Wellbeing WORKOUT

Utilisation and comparison of Green Exercise and Mindfulness-Based Stress Reduction as Workplace Interventions for staff at the University of Essex

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Wellbeing Work-0ut: Utilisation and comparison of Green Exercise and Mindfulness-Based Stress Reduction as Workplace Interventions for staff at the University of Essex

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Rosemary and Stanley Hubbard

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List of Abbreviations

ACTH - Adrenocorticotrophic Hormone

ANOVA - Analysis of Variance

ANS - Autonomic Nervous System

APA - American Psychological Association

ART – Attention Restoration Theory

BMI – Body Mass Index

BP - Blood Pressure

CRH - Corticotrophin-releasing hormone

CRT - Circuit Resistance Training

CVD – Cardiovascular Disease

GAS – General Adaptation Syndrome

HPA – Hypothalamic-Pituitary-Adrenal

HR - Heart Rate

J D-R – Job Demands-Resources

MBI(s) – Mindfulness-Based Intervention(s)

MBSR – Mindfulness-Based Stress Reduction

MCID – Minimal Clinically Important Difference

MeSH – Medical Subject Headings

MHFA - Mental Health First Aid

NBI(s) – Nature Based Intervention(s)

OH - Occupational Health

POMS - Profile of Mood States

PSS - Perceived Stress Scale

PTSD – Post-Traumatic Stress Disorder

RCT(s) – Randomised Controlled Trial(s)

RR - Respiratory Rate

RSE - Rosenberg Self-Esteem Scale

SAM – Sympathetic-Adreno-Medullar

SF-36 - Short Form 36 health Survey

SWEMWBS - Short Warwick Edinburgh Mental Wellbeing Scale

T2DM – Type 2 Diabetes Mellitus

UK - United Kingdom

WEMWBS - Warwick Edinburgh Mental Wellbeing Scale

WFH - Work from Home

WHR – Waist-to-Hip Ratio

Abstract:

Wellbeing Work-0ut was a collaboration between the School of Sport, Rehabilitation and Exercise Sciences and OH at the University of Essex, using 0% of participant's personal time. It aimed to compare the effects of three 8-week interventions: Circuit Training, Green Exercise and MBSR on stress (Primary Outcome), self-esteem, mood, general wellbeing and quality of life (Secondary Outcomes) in employees at the University of Essex. Employees (n=37; 9 males, 28 females; Mean Age = 42.8 years, SD = 10.7), either referred by Occupational Health for stress related issues (n=32) or responded to adverts to join the Wellbeing Work-0ut course (n=5) were assigned to their choice of intervention groups: Circuit Training (n=6), Green Exercise (n=16) or MBSR (n=15). Interventions were in 8-week blocks and ran twice, each time with a different group to increase sample size and better facilitate the interventions. This study used multi-methods (quantitative and qualitative), and a mixed-model design (between-subjects factor: intervention; within-subjects factor: time). Self-report questionnaires: PSS, POMS, RSE, SWEMWBS and SF-36 were taken Baseline, Mid and Post Intervention. Observational field notes were taken, transcribed, and reflexive thematic analysis was performed. Participants of all interventions experienced improved psychological outcomes over time, but there were no statistically significant interactions although two had large effect sizes (TMD and MCS - mental component of SF-36). Further, at timepoint 3, there were minimal clinically important differences on: PSS, SWEMWBS and PCS (physical component of SF-36) for Circuit Training; PSS, TMD, SWEMWBS and MCS for Green Exercise; PSS, RSE, TMD, SWEMWBS and MCS for MBSR. Reflexive thematic analysis gives deeper meaning and detail of participants' positive experiences, enablers and barriers. Interventions overall are still relevant methods of reducing negative

psychological health outcomes. Implications for more in-depth study and communication within businesses to make mental health services more prevalent, visible and accessible.

Abstract word count: 298 words.

Key Words: Wellbeing Work-0ut, Workplace intervention, Circuit Training, Green Exercise, Mindfulness, Mental Health, Stress Reduction, Reflexive Thematic Analysis.

1.0 Introduction

1.1 Workplace Stress

Stress in the workplace is an inevitable daily convention for many, and excessive demands and workloads have become normalised, which comes at significant human cost. The concept of stress is multifaceted and, as such, has many definitions. In this context, stress "is a perceptual phenomenon arising from a comparison between the demand on the person and his ability to cope. An imbalance in this mechanism, when coping is important, gives rise to the experience of stress, and to stress response… If normal coping is ineffective, stress is prolonged and abnormal responses may occur."[1]: (p.25).

The Job Demands-Resources (JD-R) theory agrees with Cox's[1] stress definition and proposes work-related stress is a response to an imbalance between an employee's resources, e.g., job security, control and support, and demands placed on them, e.g., workload and time pressure[2]. If resources outweigh demands, then the employee may feel a sense of personal accomplishment, motivation and work engagement. However, if demands outweigh resources, and the employee is not compensated by an increase in job resources, e.g., positive feedback or social support[3], then it may lead to burnout/exhaustion over time. Personal resources[4], including self-efficacy, work-related self-esteem and optimism, can influence "the relationship between job resources and engagement/exhaustion and influenced the perception of job resources"[5](p.121). Thereby, increased personal resources may act as a buffer to resource-depletion and employees with low personal resources may be more susceptible to resource-depletion. However, absence of demands is not necessarily favourable, as studies employing the JD-R theory found that optimal job performance combines challenge from job demands with increased resources[6].

The Work-related stress process can occur if change, control, demands, relationships, role and support are unmanaged[7]. Furthermore, the World Health Organisation (WHO) divides workplace stress related hazards into two categories: work contents and work context[8]. Work contents refers to the mental load employees face during the working day. Demanding tasks with high effort-reward imbalance[9] that have pressurising deadlines[10] are under/over-stimulating[11] and are inflexible[12], and thereby are more likely to illicit a stress response. Work context refers to the structure of the workplace. Limited support services, isolation, barriers to career progression and toxic workplace environments, including workplace bullying and/or harassment, are all risk factors for workplace stress[13].

Work-life balance is a challenge for many employees and stresses experienced at work may influence home life. Conversely, stress experienced outside the workplace may manifest into the workplace. Personal stress relates to adverse life experiences and events which can have health and wellbeing consequences, for example, health problems affecting the individual or family members. Personal stress conflicting with work is a risk factor for burnout according to the JD-R theory[3] and it can have lasting impact on productivity, motivation and relationships with colleagues or managers. Another cause of stress which could affect work processes is critical incident stress. This is stress induced by exposure to disturbing or disastrous events. For example, if an employee bears witness to or is involved in a situation where serious injury, threat or loss of life occurs, it may overwhelm the employee's coping skills and leave them vulnerable to the negative effects of stress. Such negative effects can include concentration issues, impaired decision making, and social withdrawal[14]. All of these can impede job performance and give rise to more complex mental difficulties such as post-traumatic stress disorder (PTSD) if left untreated.

1.2 Problems, costs and prevalence of Workplace Stress

Workplace stress has widespread implications on society. It is a major cause of ill health cases; it is estimated that 18 million working days are lost to work-related stress each year[15] and costs the UK economy upwards of £28 billion each year[16]. Work-related stress is the most common cause of stress in the UK. Specifically, in 2023, 76% of employees suffer from at least moderate levels of stress, which is an increase of 13% from 2022[17]. In their lifetimes, 74% of adults reported that they have been so stressed that they were overwhelmed or unable to cope[18]. Further, anxiety and depression respectively have been found to be some of the most impactful and prevalent issues in workplace health. UK employees are experiencing symptoms of anxiety (60%) and depression (56%) of at least a mild severity, and 25% of employees met criteria for their anxiety and/or depression to be considered 'clinically relevant' and would be recommended to gain support from mental health services[17]. Of those suffering from depression symptoms, only 10% are presently seeking professional mental health support[19].

1.2.1 The impact of Coronavirus

The interventions in this study were completed before the coronavirus pandemic. Mental health issues became ever more prevalent during the pandemic. It was estimated in 2021/2022 that effects of the coronavirus pandemic caused or made existing work-related illness worse for 585,000 employees in the UK; most of these (77%) were stress, depression or anxiety[20].

The world of work has changed vastly in this time. In 2020, 46.6% of employees in the UK worked from home (WFH), and 86% of those ended up working from home as a result of the coronavirus pandemic[21]. Whilst this may have benefits such as flexibility, convenience, reducing commuting time and saving on journey costs, it also has blurred the lines of work and home. Working remotely can have negative effects on mental health, such as loneliness, feeling disconnected from colleagues, and escapism being more difficult with the invasion of work into personal spaces.

