an online survey, as well as two Single-Category Implicit Association Tests to measure healthy and unhealthy implicit eater identity. Data was analysed using hierarchical multiple regression analyses.

Results. Implicit identity significantly improved the prediction of eating behaviours over the past two weeks (R^2 = .556, R^2change = .025, p = .022) and perceived behavioural control (PBC) for healthy eating (R^2 = .587, R^2change = .034, p = .004). Specifically, implicit identity as an unhealthy eater was a significant predictor of PBC (β = -.191, p = .001) and implicit identity as a healthy eater was a significant predictor of eating behaviours (β = -.117, p = .047) over and above the influence of self-control, self-compassion, the theory of planned behaviour variables, and eating habit.

Conclusions. These results show that implicit identity predicts eating behaviour and PBC, even after controlling for well-known explicit predictors. This supports the importance of considering implicit as well as explicit predictors in the eating behaviour literature. Participants were more likely to eat healthily when they had low implicit identity as an unhealthy eater. Interestingly, participants with lower implicit healthy eating identity reported greater PBC for healthy eating. Future research is needed to further explore these results.

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A Systematic Review of Empirically Identified Beliefs About Stress

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Background: There is a growing interest in the role of stress beliefs in stress-related health and behaviour. However, existing measures of stress beliefs focus on individual/small clusters of stress beliefs not informed by stress belief research. This is partly due to the absence of a systematic review collating known beliefs about stress. We aimed to address this gap.

Method: Peer-reviewed journal articles were sourced from PsycARTICLES, PsycINFO, PubMed, Scopus, and Sociological Abstracts. Articles were included if they were written in English, reported on adult humans, and identified a belief about stress. Of the 1707 identified articles, 17 papers reporting on 20 studies were included for analysis.

Results: Nine beliefs were identified. These beliefs fit into four categories: The nature, cause, specific consequences, and control associated with stress. Believing stress was a negative (vs positive) phenomenon (nature) was associated with lower work performance, resilience, mental and physical general wellbeing, less adaptive coping strategies, optimism, more negative views of others, and more somatic complaints. For consequences, believing stress caused negative affect was associated with greater negative affect, more frequent nervous breakdowns, and greater feelings of apathy, during times of stress. Believing stress caused physical illness was associated with decreased general wellbeing and increased somatic complaints, risk of mortality in the next 8 years, and risk of coronary related incident over an 18-year period. Beliefs about control over stress were unrelated to a range of health outcomes. Studies exploring beliefs about the cause of stress did not explore the relationship between these beliefs and the effects of stress on an individual.

Conclusions: This synthesis has documented the beliefs about stress identified in the literature to date into four categories. Two of these (beliefs about the nature and consequences of stress) have direct associations with health. Future work in stress beliefs may benefit from considering these identified beliefs. Practitioners may benefit from being mindful of clients holding beliefs associated with poorer stress-related health outcomes.

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Using the temporal self-regulation theory to understand the predictors of medication adherence

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Background: Non-adherence to prescription medication is a world-wide issue resulting in undesirable health outcomes for patients and an increased cost of health care. It is estimated that approximately 4% of all hospital admissions in Australia, North America, Europe and Asia are the direct result of medication non-adherence. Previous research has explored this issue using health behaviour theories such at the theory of planned behaviour, however these models are better at predicting intention than behaviour hence the 'intention-behaviour gap' has been identified. More research is needed to identify predictors of behaviour to close this gap.

Methods: The overarching aim of this research was to employ the temporal self-regulation theory in the exploration of medication adherence to identify which factors were the most important. Participants were recruited through Turk Prime, and were primarily a US sample. Participants completed two questionnaires, one week apart. In part one, questions measuring each of the temporal self-regulation theory variables (intention, behavioural prepotency and self-regulation), medication regime complexity, medication side-effects and medication adherence in the previous week were administered. In part two, participants reported their medication adherence in the previous week using the Medication Adherence Rating Scale and an adapted Timeline Follow-Back.

Results: Hierarchal regression was used to examine the unique variance explained by intention, behavioural prepotency and self-regulation in adherence behaviours, as well as the interaction between behavioural prepotency, self-regulation and behaviour. Regime complexity and side effects were also examined to understand their relationship with intention and behaviour. The findings shed light on the importance of both behavioural prepotency and self-regulation when adhering to prescription medication.

Conclusions: This study contributes to the body of literature exploring the issue of medication adherence. It identifies the important psychological variables involved in adhering to medication and makes way for these variables to be included in future interventions aimed at improving medication adherence.

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Lay Beliefs About Stress: A Thematic Analysis of In-Depth Interviews

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Background: Stress beliefs are correlated with aspects of health; however, research has used limited ranges of stress beliefs that may be misrepresenting these relationships. This study aimed to qualitatively identify commonly held stress beliefs to aid in developing a new comprehensive measure.