Furthering the issue of the work-stress relationship, essential workers, or keyworkers, did not have the option to WFH, which gave rise to psychological vulnerabilities and demands that were not present beforehand. These include disempowerment, concerns about lack of workplace mitigation practises, the fear of COVID-19 exposure and transmission to others, especially family members[22]. Factors such as fear for the future, long periods of isolation through lockdown, and job insecurity further impacted employee wellbeing[23]. From surveys, 49% of keyworkers have reported feeling stressed, 47% experienced anxiety, 37% were having difficulty sleeping[24] and 40% of employees who caught coronavirus attributed exposure at work as the cause[20].

The coronavirus outbreak had significant effects on university staff. During the pandemic, 98% of university staff worked remotely but many suffered productivity related issues such as presenteeism (26%), where employees engage with work but are unproductive and absenteeism (7% which was attributed to sickness), whereby employees take regular periods of absence from work which are usually unauthorised. Increased stress levels were reported in most staff (66.2%); however, some staff became resilient (33.8%) from challenges caused by the outbreak, whereby employees reported minimal or positive impact from COVID-19, which was a buffer for presenteeism[25]. Although, some employees experienced positive experiences during

the coronavirus pandemic, research still shows the issues pre-pandemic are still pervasive and new challenges need to be overcome. With many people now returning to in-person workspaces, support services are needed more than ever.

1.3 Stress Response and Physiological, Psychological and Work-Related consequences of Workplace Stress

The stress response is an important evolutionary adaptation and an essential function for human safety; however, if the stress response is prolonged, physical symptoms of stress can appear. Although experiences of stress vary between individuals, Selye's General Adaptation Syndrome[26] (GAS) theory encompasses typical responses to stress. The first stage, the Alarm stage, refers to the 'fight, or flight' response. When a daunting situation is presented, whether it be real e.g., sensory information or perceived e.g., a phobia, the amygdala alerts the hypothalamus which in turn activates the sympathetic-adreno-medullar (SAM) axis, to stimulate secretion of catecholamines from the adrenal medulla including dopamine, noradrenaline and adrenaline. This rapidly increases heart rate (HR), respiratory rate (RR), blood pressure (BP), mental acuity and muscular tension. The hypothalamic-pituitary-adrenal (HPA) axis begins when the hypothalamus activates the pituitary glands by producing corticotrophin-releasing hormone (CRH) which causes the pituitary glands to secrete adrenocorticotrophic hormone (ACTH). ACTH stimulates the adrenal cortex, housed within the adrenal glands, to release cortisol, the primary stress hormone, to increase the availability of metabolites such as glucose in the bloodstream. This in turn rapidly increases energy levels and

enhances alertness to respond efficiently. Elevated cortisol levels signal the hypothalamus to cease secretion of CRH to prevent excess levels of cortisol.

Provided the stressor is short-lived, the hypothalamus activates the parasympathetic branch of the autonomic nervous system (ANS), which slowly returns the body to homeostasis without damaging effects. However, if the stressor(s) persist, and stress hormones continue to be secreted by the aforementioned processes, the Resistance stage is initiated. Resistance is a coping mechanism to withstand and resist the stressor(s) while simultaneously attempting to return to homeostasis. This process demands a lot of energy and resources. If stressors endure still, this then leads to the final stage, Exhaustion, where physical and mental resources are depleted and vulnerabilities to stress-related dysfunction arise.

Chronic stress causes raised levels of catecholamines and suppressor T cells. This can cause immunosuppression, which increases the chances for contracting viral infections[27]. Similar results were observed by Cohen et al 2001[28], whereby rate of clinical colds increased in a dose-response manner with increases in psychological stress levels. Further, high levels of catecholamines, e.g., adrenaline, have the potential to cause hypertension. This can manifest into serious issues such as cardiovascular disease (CVD). Paired with a sedentary lifestyle, the risk-factor for CVD exponentially increases. Men who spent >23 hours a week behaving in a sedentary manner compared to men who reported <10 hours of sedentary time had a 64% increased chance of dying from CVD[29]. In the UK, it is estimated that 7.6 million people are living with CVD and CVD accounts for approximately 160,000 deaths per annum, 48,000 of which are premature and likely preventable[30]. The abundance of cortisol, from prolonged stimulation of the HPA axis, can cause significant health issues. Cortisol is linked to insulin resistance which is a metabolic precursor for Type

2 Diabetes Mellitus[31] (T2DM). Adrenergic hormones affect glucose production which in turn reduce insulin levels[32]. There are already over 4.9 million people living with diabetes in the UK and a further 13.9 million are at risk for T2DM[33].

Physical symptoms associated with workplace stress include musculoskeletal pain, e.g., eye strain, headaches and backache (associated with cortisol), neurological issues, e.g., dizziness, and gastrointestinal issues, e.g., nausea[34]. Fatigue and sleep disturbance are also symptoms of workplace stress. Shift workers had a longer sleep latency (the time it takes to fall asleep) and shorter rapid eye movement (REM) sleep latency in comparison to students. Rapid transition into REM sleep is indicative of poor sleep issues. Further, workers who worry about having to go to work the following day had a reduction in short wave sleep, otherwise referred to as 'deep sleep' when the body is in the most restorative state[35]. Chronic sleep issues interlink with stress risk-factors and can exacerbate issues with immune function, CVD and contribute to depression.

Psychological symptoms of work-related stress can include concentration issues, motivational issues, withdrawal, mood changes, and increased emotional sensitivity[36]. Feelings of irritability and concentration issues could be associated with the Resistance phase of the GAS[26] as levels of stress hormones linger after the heightened effects from the Alarm phase. Further, sustained pressures can often lead to mental health issues. Depression and anxiety could be circumstances of the Exhaustion phase. For example, people suffering from major depressive episodes had increased amounts of significant stressors in comparison to controls[37]. As observed in the J D-R[2], positive social relationships can act as a buffer to the impact of stress. However, people who have low self-esteem and unsupportive social relationships have a greater chance of developing psychological problems (e.g.,

mood disturbance) as well as physical problems (e.g., headaches and cold symptoms) on and after stressful periods[38].

Workplace stress may also influence behavioural factors. Absenteeism, presenteeism and employee turnover are commonly attributed to stress, depression and anxiety[39]. Further, employees who cannot create boundaries at work, potentially in fear of their job security, may engage in sickness presenteeism, where employees attend work while ill. Employees who report sickness presenteeism often have lower work performance and lower psychological wellbeing[40]. Presenteeism may involve lateness, task avoidance and poor time management (which includes feeling the need to do overtime or working through time off)[41].

1.4 Approaches to Stress Management

If left unaddressed, stress has the potential to become cyclical, as the symptoms of workplace stress (absent days, lower productivity) can lead to an increase in stress-causing factors (longer days, too much workload due to backlog). As such, stress management techniques are important. Stress management approaches in the workplace can be on an individual level, where employees take steps to reduce stress themselves using techniques such as relaxation and lifestyle changes through sleep, diet and exercise, or on an organisational level[42]. Organisational approaches to stress management can focus on two different attributes. The first is reforming the working environment, which aims to improve manager-employee communication, manage responsibilities, provide career progression planning, manage role conflict, and assess workloads/demands[42]. The second is providing employees with health and wellbeing programs to teach employees how to manage stress[43]. The current

project focuses on such health and wellbeing programs, otherwise known as workplace interventions.

Workplace interventions benefit many outcomes include general health outcomes (e.g., cardiovascular fitness[44]), mental health outcomes, burnout and productivity outcomes (e.g., absenteeism and job satisfaction[45]). However, the greatest effects have often seen in stress[46]. Workplace interventions can promote recovery from common mental illnesses such as anxiety and depression, moreover, symptom severity decreased the most with primary interventions, which concentrates on managing risk factors[47]. Examples of types of interventions included are: Behavioural (lifestyle changes – e.g., healthy eating and physical activity), Cognitive/Mindfulness (MBSR, meditation and acceptance workshops), and multi-modal (a combination of interventions).

Behavioural approaches are important because they can provide a time-out from the stressful workplace environment and the activities performed including physical activity, can have a beneficial effect on physiological outcomes. Similarly, cognitive approaches are important because they can equip people with the tools that they need to manage stress through modifying or accepting negative thoughts. The two main approaches to stress management used in the current project are physical activity-based and mindfulness-based approaches. The NICE guidelines for physical activity at work[48] and mental wellbeing at work[49] stress the importance of creating an inclusive organisation-wide intervention which was supported by management to encourage and support employees to be more physically active. Elements of these guidelines are reflected in the current work. For example, interventions were open to all University of Essex employees, all services were free and supported by Occupational Health (OH) to be part of the employee's working day, meaning that they did not have to commit their personal time for the interventions. Specifically,

Circuit Training and Green Exercise were utilised as physical activity interventions and Mindfulness-Based Stress Reduction (MBSR) as a cognitive/mindfulness-based intervention.

In summary, stress causes significant disruption in and out of the workplace and is costly to both the individual and the employer. However, it is important to review current evidence from workplace intervention studies, particularly physical activity-based and mindfulness-based interventions, to assess strength and limitations of previous interventions, and help the design and implementation of future interventions.

2.0 Literature Review

2.1 Literature Review Abstract

Stress continues to be pervasive in the workplace and as such workplace interventions have been devised to provide employees with skills and means to enable them to cope. The objective of this review is to analyse and compare findings of current workplace interventions concerning physical activity (including Circuit Training and Green Exercise) and mindfulness-based stress reduction. Strengths, limitations and recommendations of these studies were used to inform methodological choices in the current project to provide participants with worthwhile interventions. A narrative review was selected to synthesise findings from systematic reviews and meta-analyses and summarise findings relating to each intervention on physical, psychological and work-related outcomes. Literature searches were conducted between January 2017 and October 2023 on SPORTDiscus, APA Psychinfo, MEDLINE Ultimate, Google Scholar, Scopus, PubMed, Web of Science and ResearchGate. Systematic Reviews and Meta-Analyses provide support for physical activity interventions having a positive impact on physical and psychological health outcomes. Individual interventions were found to have supporting evidence for effectiveness on physical, mental and work-related outcomes. There was limited evidence comparing interventions and of Circuit Training as a workplace intervention, which the current project addressed. Recommendations include the need for studies to provide detailed descriptions of intervention protocol for methodological comparisons and implementation of both quantitative and qualitative methodologies to gain a clearer picture of the impact of workplace interventions on employees.

Key words: Workplace intervention, stress, circuit training, green exercise, mindfulness.

2.2 Literature Review Introduction

The primary aim of the following review is to analyse findings of existing workplace intervention studies with regard to stress reduction. This review will also demonstrate the impact and necessity for stress-reducing workplace interventions and to ascertain strengths and limitations of previous studies in order to inform choices in methodology and produce the best intervention and service to participants. The format of the review is a narrative review and is informed by Green et al 2006[50], Popay et al 2006[51], Ferrari 2015[52], and SANRA guidelines[53]. A narrative review was selected as they are prevalent in this field of study and "the staple of medical literature synthesis remains the non-systematic narrative review."[54]: (p.4). Furthermore, as the interventions were completed between 2017 and 2019, the review was updated intermittently to include articles published afterwards. The review is comprised of two parts. Firstly, a summary of findings from systematic reviews, meta-analyses and large-scale workplace studies. Following this, each of the three selected interventions will be summarised.

2.3 Literature Review Methodology

As recommended by Green et al[50], an initial search was conducted in 2017 to identify any previous studies in the project area. Using SPORTDiscus, the following key words were entered in an advanced search of abstracts: "workplace intervention" AND "stress" AND "circuit training" AND "green exercise" AND "mindfulness". This

search yielded no results, which indicated there are no studies that compare Circuit Training, Green Exercise and MBSR as workplace interventions from when records began. This may be an indicator that there is a need for further investigation in this area, which this thesis may contribute to.

Further keywords were identified based on relevance to the research question and entered into more detailed searches which also used Boolean operators (e.g., OR, AND). Where possible, Medical Subject Headings (MeSH) were used. An outline of the framework of the keyword utilisation during the online search is available in Appendix A. The search was replicated periodically throughout the project and was last conducted in October 2023. The following databases were selected for the online searches: SPORTDiscus, APA Psychinfo, MEDLINE Ultimate, Google Scholar, Scopus, PubMed, Web of Science and ResearchGate.

A flexible approach was applied where possible, however, literature concerning general workplace intervention studies is vast, so inclusion criteria were formulated to find the most relevant review studies. For inclusion into the review, reviews had to fit the following eligibility criteria: (a) Interventions in the reviews had to be conducted within the workplace or compare within workplace interventions to outside workplace interventions and (b) the interventions in the reviews had at least one physical activity or mindfulness-based intervention. Reviews were excluded if: (a) The full text was unavailable, (b) the interventions in the review had a primary outcome focused on food/alcohol/drug consumption or smoking reduction, (c) the workplace interventions reviewed strategies involving an educational approach as opposed to an active participation in a physical activity or mindfulness-based intervention, unless the study compared an educational approach with an intervention with active participation (d)

the workplace interventions reviewed were Web and/or App based, and (e) the workplace interventions reviewed were active workstation focused.

For the reviews that were selected for inclusion, backwards reference searching was undertaken, whereby the researcher inspected reference lists for other relevant works. Forward searching was also completed where appropriate using Scopus, by using the “cited by” function and screening papers included in the aforementioned review. Beyond looking for review articles, individual empirical studies were also sought that had direct relevance for the research question.

Narrative reviews have been criticised for their subjective nature; however, steps were taken to minimise threats to validity, including using SANRA guidelines[53] as mentioned above, using criteria and/or checklists from other authors[50,51], and providing evidence of planning, inclusion criteria and execution of searches for possible reproducibility[52]. Further, in this area of study, existing reviews[55,56] have reported heterogeneity in methodologies, which make conducting meta-analyses difficult.

2.4 Findings of published Systematic Reviews and Meta-Analyses

The search identified five key meta-analyses and systematic reviews relevant for the current project. These incorporated a range of studies which explored a range of different interventions in the workplace and various outcomes, but all linked to physical and mental wellbeing. Two of the reviews focused more on general physical activity interventions, one focused on Green Exercise interventions, and two focused on Mindfulness-Based Stress Reduction. Each of these reviews will be discussed in the following section.

Conn et al 2009[57] conducted a meta-analysis which examined the overall effects of physical activity interventions in the workplace on physical health outcomes (e.g., fitness) and work-related outcomes (e.g., job stress). It also included some mental wellbeing outcomes (e.g., mood). A total of 138 reports were analysed, which included 38,231 participants. It was noted that studies with varying designs were used due to issues implementing randomised controlled trials (RCTs) within the workplace. A potential reason was control group participants are likely to have daily contact with intervention group participants during the working day which could contaminate results[58]. Types of physical activity used was also broad across studies. The overall findings were that physical activity interventions positively affected fitness levels and fat reduction, including reduced anthropomorphic measures. In addition, interventions had significantly positive effects on work attendance, reduction in work stress levels and reduction in absenteeism compared to control groups. This provides some evidence that physical activity interventions can be effective within the workplace. It was noted that even modest reductions in absenteeism can save companies a lot of money over time. This study provided evidence in support of physical activity interventions having a positive effect on physical health outcomes.

Abdin et al 2018[55] conducted a systematic review to assess the effectiveness of physical activity interventions primarily on mental wellbeing outcomes within the workplace. Five intervention studies with a total of 1326 participants were included. Inclusion criteria were similar to the current project and stipulated that included studies must be delivered face to face in a workplace setting and non-participation studies such as educational approaches were excluded. Mental wellbeing outcomes such as anxiety, confusion, depression, life purpose, life satisfaction and confidence in handling future stressful situations were all significantly improved from participation in physical

activity interventions (e.g., walking and yoga) compared to control groups. Interestingly, the greatest improvements in quality of life, wellbeing and step counts were observed in participants with the lowest activity levels reported at baseline. It was recommended future studies provide more evidence for the link between physical activity interventions and wellbeing within the worksite. The current project utilises the university's own employees and provides interventions both on site and utilising vast green space surrounding the campus grounds. Although the walking intervention included in the review's location was undisclosed, it showed that walking can be an effective workplace intervention to improve physical and mental wellbeing.

Gritzka et al 2020[59] systematically reviewed literature on the effectiveness of nature-based interventions (NBIs), including Green Exercise, on psychophysiological wellbeing and work-related outcomes among employees, including university staff, in work settings. Ten studies which included 611 employees met inclusion criteria. Overall, statistically significant results were found for the positive effect of NBIs on mental wellbeing outcomes. Five of the six studies reported significant improvements in mental health indices and in the Green Exercise category, quality of life significantly increased compared to control. In terms of physical health outcomes, tentative improvements in BP were observed from NBI participation, however, mixed results demonstrate need for further investigation. Finally, job/workplace satisfaction was measured as a work-related outcome; results were varied but the majority indicated improvements in satisfaction overall. This review supports the use of NBIs as workplace interventions, especially on mental health outcomes. At the time of review, it was found that there were limited experimental designs in relation to NBIs. Further, for future study, it was recommended that accurate and detailed descriptions of the types of green spaces used are given for increased comparability and reproducibility.