Method: 35 psychology students completed 1-hour semi-structured interviews. Questions were modelled from the Common-Sense Model and the Antecedents-Behaviour-Consequences Model of Behaviour. Topics discussed included the sensation, cause, purpose, valence, consequence, control, and timeline of stress. Double coded interviews were thematically analysed. Breadth of beliefs were confirmed in two international samples of 1) cross-sectional surveys in lay participants (N=100) and 2) a two-step DELPHI with stress researchers (N=14). Lay participants labelled beliefs as either describing them, not describing them, or if they could not understand the belief. Researchers were shown descriptions of themes and subthemes, and rated each as either 'not at all important', 'slightly important' or 'very important'. Beliefs, themes, and subthemes were considered important if at least 80% of participants identified it as 'slightly important' or 'very important'. In both samples, participants were asked if there were any beliefs that were missing.

Results: 5 themes and 17 subthemes were identified: Cognition (focus on the self, working memory, understanding of stress, negative thoughts, time, control, insight, uncertainty), Emotion (positive/negative emotions, mood at the time of being stressed), Physical health (internal symptoms, external symptoms), Interpersonal Factors (support networks, other people), and Behaviour (performance, confidence, coping). Causes and consequences of stress were interchangeable (e.g., anxiety preceded stress for some but followed stress for others). All beliefs, themes, and subtheme received >80% endorsement as being an important belief about stress. The DELPHI achieved consensus in one step. No new beliefs were suggested.

Conclusions: We replicated previously identified beliefs about stress and identified additional beliefs (e.g., Social and Cognition beliefs). These may provide greater insight into the role of stress beliefs in health and behaviour.

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Does a Workshop in Emotional Regulation Lead to Reduced Stress and Increased Happiness?

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Background: Emotion regulation refers to the process of influencing which, when and how emotions are experienced and expressed (Gross, 1998). The ability to successfully regulate emotions has been associated with higher psychological well-being, physical health and reduced stress. There is growing evidence that people's emotion regulation skills can be enhanced through training. The aim of the current study is to examine whether attending a single 3-hour workshop focused on enhancing emotional regulation skills improves emotional regulation, subjective well-being, life satisfaction, and positive affect and reduces perceived stress, daily hassles, depressive symptoms and negative affect at two weeks and six weeks after the intervention.

Methods: Participants were recruited via a mailing list of people who previously attended or were interested in personal or professional development courses offered by the Mental Health Education and Resource Centre (MHERC), a local not-for-profit charitable trust. Participants were randomly assigned (RA) or self-selected (SS) to either the intervention group (IG; n = 16 (RA; n = 9, SS n = 7)), or a waitlist control group (WCG; n = 9 (RA; n = 6, SS n = 3)). A third group, an active control group (ACG; n = 11) consisted of participants attending other MHERC professional development courses also 3 hours in length. Participants completed questionnaires assessing emotional regulation, subjective well-being, life satisfaction, positive and negative affect, perceived stress, daily hassles, and depressive symptoms at pre-test (Time 1) and post-test (Time 2: 2 weeks after the workshop for IG and ACG or 2 weeks after pre-test for WCG) and follow-up (Time 3: 6 weeks after the workshop for IG and ACG or 6 weeks after the pre-test for WCG).

Results: Data collection had not finished at the time of abstract submission.

Conclusions: Previous research has shown that people's emotion regulation skills can be enhanced through training. However, most studies have used fairly intensive multi-session interventions. If the current study finds that a single session emotion regulation workshop has positive effects this would be of practical importance as single session interventions are more cost-effective, require less time commitment and are easier to implement.

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Session 10

Supporting better health outcomes for indigenous, at risk and minority populations

SISTAQUIT® (Supporting Indigenous Smokers To Assist Quitting) Study Protocol: an intervention to improve smoking cessation care among pregnant Indigenous Australian women

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Background: Forty-three percent of Indigenous Australian women smoke during pregnancy. The SISTAQUIT® intervention, co-developed with Indigenous communities, aims to improve health provider (HP) delivery of smoking cessation care (SCC) to pregnant Indigenous Australian smokers.

Methods: The SISTAQUIT® intervention has three main components, i) an interactive training webinar for HPs to deliver Gould's ABCD model of SCC (Ask/assess, Brief advice, Cessation, Discuss psychosocial contexts of smoking); ii) educational resources for HPs (interactive training webinar, treatment manual, algorithm, flipchart) and women (booklet with embedded videos); iii) oral nicotine replacement therapy (NRT). The intervention will be evaluated in a Hybrid Type-1 pragmatic effectiveness cluster randomised controlled trial (cRCT) with process and outcome measures. N=30 Aboriginal Medical Services or other health services each providing routine/antenatal care to ~20 women per year who are ≥16 yrs old, ≤32 wk gestation, Indigenous *or* expectant mothers of Indigenous babies, will be randomised to receive intervention or usual care (receiving intervention later).