The current project attempted to address some of these recommendations by providing a detailed account of the green exercise intervention including weather conditions, types of terrain and route maps. The maps are provided in Appendix F.

Zhang et al 2021[60] conducted a narrative review of the overall impact of Mindfulness-Based Interventions (MBIs) on physical health, mental wellbeing, and work-related outcomes in a range of settings which included workplaces, healthcare settings, and schools. It was found that MBIs can help people manage symptoms of physical health issues, including chronic pain management and cancer-related fatigue. Components of MBIs such as mindful eating were an effective weight control intervention as it provided a more sustainable method of bringing awareness to emotional issues, which may influence emotional or binge eating tendencies. Mindful movement improved lung function for people suffering with respiratory health conditions, e.g., chronic obstructive pulmonary disease (COPD) and asthma compared to a control group. Further, MBIs including the mindful movement component improved diastolic and systolic blood pressure in hypertensive patients and improved diastolic blood pressure and psychological symptom management in CVD patients. MBIs were also reported to be effective for mental wellbeing outcomes, with moderate to large effect sizes found for reducing anxiety and depression symptoms and moderate effect sizes for stress. Work-related outcomes such as reducing burnout and improving emotional resilience were observed mostly among healthcare professionals. The study identified MBIs as cost effective, value for money workplace interventions. However, despite the promising nature of current literature, there are issues with current MBI literature including sex-biased groups, small sample sizes, and diverse delivery methods. Overall, MBIs have the potential to positively impact a whole host of negative health and wellbeing outcomes and show promise as workplace interventions.

Janssen et al 2018[61] compiled a systematic review which investigated the effects of MBSR on employees' mental health outcomes. Trials were required to have a control group in order to be included into the review. Eight of the nine studies that measured stress, mostly using the perceived stress scale, found significant decreases in stress levels. Additionally, there were significant decreases in occupational stress levels. Four of eight studies that measured psychological distress reported significant reductions, which included total mood disturbance. Self-compassion was included as a work-related outcome, and all four of the studies which included self-compassion reported significant increases following MBSR sessions. Three of the studies which included self-compassion used a self-report questionnaire and one of the studies used a qualitative approach, providing understanding as to why participants experienced increased levels of self-compassion and how it impacts their daily working lives. Including participations reactions to interventions is an important indicator of the performance of the intervention and can capture extra information that questionnaires alone cannot. It is also important to acknowledge, of all the studies which met inclusion criteria for this review, there were no negative effects of MBSR. This is likely due to safety measures implemented before participation. For example, pre-screening was typically used to identify participants that may be at risk from participation in mindfulness-based sessions, e.g., survivors of trauma. Overall, the results of this review indicate MBSR has a positive impact on a wide range of mental health and work-related outcomes and provides strong evidence of its effectiveness in a workplace setting.

Collectively, the above reviews provide evidence that a wide range of physical activity interventions, including Green Exercise, have a positive impact on a wide array of physical and mental health outcomes. It was also observed that sedentary people in

particular benefitted from physical activity interventions. Further, these findings support the selection of Circuit Training for use in the current project as participants are likely to be sedentary and it can be a gateway to learning about traditional exercises in a bitesize manner. With regard to mindfulness, there is evidence of its positive effect on physical health outcomes, especially symptom management in a wide range of health conditions, but a need for further investigation was recommended[60]. However, MBIs have a significant positive effect on many psychological and work-related outcomes. Many of the mindfulness intervention studies were conducted on healthcare professionals and teachers[61], therefore, studies across more occupations are needed for generalisable conclusions. The University of Essex has many different departments, all with their own structures, pressures and challenges and may be a more representative sample to include with current literature. A key recommendation by Janssen[61] and wider literature, is a need to use a combination of quantitative and qualitative methodologies in workplace intervention research. Finally, the reviews highlighted the need for intervention protocols to be well described for comparisons, reproducibility and integration into current literature[59,61].

2.5 Interventions

2.5.1 Circuit Training

2.5.1.1 What is Circuit Training?

Circuit Training is a popular, well-known method of fitness improvement. It involves a combination of exercises being completed in one session with short periods of rest between exercises. It can be conducted in a gym, sports studio, at home or other

spaces, and the exercises can involve use of equipment or bodyweight resistance (e.g., without equipment). As such, it is versatile and can also be adapted to any fitness level.

2.5.1.2 Effects of Circuit Training on physical outcomes

Many job roles within universities are considered sedentary. University employees tended to have higher BMI and blood pressure than recommended health guidelines, especially in males[62]. These are risk factors associated with metabolic syndrome, a collective term for risk factors for conditions affecting the cardiovascular system, including CVD, T2DM and strokes[63]. Circuit Training was effective for employees with high-risk of metabolic syndrome and produced improvements in cardiopulmonary function, muscle strength and reductions in body fat[64]. Sedentary employees also had improved aerobic fitness[65] following a 12-week combined circuit-weight training intervention. Finally, in a sample of sedentary office workers who experienced a combined circuit-strength, Pilates and yoga intervention, there were reductions in both body mass and body fat, which are associated with metabolic syndrome, as well as high levels of enjoyment (84% enjoyed the intervention)[66].

Work-It Circuit was a similar worksite circuit training intervention for sedentary university employees, which measured physical health outcomes, with an emphasis on the social element of group-based physical activity[67]. Two Circuit Training sessions were completed a week for 12-weeks with a certified personal trainer. Behavioural strategies such as verbal encouragement and individualised goal setting were utilised to increase self-efficacy. Although BMI was not significantly different from baseline measures, waist-to-hip ratio (WHR) and systolic blood pressure significantly decreased and muscular strength and self-efficacy significantly increased. Participants provided

qualitative feedback post-intervention indicating enjoyment of the social aspect of the sessions and support from a personal trainer. These findings provide evidence in support of utilising a motivational course leader and group-based Circuit Training within the workplace and implications for further qualitative study to explore reasons why the group dynamic was effective.

Circuit Training has been demonstrated to have positive effects on pain severity and management. Group circuit-based interventions conducted in the workplace during the working day were more effective in increasing back strength and reducing pain severity compared to prescribed physical activity conducted in healthcare workers' leisure time at home[68,69]. People suffering from musculoskeletal pain may also be more likely to suffer from headaches[70], and those who have desk or computer focused jobs may also suffer from neck and shoulder issues. As such, a workplace intervention protocol was created[71] and implemented to use strength-training in a circuit format[72]. Employees rotated between five different activities with bouts of rest in between sets in each session for 20 weeks. In the groups that were supervised, the instructors provided positive feedback and acted as a motivational strategy. Effort was made to keep the intervention location as close to the worksite as possible to remove barriers to participation. Results showed that even one hour a week was enough to reduce headache frequency and intensity, and supervised sessions led to less reported use of analgesics.

Outside the workplace, Circuit Training and Circuit Resistance Training (CRT) have been found to have positive effects on body composition and components of cardiovascular fitness. Low and moderate intensity Circuit-Based interventions with short 10-30 second rest periods between exercises were associated with the greatest decreases in body fat mass[73]. CRT improved upper and lower muscular strength in

middle-aged and older populations (64.5±7.4 years)[74], it can also be useful for people with health limitations, postmenopausal women with bone loss; CRT improved upper limb strength, lower limb strength and isometric strength[75].

Only one study was found that has directly compared Circuit Training to a brisk walk outside[76]. A sample of sedentary office workers were randomly divided between interventions and a control group. Interventions were completed over 12 weeks in the middle of the working day. Both Circuit Training and brisk walking interventions led to increased cardiorespiratory fitness levels and skeletal muscle mass compared to the control group. However, it was not clear if the brisk walking occurred in an urban area or green space.

2.5.1.3 Effects of Circuit Training on psychological outcomes

Circuit Training has been demonstrated to have positive effects on a number of psychological outcomes, including stress, self-esteem, mood, anxiety and depression. Within a university setting, employees, who mostly had desk-based roles, completed a Circuit Training intervention comprised of bodyweight, resistance band and light weight training activities[77]. Perceived stress significantly decreased post-intervention, which supports Circuit Training as a useful stress reducing intervention for use with sedentary university employees. Helping professionals, who are employees who serve the wellbeing of the community, such as nurses, social workers, law enforcement and public safety employees often suffer from negative psychological health outcomes including stress, anxiety and depression. An 8-week Combined circuit-resistance and agility training intervention significantly decreased perceived stress and perceived emotional exhaustion in helping professionals[78]. Reductions in these factors, paired

with increased feelings of personal accomplishment, can help protect employees from occupational burnout. Moreover, Circuit training reduced negative mood, anxiety and depression in police officers[79]. Beyond the workplace, women suffering from low self-esteem who partook in an interval circuit, (which included aerobic, anaerobic and strength activities) reported an increase in general fitness and body image[80]. Further, circuit-based exercise training was found to have a positive effect from pre- to post-treatment on anxiety levels, and the intervention was most successful with those who had a stressful lifestyle[81].

2.5.1.4 Effects of Circuit Training on work-related outcomes

Circuit Training has been found to impact work-related outcomes albeit this has only been looked at in one study[79]. Specifically, there were improvements in job satisfaction in male police officers, who participated in a Circuit Weight Training over four months. The study also compared the intervention group with those who dropped out, and it showed that the officers who dropped out had considerably higher anxiety and depression at the beginning, than those who completed the intervention. This highlights that attrition is an issue with these kinds of studies, but there needs to be a prior emphasis that the results are worth completing the program. This study provides a useful basis to show that circuit training is a worthwhile intervention, however only males participated in the study, so results may not be applicable to women.

2.5.2 Green Exercise

2.5.2.1 What is Green Exercise?

Green Exercise is physical activity undertaken with direct exposure to the natural environment[82]. Alongside Green Exercise, Blue Exercise alludes to physical exercise in the natural environment where there is presence of water[83]. Green Exercise provides an opportunity to reconnect with the outside world and gain appreciation for the little things that can be so easily lost in the current societal standards of urban living and working.

Theories have proposed possible reasons why connection to nature might benefit health and wellbeing outcomes. Psycho-evolutionary theory[84,85] suggests that human beings are predisposed to respond positively to the natural environment. Green spaces serve as safe places, with abundant resources, which provide a buffer against stress[86], facilitates restoration, and acts as an escape[87]. Attention Restoration Theory (ART)[88,89] suggests that green spaces reduce demand on coping resources. At work, effort is required to maintain attention solely on task demands, which in prolonged periods can cause mental fatigue. In green spaces, it is argued, that attention is more effortless, therefore, providing opportunities of restoration and recovery from mental fatigue. It is widely accepted that green spaces have ameliorative and restorative qualities and as such, there has been suggestion of green exercise becoming an important public health initiative[90]; the synergistic blend of green space and exercise could have widespread implications in physical and mental wellbeing outcomes[91], which can help reduce strain and costs on health and wellbeing services.

2.5.2.2 Effects of Green Exercise on physical outcomes

Stress has both physiological and psychological indicators. In this area of study, it is often measured by self-report measures; however, studies have also provided objective measures which can help overcome researcher biases. The Cortisol Awakening Response (CAR) is an increase in cortisol production usually within the first hour of waking, possibly in anticipation of perceived demands in the upcoming day, and it has been suggested it can be a biological indicator of stress, including work-related stress[92]. Employees suffering from chronic work overload had higher levels of salivary cortisol after awakening on weekdays in comparison to the weekend days[93]. Employees who participated in Green Exercise interventions and a combination of cycling and Circuit-Strength interventions also experienced tentative improvements of both CAR and BP compared to a control group[94], however, the Green Exercise intervention was associated with increased positive affect and restorative potential, which could be considered a motivational factor for continued engagement with Green Exercise. Similarly, compared to a city walk, short visits to green spaces, especially woodland, elicited stress reductions as measured by salivary cortisol[95]. Walking in a forest setting has also been found to significantly reduce BP compared to an urban walk[96]. Further, employees assigned to a nature walking intervention had significantly improved BP compared to an urban walking group, although, caution was advised with interpreting these results as employees in the urban walking group tended to have lower blood pressure at baseline. Despite this, the natural walking group were the only group, compared to the urban walking group and a control group, to make their target increase in step count[97,98], which provides positive indication for the physical potential of Green Exercise.

2.5.2.3 Effects of Green Exercise on psychological outcomes

As observed above, theories have emphasised the role of green spaces on stress recovery. Environments with high biodiversity have been linked to the greatest decreases in perceived stress[99]. Outside the workplace, in comparison with indoor exercise, Green Exercise has been associated with a sense of calm and greater stress reduction[100]. However, stress, mood, and anxiety all improved in both conditions, which further supports the observation that participation in physical activity benefits both physical and mental wellbeing outcomes[55]. Beyond stress, significant increases in quality of life have been observed following a 5-week forest walking intervention compared to a control group[101].

A common theme across literature is that even small doses of Green Exercise can provide mental wellbeing benefits, especially to mood and self-esteem. Short-term participation in Green Exercise significantly improved mood and self-esteem for both men and women, with self-esteem increasing most notably in mentally ill participants. Improvements were felt in all types of green spaces; however, the greatest benefit was from green spaces in the presence of water[102]. Effects of increased self-esteem and mood were also observed immediately following Green Exercise walks in National Trust sites[103]. National Trust locations vary in configuration, but regardless of whether Green Exercise was conducted in grassland, beach, riverside or heritage sites, it was beneficial for mental health outcomes including stress, self-esteem and mood[104]. Similarly, significant improvements in self-esteem and mood were unaffected by the type, intensity, or duration of Green Exercise undertaken, whether it be walking, cycling, horse-riding etc[105].

Green Exercise can particularly benefit people with mental illnesses. In treatment for depression, Green Exercise and aerobic physical activity sessions both reduced symptoms of depression in female patients compared to control groups. All participants received pharmacotherapy but were not participating in any other psychotherapy or wellbeing activities, suggesting that changes were due to participating in the physical activity interventions[106]. Similarly, review findings have shown significant reductions in both depression and anxiety following Green Exercise interventions[107] and perceived immersion in natural green spaces have been associated with the highest decreases in anxiety[108].

Thompson-Coon et al 2011[56] conducted a systematic review to compare physical activity interventions performed in a natural setting versus indoor settings on both physical and mental wellbeing outcomes. Their search identified 11 trials which included 833 adults, of these 523 adults were students. In comparison to indoor physical activity, four studies reported statistically significant increased effects on positive outcomes e.g., self-esteem. The positive effects were most notable on mental wellbeing outcomes. Four studies reported statistically significant reductions in effects of negative emotions e.g., anger and depression. Participants in five studies reported enjoying the interventions, and two studies reported intention to continue with activities post intervention. Although all of the included studies contained short term interventions, with single doses of activity, they still provide some evidence of the benefits of outdoor exercise in comparison to indoor activity. Even if employees took a 10-minute break in outdoor spaces it had a significant effect on stress reduction[109].

Lahart et al 2019[110] replicated parameters used by Thompson-Coon et al 2011[56] but using the term Green Exercise. Tentative evidence was found for Green Exercise being lower in perceived exertion compared to indoor physical activity, as well as

having more favourable effects on enjoyment, intention to continue with activities post-intervention and reduced levels of anxiety and tension. This demonstrated that Green Exercise has increased restorative and ameliorative effects in comparison to other physical activity interventions. However, traditional physical activity interventions cannot be discounted from use in the workplace as some outcomes were not significantly different between Green Exercise and indoor physical activity interventions, although there were still improvements in outcomes for both.

2.5.2.4 Effects of Green Exercise on work-related outcomes

Many workplace interventions concerning Green Exercise concentrate on physical and mental wellbeing outcomes, but it can also improve work-related issues. Employees who engaged with lunchtime park walks, with a focus on natural surroundings, and mindfulness-based breathing and acceptance exercise, experienced reduced work strain and increased concentration during afternoons after the intervention compared to days where the interventions did not take place[111]. Although only one study was identified, this supported ART, which suggests that green space can provide a release from mental fatigue and use of both Green Exercise and MBIs as workplace interventions.

2.5.3 Mindfulness-Based Stress Reduction

2.5.3.1 What is Mindfulness?

Mindfulness is “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment.”[112]: (p.144). Becoming mindful is a process, it requires practise to

cultivate. As such, MBSR therapy acts as “a training vehicle for the relief of suffering”[112]: (p.148). MBSR is a secular program developed in 1979 by Dr. Jon Kabat-Zinn, with the intention to support people suffering from negative health outcomes, most notably, stress. MBSR aims to teach people how to become more self-aware, practise acceptance, and provides coping techniques. The positive aspect of stress should also be acknowledged; eustress, defined by the American Psychological Association (APA) as: “the positive stress response, involving optimal levels of stimulation: a type of stress that is challenging but attainable and enjoyable or worthwhile.”[113] This is important because eustress and distress have similar physiological indicators, such as increased HR and BP. The difference lies within the perception of these indicators; eustress is seen as more motivating, anticipating and exciting, which can aid personal growth, skill mastery, resilience and help optimise performance at work, while distress is linked to feelings of being overwhelmed, nervous and under pressure. Understanding that not all stress immediately is inhibitory and if some stressors can be reframed it can have wellbeing and productivity benefits in and out of the workplace[114]. MBSR can help provide people with the tools to give positive responses to usually stressful circumstances[115].