The Primary outcome measure is carbon monoxide-validated smoking abstinence at 4-wks (n=450 women enables a detectable increase of 7% with 80% power). Secondary measures include: abstinence up to 6-mo. postpartum (estimated 95% confidence intervals, using Taylor series linearization to account for the design effect from clustering of women within sites); respiratory illness among babies to 6-mo. of age; prenatal/birth outcomes of women; perinatal baby outcomes; HP attitudes and behaviours; cost effectiveness. Process measures include: behaviour change techniques delivered (assessed by analysis of audio recorded consultations). Service-level and study-related data will be collected on NRT provision, recruitment/retention rates, de-identified medical data from electronic database of pregnant women and participants' clinical notes.

Conclusions: To our knowledge, this is the world-first SCC pregnancy intervention in an Indigenous setting to be adequately powered to detect changes in smoking abstinence, and to follow babies' health. This cRCT is vital to inform practice and policy for SCC during Indigenous pregnancies.

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More frequent stress in carers for people with dementia due to Parkinson's disease than in those with dementia due to other common dementias – Evidence from the NZ International Residents Assessment Instrument – Home Care (InterRAI-HC)

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Background: Many studies have shown that caregivers of individuals with a neurodegenerative condition are at risk for caregiver distress. The aim of the current study was to examine the prevalence and risk factors of carer distress in two groups of caregivers for people with Parkinson's disease (PD-N: PD with normal cognition; PDD: PD with dementia), in caregivers of people with Alzheimer's dementia or related dementias (AD+) and caregivers of individuals with other non-neurological health issues (OH).

Method: An anonymised large database from the New Zealand InterRAI-HC was examined (year 2012 to 2014; PD-N: N = 2072; PDD: N = 534; AD+: N = 13,281; ND: N = 50,379). Carers who expressed feelings of distress, anger or depression were categorised as experiencing stress. Hierarchical logistic regression analyses were run to examine predictors of carer stress for each group separately, and to examine whether group (PD-N, PDD, AD+, ND) predicted carer stress over and above established risk factors (patient demographics, cognitive, functional, psychological and psychiatric status, amount and type of help provided by carer, relationship carer-patient).

Results: PDD carers spent more hours caregiving and provided more activities of daily living support compared to carers in other groups. The proportion of carers experiencing stress was significantly higher in the PDD group compared to all other groups (PDD = 36%; AD+ = 31%; PD-N = 21%; ND = 15%; p <.001). The main predictors of carer stress in the PDD group were short-term memory problems, wandering, disorganised speech and living with the patient. The main predictors of carer stress in the PD-N group were living with the patient, problems with decision making, and patient decline in social activities. In both PD groups, the presence of a second carer reduced carer distress. After controlling for established risk factors, PDD and PD-N caregivers were no longer at increased risk of carer distress compared to the ND caregivers.

Conclusion: Although patients with different neurological conditions have different needs, the current study shows that after cognitive, functional and psychiatric status of the patient is controlled for, caring for a PD patient does not uniquely influence carer distress.

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Preoperative bariatric surgery program barriers facing Pacific patients in Auckland, New Zealand as perceived by health sector professionals.

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Background: Bariatric surgery is now recognised as the most effective procedure to treat patients with obesity and obesity-related co-morbidities. However, minority ethnic patient groups typically have the highest preoperative attrition rates and lowest surgery utilization worldwide. Eligible patients of Pacific ethnicity in NZ follow this wider trend and are the least likely to complete publicly-funded surgeries. The present study explored the structural barriers contributing to Pacific patients' disproportionately high preoperative attrition rates from publicly-funded bariatric surgeries in Auckland, New Zealand.
Methods: Health sector professionals (*n*=21) who work closely with surgery patients or in related health services were interviewed. Thematic analysis under a social constructionist framework was utilized to conceptualise the sociocultural contexts and structural conditions underlying participants' accounts.
Results: Pacific patients were observed to have lower confidence negotiating their healthcare needs in a biomedical environment, with fears related to hospitals and surgery. There was an underrepresentation of Pacific staff and existing staff had inadequate skills and resources to give Pacific patients the support they needed. There were limited services in place for Pacific patients to achieve preoperative goals given the socioeconomic obstacles many face. Additionally, Pacific patients were observed to struggle with practical barriers around attending appointments and health literacy issues.
Conclusions: These findings give key understandings of structural program barriers Pacific patients encounter from the perspective of the health sector professionals. The findings can be used to assist surgery providers to develop countermeasures at the preoperative stage that may better support these patients to successfully undergo bariatric surgery.