2.5.3.2 Effects of Mindfulness on physical outcomes

MBSR has been adapted to be used in clinical settings and has been utilised as a general coping method for physical illnesses. Although most studies concentrate on the psychological benefits associated with mindfulness, some studies have reported benefits on physical health outcomes and positive benefits on symptom management[116]. Physiological indicators of stress response including cardiopulmonary

symptoms (e.g., heart palpitations and hyperventilation), gastrointestinal issues (e.g., vomiting and diarrhoea), neurological symptoms (e.g., dizziness and feeling faint), and sleep quality were all decreased in cancer patients following MBSR intervention compared to a waiting list control group[117]. Similar results were observed in CVD patients who experienced significantly reduced heart palpitations, systolic BP, dizziness and breathlessness[118]. Mindfulness helps to reframe perceptions, which positively impacted perceived symptom severity among chronic pain sufferers[117]. It is estimated that in the UK, over 26 million people live with chronic health conditions[119], of these, approximately 12.8 million are working adults[120], therefore, positive indications for use of MBSR as part of ongoing treatment can benefit people in and out of the workplace, which was demonstrated when employees with chronic pain felt reduced intensity of pain in their neck, shoulders and back following a 10-week MBI[121].

Sleep is an essential facilitator for day-to-day function, and poor sleep was identified in section 1.0 as a symptom of workplace stress. Participation in worksite MBSR sessions improved sleep quality, reduced sleep disturbance and reduced daytime dysfunction in university employees[122]. Prolonged fatigue was also decreased following MBSR intervention[123]. Finally, a combination of mindfulness and yoga as a workplace intervention facilitated significant improvements in global sleep, perceived sleep quality, daytime dysfunction and stress[124].

2.5.3.3 Effects of Mindfulness on psychological outcomes

MBSR primarily focuses on stress reduction, as such workplace studies have utilised MBSR as a wellbeing initiative in stress-reduction interventions. Stress is the most prevalent outcome assessed in workplace MBI literature and consistent results

suggest that MBIs reduce stress and strain outcomes[125]. These effects have been observed in a variety of workplace settings. Among factory workers, psychological distress and perceived stress significantly decreased following an 8-week MBSR intervention, and reductions in perceived stress were maintained at follow up. Further, qualitative findings showed the intervention provided benefits to self-relaxation and patience[123]. MBIs conducted during lunchtime breaks can significantly decrease perceived stress. The benefit of sessions taking place during lunchtime was so work was unaffected, and participants did not have to stay late[122]. Further, managers may also benefit from the use of MBSR practise to manage their own work-related stress and to bolster resilience[126].

Many workplace MBI research studies focus on healthcare and nurses. Cohen-Katz et al 2004-2005[127] conducted a quantitative and qualitative study of an 8-week MBSR intervention on nurses primarily focused on stress and burnout. In the quantitative part of the study, it was found that psychological distress, emotional exhaustion and depersonalisation significantly decreased, and feelings of personal accomplishment increased[128]. Qualitative findings, from thematic analysis, found that participants experienced relaxation, self-awareness, self-acceptance, self-reliance and improved relationships as a result of MBSR sessions[129]. The qualitative results show deeper meaning behind participant experiences and possible reasons behind changes in quantitative outcomes.

MBSR is also widely used in the treatment of mental health illnesses. MBIs are especially effective in reducing symptoms of depression and anxiety[130], and in clinical settings, they significantly reduced the relapse rate of patients suffering from recurrent depressive episodes[131] and interpretation of reported minimal clinically important difference (MCID) scores indicates MBSR can bring participants with mild to moderate

stress to within normal range[132]. In the workplace, reviews have supported the use of MBIs in the workplace and generally showed reduced anxiety and depression, especially among healthcare professionals[133]. Lomas et al 2017[125] had similar results; the review found favourable effects of MBIs on depression symptoms.

Few studies compare the use of MBSR against Physical Activity, but studies seem to agree that both mindfulness and physical activity have positive effects on mental and physical health outcomes. Between MBSR, yoga, and a control group, it was found that MBSR had the greatest improvements in perceived stress, quality of sleep, and autonomic balance, compared to the control group. It was concluded that either the MBSR or the yoga interventions can be effective in reducing stress levels[134]. Both mindfulness and acute exercise have been used in an intervention to reduce state anxiety and it was found that they were both equally effective[135].

2.5.3.4 Effects of Mindfulness on work-related outcomes

Work-related outcomes were measured in a qualitative evaluation of university staff and found that MBI participation increased job satisfaction and helped employees tackle difficult work-related situations easier and manage emotions more effectively[137]. Further, increasing mindfulness of employees improved job attitudes, which was demonstrated by increased job satisfaction and reduced turnover intentions (the likelihood of leaving the job)[137]. Interestingly, Work performance was assessed and whilst quality of work increased, quantity decreased. These outcomes benefit both the employee and employer and serve as positive evidence for the use of MBIs within the workplace.

2.6 Overall Summary

Although no studies were available at time of literature synthesis which compared Circuit Training, Green Exercise and MBSR, it is evident that all three interventions have supporting evidence for effectiveness on physical and mental wellbeing and work-related outcomes. The current project will help fill in some gaps in the evidence base. MBIs are the most prevalent in workplace intervention studies, however, most of these involve healthcare workers and there is a recommendation for more diverse workplaces to be analysed. Despite this, MBSR produced promising results for reducing stress and increasing physical and mental wellbeing outcomes.

2.7 Rationale and Purpose of Study:

Wellbeing Work-0ut was born of a partnership between the School of Sport, Rehabilitation and Exercise Sciences and OH at the University of Essex. The tagline of Wellbeing Work-0ut using the zero in the title is to signify the services use 0% of the participants' personal time. This is the first intervention of its kind at the University of Essex. The unique distinction of the sessions was that they were designed to be a part of the working day to provide a release, help relieve symptoms of minor mental health issues, and to facilitate stress reduction by giving participants tools to allow them to cope more effectively in stressful situations in the future.

Studies such as this can be used to not only improve wellbeing services for employees, but also to act as empirical evidence for the need of such services and their role. This would allow for greater flexibility on the part of the employer, and greater willingness to engage on the part of the employee. There is still the feeling that mental health issues automatically insinuate incompetency, and while this study

cannot change social stigma, it can show that these issues are just another challenge that workplaces need to overcome, rather than a fatal flaw of the employee.

The purpose of the study was to advance understanding of the effects of different interventions on stress and wellbeing. The specific aim of this study was to compare the effects of three 8-week interventions; Circuit Training, Green Exercise and Mindfulness-Based Stress Reduction on mood, self-esteem, stress, general wellbeing and quality of life in employees at the University of Essex.

2.8 Hypotheses:

It was hypothesised that all interventions would have a positive effect on stress, self-esteem, mood, general wellbeing and quality of life, but no specific prediction was made about which intervention would be most beneficial for each particular outcome.

3.0 Methodology

3.1 Study Design

For this thesis, a pragmatic approach was adopted. The research aims to learn about the effects of the interventions on outcomes and participants' experiences, which could help inform the design and implementation of future work-based interventions to help with stress and wellbeing. Pragmatism allows for integration of methods (both quantitative and qualitative) and the freedom from being encumbered by ideology. As such, this study used multi-methods (quantitative and qualitative), and a mixed-model design (between-subjects factor: intervention; within-subjects factor: time). Participants were only exposed to one of the interventions but within this, participants took part in both quantitative and qualitative elements. This approach is similar to preference trials whereby two or more interventions are compared among a group of patients who have purposefully chosen the intervention they participate in[138].

Where there was commonality between the quantitative and qualitative methods e.g., the same sample, these are described first. Following this, there are sections that describe quantitative and qualitative approaches separately. Across the methods, when describing the interventions and quantitative and qualitative approaches CONSORT[139] and COREQ[140]/SRQR[141] were drawn upon where appropriate. Intervention protocols were guided by Tidier[142] and CERT[143].

3.2 Ethical Approval

Before any testing was undertaken, ethical approval was granted by the University of Essex ethics committee.

3.3 Participants and Sampling

A total of 37 staff members from various departments at the University of Essex (9 males, 28 females; Mean Age = 42.8 years, SD = 10.7) were recruited via a referral system with OH, but attendance was voluntary (n=32; 6 males, 26 females). The intervention was also advertised to general staff at the University through an advertisement in a staff newsletter distributed via email (n=5; 2 males, 3 females).

Participants were required to meet inclusion criteria, and if all of the following were met, they were cleared to participate in the course. [a] Referred by OH or responded to the newsletter advertisement, [b] presently employed at the University of Essex and [c] living in the Essex area. [d] Participants must be ambulatory, [e] aged 18-70 and [f] have approval from a physician to engage in exercise. [g] Participants also must be exercising less than 5 days a week for ≥30 minutes. If participants met any of the following exclusion criteria, they could not participate. [a] Already participating in exercise or rehabilitation research, are [b] unwilling or unable to comply with protocol and [c] have other disease interfering with either intervention or testing procedures.

OH sent referral forms with consent from participants to be contacted by the researcher. These forms included participant's preference of intervention (See Appendix C). The researcher approached participants by email providing more information and inviting them to an introductory session for their chosen activity. The newsletter advertisement gave the researcher's email address and participants contacted the researcher directly expressing interest in their chosen activity. The researcher proceeded in the same way with advertisement respondents. Participants were allocated to their chosen activity on a first come first serve basis, giving priority to referrals.

3.4 Protocol and Interventions

The sample was allocated to one of three intervention groups: Circuit Training (n=6; 1 male, 5 females), Green Exercise (n=16; 7 males, 9 females) and MBSR (n=15; 1 male, 14 females). One week before the start of each activity, an introductory session was held, in which participants met the course leader and the researcher. The service provider gave an outline of the nature of the sessions, described the necessary attire, and gave an opportunity to ask questions. Participants were given a participant information form specific to the upcoming activity to keep for their records. Informed consent was obtained in written form (See Appendix C). Participants were reminded of the importance of confidentiality and that they may withdraw from the study at any time for any reason. Upon giving consent, they were asked to complete baseline questionnaires and demographic information sheets. Demographic sheets asked for participant's date of birth, gender, what types and how many hours of physical activity participants do in a typical week. Information about participation in physical activity was collected as a control but the data were not reported. Participants were made aware of the general structure of interventions in the informal introductory sessions, but the hypothesis and research question were not disclosed. Participants could not be blinded to interventions and covert observation would be unfeasible and unethical in this case, especially where mindfulness is concerned as it is imperative for participants to feel in control and feel they are in a safe space.

Each session was once weekly, except for Circuit Training, which was twice weekly. Justification for session timings can be found in the protocol section for each intervention. Each activity ran for eight consecutive weeks, before moving on to the

next activity. As the sessions were not run concurrently, the activities followed a linear pattern, starting with Circuit Training, followed by Green Exercise and ending with MBSR, before then returning to Circuit Training to repeat the process a second time. The chosen structure of interventions was to account for a number of relevant factors aimed at maximising the efficiency of the study. The limited number of research staff meant that larger groups would be difficult to properly investigate during the interventions, meaning that too many participants could result in diminishing returns in qualitative data. The smaller groups, however, resulted in smaller data sizes, and so the interventions were repeated to address this. The linear pattern also allowed for easier liaising with relevant facilities where the intervention was conducted. With this structure, the main concerns in the validity of the data gathering were addressed to maximise data quality.

All data collection (described in sections 3.5 and 3.6) was completed during the intervention sessions on the University of Essex Colchester Campus or the Wivenhoe Trail. Only the participants, the researcher and the course leader(s) were present during the sessions.

3.4.1 Circuit Training protocol:

Circuit training was used in the current project as it is a time-efficient method of achieving a full body workout without the need for a lot of equipment. It is also versatile and can be adapted to any fitness level. Many of the exercises included mimic movements often performed in day-to-day living[144] and can easily be reproduced at home which may enable participants who feel uncomfortable in gym settings to find exercises that suit them.

Qualified personal trainers, who both work in the gym setting led the circuit training interventions. Sessions took place in an indoor exercise studio at the University of Essex Colchester campus. All sessions were delivered face to face and in a group setting. The sessions began with warm-up exercise, including both cardiovascular and stretching exercises. In the first instance, all activities were demonstrated by the course leader. Next, participants rotated between six different exercise stations. Each exercise was performed as many times as possible for 45 seconds with 15 seconds rest before moving on to the next station. Participants completed three sets before coming together with the course leader to perform a cool down. The circuit was made up of a combination of traditional training exercises (e.g., press ups and squats), 'fun' exercises such as boxing and table tennis, and rest stations. The exercises varied from session to session, this was to maintain motivation, challenge participants, and to give them a diverse range of activities to replicate at home if they chose to. Full activity details, studio diagrams and equipment list are available in Appendix E.

Generally, exercises were low to moderate intensity, however, the exercises were adjusted to progression levels over the course of the intervention. At the beginning, participants walked between stations. As the sessions continued, participants were encouraged to jog between stations. To cater for differing abilities, the difficulty of most activities could be altered. For example, participants could progress from a press up on their knees to a full press up. Or to regress, they could do the press up against the wall, so they could remain standing. Participants fed back with the course leader if activities became either too easy or too difficult and were adjusted accordingly.

Sessions ran twice weekly for one hour each, the activity lasted 45 minutes, with ten minutes allocated to questionnaires, and five minutes for changing. The course leaders had extra availability making it possible to run shorter sessions twice a week, totalling

16 sessions per 8-week block. Part of the inclusion criteria was that participants were exercising less than five days a week for ≥30 minutes at a time, splitting the sessions into two reduced the load on participants. Participants were encouraged, but not required, to attend both sessions a week. Participants were also not required to replicate activities at home, however, if participants expressed interest in doing elements of the Circuit Training sessions at home the course leader provided guidance.

The key motivation strategy used in the Circuit Training intervention was the use of accredited service providers who could offer support, motivation, and knowledge to participants. Small group sizes allowed for equal attention among participants. The service providers also held first aid accreditations and were observant in each session to ensure participants were doing the exercises correctly, which minimised chances of injury. No adverse events occurred during any of the Circuit Training sessions, all sessions were delivered as intended and expected.

3.4.2 Green Exercise protocol

Green exercise was selected for the current project as it synergises the benefits of walking with the restorative effects of nature and is associated with stress reduction. Green Exercise requires no exercise equipment; however, participants were reminded to wear weather appropriate clothing and shoes.

Participants were taken on eight different guided walks, six of which were routes around the Wivenhoe Trail, and two followed the ‘Tree Walk’ on the Colchester campus (See Appendix F). The service providers who led the sessions were avid lovers of nature and experienced ramblers with route planning, safety and extensive knowledge of local nature. This included a reserve warden in the Essex Wildlife Trust.

Participants walked collectively, and during each session, the walk leader shared extensive knowledge on trees, plants and wildlife, to provide a connection to and appreciation of nature. On all walks, participants were encouraged to interact with flora, under supervision and direction of service providers, which involved feeling textures in leaves, bark and seasonal berries. Both blocks of Green Exercise occurred in autumn and early winter, so participants were able to witness the changing of colours in leaves in some trees and new life beginning in others, come across multiple species of fungi and have the sensory experience of fallen leaves crunching under their feet.

The walks on the Wivenhoe trail included routes through Wivenhoe woods, Ferry Marsh and following the river Colne. Wivenhoe woods is described as a mixed coppice and secondary woodland and is home to 16 different species of tree[145]. On the walks, participants encountered trees such as sweet chestnut, elm and oak. Along the river and towards Ferry Marsh, the terrain was mostly flat and followed a mixture of trail marked footpaths and desire paths. During the river-oriented routes, a number of birds were encountered and identified, such as Curlews, Teals, Cormorants and an Egret. Ferry Marsh is a former grazing marsh and desire paths were followed to find a larger area of water where many ducks and geese frolicked. The walks through the University of Essex Colchester Campus Tree Walk followed both concrete paths, which were general routes through the campus with featured trees next to the path and walking through grassland to access other trees. Examples of featured trees were cork, ash and black pine. The terrain was a mixture of flat and small to moderate hills.