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Perceived threat and efficacy of Australian Aboriginal pregnant women who smoke: exploring the Risk Behaviour Diagnosis (RBD) Scale over time in ICAN QUIT in Pregnancy trial in New South Wales, South Australia and Queensland

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Background: During pregnancy, a "protector role" is expressed by Aboriginal women. We explored responses to a Risk Behaviour Diagnosis (RBD) Scale, adapted to smoking in pregnancy, over time. RBD subscales comprised: perceived threat (susceptibility and severity) and perceived efficacy (response and self-efficacy). Previously validated for Aboriginal smokers, high threat with high efficacy predicted intentions to quit smoking. Smokers with high threat-high efficacy may tolerate fear-based messages; those with high threat-low efficacy are better off receiving efficacy messages.

Methods: 20 Aboriginal women and 2 women expecting Aboriginal babies recruited to a step-wedge *Indigenous Counselling and Nicotine (ICAN) QUIT in Pregnancy* trial. Women completed 2 surveys: 1) the RBD Scale; 2) a smoking characteristics survey at baseline, 4-wks and 12-wks. Linear mixed modelling assessed changes over time for total efficacy and total threat. Results were combined for pre- and post-intervention phases.

Results: Follow-up surveys completed by 16 women at 4-wks, and 15 women at 12-wks. Over 40% of women made quit attempts and 3 women were biochemically validated abstinent at 12-wks. Total mean threat scores at 4.1 (95% CI 3.9-4.2) were consistently higher than total mean efficacy scores at 3.7 (95% CI 3.6-3.8). Total efficiency significantly (p=0.001) reduced by 0.352 units at 4-wks compared to baseline. At 12-wks total efficiency increased non-significantly from 4-wks. Similarly, total threat between baseline and 4-wks significantly dropped (p=0.002) by 0.345 units, with a non-significant rise by 12-wks.

Conclusions: Reduction of threat and efficacy in tandem at 4 weeks may indicate a blunting effect. Blunting is a psychological coping style for threat which involves distraction or avoidance. Quitting is hard work, which could erode women's self-efficacy. Reducing threat perceptions may help conserve mental resources. Interestingly, by 12-wks threat and efficacy trended back up. Three women who achieved abstinence did so by the 12-wk timepoint. A longitudinal study with a larger sample would clarify the RBD Scale for smoking in pregnancy. The RBD could have potential for individual tailoring of health messages.

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Session 11

SYPMOSIUM: Behaviour change interventions in public health: cross-learnings from cardiovascular disease, sexually transmitted infections, colon cancer and obesity prevention

Behaviour change interventions in public health: cross-learnings from cardiovascular disease, sexually transmitted infections, colon cancer and obesity prevention

Adrienne O'Neil[1], Stefan Bode[2], Susan Malta[1,3], Pier Howe[2], Kerry Sherman (discussant)[4]

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Complex public health issues such as the prevention of obesity, sexually transmitted infections (STIs), colon cancer and cardiovascular disease (CVD) require sophisticated and coordinated responses at various levels of intervention. Regardless of the setting, behaviour change interventions all involve a modifiable process or mechanism that regulates the relevant behavioural pattern. This symposium will showcase four studies that attempt to understand key modifiable processes or mechanisms underpinning exposure to, or for the development of, a behaviour change intervention across individual, workplace, health services, and community settings to address the aforementioned major public health issues in Australia.

Our presentations will cover:

- A laboratory-based study that elucidates the biobehavioural mechanisms by which negative, graphical health messages stimulate dietary self-control and neural responses to food items (individual level).
- An ecological momentary assessment and wearable device study that identify periods of employee susceptibility to stress in order to detect individual variations in heart rate (workplace level).
- The development of a checklist for General Practitioners to nudge clinical discussions that prevent sexually transmitted infections in older patients (health services level);
- A randomised controlled trial of a written, indicative commitment to increase bowel cancer screening kit return rates in older, at risk Australians (community level).

Themes for discussion will include (i) effective and ineffective nudging strategies for behaviour change at health services and population levels (ii) understanding biobehaviours as a response to, and in the development of, public health and health promotion interventions, (iii) common lessons learnt about modifiable processes and mechanisms to guide principles of behaviour change in public health and (iv) directions for future studies. Each speaker will bring expertise in novel aspects of health psychology, disease prevention and control relevant to the field of behavioral medicine.

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Characterising biobehavioural mechanisms underlying the effect of health warnings on dietary decisions

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Background: Obesity is a major contributor to Australia's burden of disease, costing the health care system and the economy billions of dollars each year. The increased consumption of energy-dense nutrient-poor foods and sugar-sweetened beverages is a major factor currently driving the alarming increase in obesity rates. The aim of this research was to examine effects of product health warnings on consumers' dietary decisions.

Methods: Our experiments combined incentivised food choice tasks in the laboratory with measurements of the electroencephalogram (EEG) to investigate how design characteristics of health warnings, such as graphic vs. text-only messages, positive vs. negative messages, and general health-related messages vs. messages specifically tailored to products, impact on dietary decision-making. Data were analysed by relating measures of dietary self-control (e.g., refraining from choosing tasty but unhealthy items) to event-related potentials (ERPs) known to reflect dietary decision-making and attention to foods. We also used patterns of ERPs to predict changes in the neural representations of health aspects of food/drinks after health warning exposure.

Results: Using linear mixed-effects modelling, we showed that negative and graphical messages were superior in stimulating successful dietary self-control as compared to other message design characteristics (interaction effects, $p < .05$). Our results further demonstrate that exposure to health messages changed neural responses to food items, in particular the P3 and late positive potential (LPP) components of the ERP (both $p < .05$). We also demonstrate using multivariate decoding techniques that health warnings directly changed the neural representations of health attributes of food/drinks (interaction effects $p < .05$).

Conclusions: These findings pave the way to deriving biomarkers and benchmark criteria that index changes in food perception, dietary decision-making and self-control in response to health warning exposure, and they have the potential to inform the development of food/drink package labelling policies and obesity prevention strategies in Australia.

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Using ecological momentary assessment and wearable sensors to examine the relationship between stress and cardiovascular risk markers in Australian workers

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Background: In healthy populations, changes in heart rate (HR) are associated with progressive cardiovascular (CV) mortality risk. Understanding vulnerable periods at which HR fluctuates owing to psychosocial stress at work and at home is critical for guiding early interventions that slow the progression of CV disease.

Methods: In 2017-18, 119 employees were recruited from 3 medium-sized, community health/humanitarian organisations in Victoria. For two weeks, participants reported sources of work-life conflict, perceived support and rated their mood (e.g anxiety, anger, relaxation, stress) 5 times per day using SEMA2, a custom-built ecological momentary assessment (EMA) smartphone application. Participants also wore FitBit Charge 2 devices (n=97), which continuously measured heart rate, physical activity (steps) and sleep (total, quality). Generalized linear modelling will be used to examine the association between individual level exposure to stressors and variation in HR over time in this sub-set of the sample.

Results: The sample was largely women (88%) (mean age= 39 years) in full-time employment (62%), married (64%) without children (53%). To date, our results show that mood was lowest on Mondays (am), stress, irritability and anger highest on Thursdays (am), with shortest sleeps on Thursdays. Participants commonly felt most cheerful in the evenings and most relaxed, active and well-rested on weekends. Common sources of stress were workplace incivility and gendered harassment (mean 0.8 and 0.6 per participant, respectively), finishing work late (12 min, 95% CIs: 10.0, 14.2), no emotional support at work or home (30% of sample), or recovery from work at night (14% of sample).

Conclusions: Data from EMA can identify specific periods of employee susceptibility to stress. When combined with data from wearable sensory devices, it may be possible to predict patterns of individual variations in HR. Findings will be used to guide personalised, behaviour change interventions for the primary prevention of CVD.

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Developing a checklist to facilitate sexual health discussions between older patients and GPs in general practice

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Background: Due to a rise in late-life divorces, many older adults are re-partnering and many use online dating websites. New late-life daters are more likely than younger people to have sex on the first date and less likely to use condoms. As a result, rates of sexually transmissible infections in older populations are rising. Sexual difficulties increase in later life, negatively impacting on overall wellbeing. Our past research found GPs were reluctant to bring up sexual health with older patients, and older patients waited for GPs to do so. We identified that a sexual health checklist completed by patients prior to consultation would be a welcome initiative and might help facilitate GP-led discussions. The current study aimed to develop/test such a checklist, to be used to effect change in GP behaviour.

Methods: Telephone Interviews with 14 older adults/4 healthcare professionals (HCPs: 3 GPs/1 practice nurse) identified five core groups of sexual health/wellbeing questions, which were verified in consultation with a group of HCPs. The results were used to develop a selfadministered checklist in three formats–tablet-based, web-based, and a paper-based checklist. Focus groups were then undertaken with 10 men (3 groups) and 9 women (2 groups) to test its usability and acceptability. Data was digitally recorded, transcribed and thematically analysed.

Results: Interview and focus groups participants identified sexual health terminology as 'too clinical' and suggestive of disease/dysfunction; preferring broad terms which would help GPs address a range of sexual wellbeing matters. Most participants welcomed a Checklist because they felt it important to normalise sexual health in later life; but suggested its acceptability in clinic settings would depend on individual factors such as a patient's age, culture, language, gender and sexual orientation. Others felt some GPs might be reluctant to use the Checklist in their clinics.

Conclusions: The need for GPs to undertake sexual health discussions with older patients is compelling. The Checklist provides a practical behavioural nudge to help GPs initiate discussions and could empower older adults to ensure their sexual health and wellbeing needs are met. However, it needs to be evaluated within clinic settings.

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An Attempt to Increase Colorectal Cancer Screening Participation via Written Commitments

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Background: Australia has one of the highest incidence rates of colorectal cancer in the world, with approximately 15,000 new cases and 4000 deaths per year. The National Bowl Cancer Screening Program (NBCSP) mails screening kits to eligible Australians aged 50-74 years old. Participants need to collect two samples of their stools and mail them back – but only 39% do so. If the return rate could be increased by 10%, an additional 16,800 lives would be saved by 2040. Our aim was to increase screening kit return rates.

Methods: We recruited participants who were within two weeks of receiving a bowel cancer screening kit from the NBCSP. All participants received a message encouraging them to return the screening kits. In addition, half these participants were asked to commit, in writing, to returning the screening kits, when they received them. The remaining participants did not make this commitment. Twelve weeks later, we surveyed all participants to evaluate the return rates.

Results: 90.6% of the participants who were asked to commit returning the screening kit actually committed to doing so. Of those who reported receiving the screening kit, 61.9% in the commitment condition reported returning it whereas only 58.5% in control condition reported doing so. This difference was not statistically different ($z = 0.60$, $p = .27$).

Conclusions: Although the majority of participants were willing to commit, in writing, to returning the screening kits, making this commitment did not significantly increase return rates. While this particular intervention failed to be effective, our study suggested a number of different interventions that might prove to be more effective in the future. In particular, our data suggests that 30% of the participants who should have received a screening kit, did not receive one. Ensuring that everyone who should have received a screening kit did receive one would increase return rates by 20%. In addition, giving individuals the ability to request a screening kit at a more convenient time should increase return rates further.

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Session 12

Roundtable discussion: Implementing health behaviour change – where to from here?

Roundtable discussion: Implementing health behaviour change – where to from here?

Led by Jeffrey Braithwaite and Helen Brown

Despite evidence of the positive impact of evidence-based public health programs, there appears to be a gap between the development of these efficacious interventions and their wide scale uptake and sustainability in practice. With the public health impact of these programs dependent on implementation on wider scale, it is timely to develop a multi-disciplinary, collaborative forum for researchers.

This roundtable aims to
1) seek interest from ASBHM members regarding the development of an implementation science special interest group; and
2) develop the aims and scope of the group.

We are fortunate to have Professor Jeffrey Braithwaite attending this session to provide insights into his experience in implementation research, so please feel free to come along and listen or join in the discussion.

Posters

"Trust me, I'm a doctor": Medical doctors as a source of climate change information

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Background: While climate change continues to be a politically contentious issue, the World Health Organisation projects that climate change will become a substantial global health problem in the coming decades. Current climate change messages in the public sphere come from environmentalists who are often viewed as biased. Further still, many of the climate change actions suggested by these environmentalists typically focus on encouraging individual actions (e.g. recycling) rather than those collective actions (e.g. petitions, protesting) required to enact widespread socio-economic change. However, it is possible that a trusted source such as a medical doctor may be able to increase both intentions to engage individual and collective climate change actions, especially across the political spectrum. Given these considerations, the aim of this research program was to examine whether a climate change message that contains a medical doctor as the source may increase both individual and collective climate change action in both liberals and conservatives.

Methods: The research program involved the collection of two separate online samples – one in the US (via MTurk) and another in the UK (via ProlificAcademic). The US sample consisted of 400 participants between the ages of 21-73 (M_{age} = 40.38, SD_{age} = 13.12, *Female* = 197). Similarly, the UK sample consisted of 402 participants between the ages of 18-73 (M_{age} = 38.65, SD_{age} = 12.92, *Female* = 239). A 3x3 experimental design for both studies was used where the source of the message (radical environmentalist vs environmentalist vs medical doctor) and the behaviours the source proposed (collective action vs individual action vs no action) were manipulated.

Results: A MANOVA was run for both the US and UK samples. In both studies, there was a significant effect of political orientation on climate change action. However there was a non-significant effect of source and behaviours proposed.

Conclusions: Findings indicate that those who were politically right-leaning were less likely to engage in both individual and collective climate change actions when compared to left-leaning individuals. Further still, it appears medical doctors do not increase intentions to engage in climate change action across the political spectrum.

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Two faces of intention: A two factor model of intention items predicts different aspects of chocolate consumption

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Background: Chocolate is one of the leading snack foods in Australia and as such is a major source of discretionary caloric intake. Given its high fat content and the health implications of being overweight, it is important to understand what drives chocolate consumption. One of the main predictors of behaviour is intention, which is most often measured with items such as "I intend to…" and "I will try to…." However, items that reflect concepts such as self-prediction and desire are sometimes included in these measures. The aims of this study were to (a) investigate whether these items represent different facets of intention and (b) to investigate whether resulting factors differentially predict chocolate consumption behaviours.

Methods: An online study was conducted with 325 Australian university students. Affective and instrumental attitude, and a variety of intention items were measured at time one. Behaviour was measured two weeks later. For intention, three traditional items were included, "I plan to…., "I intend to….", and "I will try to….", as well as three further items that reflect self-prediction, "It is likely that I….", desire, "I want to…", and willingness, "I am willing to….."

Results: An exploratory factor analysis on the intention items was conducted in Mplus using an oblique rotation. A two factor model provided the best fit for the data $\chi^2 (4) = 7.52$, $p = .111$; RMSEA = .052 (90% CI .00, .11); CFI = 1.00, TLI = .98 and SRMR = .01. The three more traditional intention items loaded on the first factor, and the three remaining items loaded on a second factor. These two factors where then used to predict volume and frequency of snacking on chocolate. How often chocolate was snacked on was predicted by the first factor, which was in turn predicted by both affective and instrumental attitude. In contrast, how much chocolate was consumed on any snacking occasion was predicted by the second facet of intention, which was predicted by affective, but not instrumental, attitude.

Conclusions: This study found two factors when measuring 'intention'. This distinction was useful in that each of these factors predicted different aspects of behaviour, including how often chocolate was snacked upon and how much was consumed on those occasions.

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The moderating role of self-compassion in the relationship between stress and eating behaviour

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Background: Obesity is a significant public health issue that is on the rise. Therefore, it is essential to identify key factors that make individuals more susceptible to increase their caloric intake, which in turn increases their body mass index. While the findings on stress and eating behaviours are mixed, a large proportion of the literature emphasises that people tend to engage in unhealthy eating patterns during stressful times in their lives. As a result of modern lifestyles, many people tend to experience chronic stress throughout adulthood. However, not everyone responds to stress with changes in eating behaviour, which suggests that individual differences that may protect against the consequences of stress. The current study examined self-compassion (being kind and understanding towards oneself during times of adversity) as a potential moderator in the relationship between perceived stress and eating behaviour.

Method: 91 female participants (M age = 48, SD = 15) completed questionnaires assessing self-compassion, perceived stress, eating behaviour in the past two weeks and perceived behavioural control to eat a healthy diet (PBC). Hierarchical regression analyses were used to examine the moderating role of self-compassion.

Results: As predicted, self-compassion moderated the relationship between perceived stress and eating behaviour (p = .04), and PBC (p = .05). For participants with low levels of self-compassion, higher levels of perceived stress were related to unhealthier eating patterns and lower levels of PBC. This effect was not found for participants with medium or high levels of self-compassion.

Conclusion: These findings suggest that interventions should focus on promoting self-compassion to mitigate the negative effects of stress on unhealthy eating patterns. Future studies should adopt a longitudinal experimental study design to further investigate the moderating effect of self-compassion.

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Childhood Cancer, Age at Diagnosis and Educational Attainment: A Meta-Analysis

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Background: Developments in childhood cancer treatment have resulted in an improved mortality rate. However, many studies suggest that cognitive and educational sequelae remain. Furthermore, the factors that moderate the relationship between a childhood cancer diagnosis and educational attainment require further investigation. This meta-analysis aims to determine whether: (1) childhood cancer survivors demonstrate poorer educational attainment than non-cancer controls; (2) diagnosis prior to adolescence (i.e., ages 0 to 10) results in poorer educational attainment than later diagnosis; and (3) the disease and treatment factors that influence this relationship.

Methods: A systematic search, based on the key concepts "cancer", "childhood" and "educational attainment" retrieved 2256 records from Embase, Medline and PsycINFO, of which 11 studies satisfied the inclusion criteria.

Results: Survivors were less likely than non-cancer controls to graduate from high-school (Odds Ratio (OR) = 0.74, 95% confidence interval (CI): 0.60, 0.92) or obtain a university degree (OR = 0.74, 95% CI: 0.58, 0.94). Within this group, CNS-tumour survivors were strongly disadvantaged; however, non-CNS tumour survivors achieved similar outcomes to non-cancer controls. Lastly, diagnosis prior to adolescence was associated with lower rates of high-school graduation (OR = 0.73, 95% CI: 0.59, 0.89) but not university graduation (OR = 0.78, 95% CI: 0.46, 1.34) compared to same age non-cancer controls.

Conclusions: this study has shown that final educational attainment is reduced among childhood cancer survivors, and that this is particularly pronounced among those with a CNS diagnosis and those diagnosed before the age of ten. Identification of these vulnerable populations will help to guide future interventions.

Can group gentle yoga improve cancer patients' well-being?

Gemma Skaczkowski,[1,2] Woon-Suan Sow,[2] Prerna Pradhan,[1] Carlene Wilson [1,2]

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Background: The use of complementary therapies to address the physical and psycho-social needs of patients is increasing. Evidence for the effectiveness of yoga to address these issues is mixed. Further evaluation of these interventions is necessary to ensure that they are achieving their aim of improving patients' well-being.

Methods: Patients attending a 6-week gentle yoga program at a cancer support service in Melbourne from 2015-2017 were asked to complete a self-report questionnaire before and after the program. The questionnaire consisted of the MyCaW assessment, which asks patients to identify a "concern" or problem that they would like to address and to rate that concern on a scale of 0-6. Patients' self-reported wellbeing was also measured by the MyCaW.

Results: Results were analysed for patients' *first* attendance at a yoga program at the treatment centre. The majority of patients attending the program were female (84.3%), with a mean age of 54 years (SD=11.96). One-hundred and three patients identified a "concern" they wanted to address through the yoga program, with only 59 patients returning a completed MyCaW assessment at the end of the program. The most common concerns at the beginning of the program were psychological (n=33), pain & stiffness (n=30), and issues with mobility, flexibility and balance (n=15). Both psychological and physical concerns improved following participation in the yoga program, as did patients' overall well-being. However, the observed improvement was greater for psychological concerns compared to physical concerns.

Conclusion: The results of this study add to the literature suggesting that yoga practice can improve the physical and psychological concerns of cancer patients. This presentation will also consider demographic and treatment-related factors moderating the impact of yoga on well-being.

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Item-Response Theory Informed Measure of Vaccine Hesitancy

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Introduction and Purpose: Vaccine hesitancy represents a significant hazard to public health and well-being, with recent outbreaks of vaccine-preventable diseases being attributable to geographical pockets of hesitancy. Efforts to assess the scale of this problem and to evaluate our interventions are predicated on efficient, effective and standardised measurement. To date, no standard measure has emerged, with a preponderance of ad hoc scales and limited assessment of measure characteristics. This study will utilise item response theory to develop and provide initial validation of a measure of vaccine hesitancy that will be suitable for use in large scale, phone assessments.

Method: To investigate this, online data was collected from a sample of USA residents via MTurk (n = 206). Participants' level of education, mistrust of science, and other constructs previously linked to vaccine hesitancy were also assessed to provide evidence of convergent validity.

Results: A 2-parameter item response theory model was applied to assess the difficulty and discrimination of items assessing vaccine hesitancy. A candidate scale of 13 items was drawn, with difficulties ranging from 0.097 to 1.904, this scale significantly correlated with Mistrust in Science (r =.538), Authoritarianism (r = .364), Social Dominance orientation (r = .554), and Conspiracy beliefs (r = .344).

Conclusions: The new measure provides opportunities for more widespread assessment of vaccine hesitancy, and efficient assessment of the impacts of interventions both in primary healthcare settings and in community research.

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Health management behaviours and information amongst rural cancer survivors

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Background: Rural Australians diagnosed with cancer experience poorer survival rates and lower quality of life compared to their metropolitan counterparts. Long-term medical management and healthy lifestyle behaviours play a crucial role in ensuring cancer treatment efficacy, promoting positive recovery and protecting against future health complications. Survivorship Care Plans provide patients with relevant information on required follow-up medical care as well as recommended healthy lifestyle behaviours for optimal recovery and long-term wellbeing. These plans may play a particularly important role for rural cancer patients assisting effective self-monitoring and self-management in the absence of easily accessible services.

Methods: The 'Travelling for Treatment' project aims to undertake a comprehensive, longitudinal examination of the lived journey of rural cancer patients, from detection through treatment and transition back home to rural areas of Queensland. This project aims to recruit 2000 cancer patients who are required to travel to a major city for treatment and stay at one of six Cancer Council Queensland (CCQ) accommodation lodges. Through interviews, short answer questionnaires and medical data, individuals will be monitored over a five-year period to determine adherence to follow-up care and cancer outcomes.

Results: To date, 176 patients have been recruited. Preliminary findings suggest that only 34.7% of rural patients report having received a Survivorship Care Plan. However, a high percentage of patients report having received written information about their cancer type, having their diagnosis explained in a way that they understood, being provided written information about side-effects, and being involved in treatment decisions.

Conclusions: Although preliminary, new insights are emerging relating to the use of Survivorship Care Plans for rural cancer patients, providing valuable information to inform policy and health system processes. Ultimately, the findings of this research will be used to develop interventions aimed at improving outcomes for rural cancer patients. The findings of the project will be disseminated to a diverse range of stakeholder groups and individuals, at the local, national and international level.

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List of Talks