Each session lasted for one hour and 15 minutes, composed of 10 minutes of walking to the site, 45 minutes of active Green Exercise, 10 minutes to walk back and 10 minutes to complete questionnaires whilst seated in the Sports Arena lobby. Block one of Green Exercise was undertaken between September and November 2017 on

consecutive Tuesdays, with the exception of week five which was postponed until the following week due to service provider illness. The weather ranged from cloudy to mostly cloudy and the average temperature was 13.6°C. Block two of Green Exercise was undertaken between November 2018 and January 2019 on consecutive Wednesdays up until week six, where sessions were paused for three weeks for the Christmas break and resumed in January for the final two sessions. The weather ranged from cloudy to mostly cloudy. The average temperature was 8.8°C. Full details of dates of green exercise interventions and weather conditions can be found in Appendix F.

The walks were mostly low to moderate intensity, as the most reliable benefits from physical activity come from moderate intensity[146], however, some of the uphill terrain increased intensity. The pace of the walks was adaptable if participants found the pace difficult or needed to stop, however, this did not occur in any session. All walks were planned and trialled by either the service provider(s) and/or the researcher before sessions commenced to test feasibility of completing the route in the allotted timeframe, to maximise exposure to nature (including blue spaces where possible) and surveying the route and adjusting for any safety concerns e.g., identifying areas of slippery mud. It was found that the Tree Walk was too long to complete in one session so was split into two sessions. Therefore, the sessions did not need any modification. No adverse events occurred during any of the Green Exercise sessions and other than the rescheduled session outlined above, all sessions were delivered as intended and expected. It should be noted that participants were not required to complete Green Exercise walks between sessions, however, on request, route maps were provided, and service providers offered recommendations for walks in other local green spaces.

The key motivation strategy used in the Green Exercise intervention was the use of service providers with extensive interest and knowledge of their field. For example, it was very important for the service provider to be able to inform participants about nature and be prepared to answer participant questions.

3.4.3 Mindfulness-Based Stress Reduction protocol

MBSR courses are an introductory gateway to mindfulness and begin the habit-forming process. During the course, participants engage with regular practise, which involve paying attention to sensations, thoughts, and emotions to reduce fixation on thoughts and promote emotional regulation. These skills are supplemented with home practise and group discussion of the practises and experiences of utilising mindfulness in daily life.

The two blocks of MBSR were delivered by different individuals. Both Mindfulness course leaders trained as mindfulness instructors, including accreditations by Breathworks. Sessions were delivered face to face in a group setting. Each session was broken down into topics, which involved learning about the mechanism behind the practises, active practise at least twice per session and group discussion. Meditation practises included guided meditations such as the 3-part breathing space, which consists of 1) awareness and noticing how you are feeling now, 2) redirecting to and noticing sensations the breath and 3) opening awareness to noticing sensations in the while body. ‘Mindful Movement’ is the physical activity component of MBSR which is the practise of doing gentle guided meditation while walking through space. Sessions were delivered as per set session plans and scripts were derived from well-established practise and are provided in Appendix G. Home practise was also set each week.

All MBSR sessions took place in a large seminar room on the University of Essex Colchester campus. To maximise benefit of the sessions, and provide comfort and privacy for participants, environmental conditions were kept as consistent as possible. Each session was undertaken in the same room for all eight weeks, the artificial lights were on (unless a video was played then one set would be turned off), and the blinds and windows were closed. The temperature was adjusted with the air conditioning unit, if participants requested. Each session lasted for two hours. One hour 45 minutes of mindfulness practise, ten minutes for questionnaires and five minutes to arrive and settle. It was made clear that it was a safe space during the sessions, the participants were never under any pressure to share any personal information at any time, and they could share what they saw fit.

This course is based on MBSR, but in a shorter form to fit the session times. The MBSR course was condensed into shorter sessions to fit within the 8-week timeframe, the weekly session could not have been made any shorter without sacrificing important aspects of the course. Pre-course forms were used to ensure participants were safe to participate in the MBSR sessions. All sessions ran as intended and expected, no adverse events occurred in any of the MBSR sessions.

The key motivation strategy in the MBSR sessions was reinforcement from the course leader that participants will get the greatest benefit from attendance to all of the sessions, as mindfulness comes from regular practise. Importance of home practise was also frequently reinforced by the course leader.

3.5 Quantitative Approach:

Upon giving consent, participants were asked to complete the following six questionnaires as baseline measures: Perceived Stress Scale (PSS), Rosenberg Self-Esteem Scale (RSE), Profile of Mood States (POMS), Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) and SF-36 (See Appendix D). At the end of each session thereafter, participants were asked to complete POMS, RSE and PSS questionnaires. On weeks 4 and 8 participants were asked to complete the SWEMWBS and SF-36 questionnaires in addition to the other questionnaires mentioned above. Stress was considered the primary outcome and the other measures were secondary outcomes. While data from each session was processed and analysed, for the purposes of this study weeks 1, 4, and 8 were selected as most representative, and thus formed the basis of the resulting data.

Questionnaires were completed at the end of each session in the designated room or in the Sports Arena foyer for the Green Exercise interventions. All questionnaires, qualitative data (described in section 3.6) and participant information were kept in a locked cabinet in a secure location, only accessible by the researcher and research supervisor. When data was transferred to SPSS, names were replaced with numbers to protect the participants' identity.

3.5.1 Measures

3.5.1.1 Perceived Stress Scale

Stress was measured using the PSS questionnaire[147]. It is an easy to use, well-established questionnaire[148]. Participants were required to read 10 items and score them on a four-point Likert scale of 0-4 (0 = Almost never; 4 = Very often) by putting a circle around corresponding number. It was printed on the questionnaire for participants to answer of how they have been feeling over the past month. Given that altering the questionnaire was not possible, the participants were verbally asked instead to answer the questionnaire with consideration to how they are feeling right now instead. An example of an item is: In the past month, how often have you been able to control irritations in your life? PSS has been successfully used with a psychiatric sample, (Hewitt et al 1992). The sum of all items was calculated for overall score. The overall score could range from 0-40, and higher scores are indicative of higher stress. It has also been found that the PSS is reliable and valid in students and has been used with success in other languages, including Greek and Portuguese[149,]

3.5.1.2 Rosenberg Self-Esteem Scale

Self-esteem was measured by the RSE scale[151]. This is comprised of ten items, on a four-point Likert scale. It was designed as a self-report technique for adolescents to assess participant's view of self-worth, and subsequently it became a widely used tool for appraising self-esteem in adults. RSE has been found to be interpreted the same by a clinical and non-clinical sample[152]. Most relevant to this study, self-esteem has a moderately positive relationship with job satisfaction[153]. Participants were required to read ten items and score them on a four-point Likert scale (Strongly Agree; Strongly

Disagree) regarding how they were feeling after the session by ticking one of the boxes. The items include five positively worded statements (e.g., I feel that I have a number of good qualities) and five negatively worded statements (e.g., I certainly feel useless at times). Positively worded items (1, 3, 4, 7 and 10) are scored as: strongly agree = 3, agree = 2, disagree = 1 and strongly disagree = 0. Negatively worded items (2, 5, 6, 8 and 9) are reverse scored (strongly agree = 0, agree = 1, disagree = 2, strongly disagree = 3). The sum of all items was calculated for overall score. The overall score could range from 10-40, and higher scores are indicative of higher self-esteem. RSE has been translated into many different languages and deemed to be effective[154]. Construct validity has been found using the RSE among both men and women, for different ethnic groups and college students[155].

3.5.1.3 Profile of Mood States

Mood was measured using the POMS questionnaire[156]. The original version of POMS is a standardised questionnaire comprised of 65 items on a five-point Likert scale. It was devised to assess the clinical status of psychiatric outpatients, and act as an indicator for psychotherapeutic needs. It has since been applied in multiple populations. Notably, many studies implementing POMS have supported relationships between exercise and mood changes in both normal and clinical populations[146]. POMS has also been utilised in the workplace - in a large-scale study by Morfeld et al POMS has been found to have good psychometric properties[157]. As demonstrated in its global use, POMS is versatile and sensitive to change. It has been successfully adapted into many formats. As such, the standardised 30-item

short form version of POMS was selected for this study due to time constraints, and consideration for the response burden.

POMS measures the six dimensions of mood. They are categorised into Anger, Confusion, Depression, Fatigue, Tension and Vigour. The questionnaire is divided into six subscales, one for each dimension. Each subscale consisted of five adjectives at different levels of perceived intensity (see table 1). From this, Total mood disturbance (TMD) can be calculated. TMD refers to the overall negative mood state, derived from an aggregate of mood dimensions[158].

Table 1. *The adjectives in each of the subscales in the Standardised Short Form Version of POMS*

Anger	**Confusion**	**Depression**	**Fatigue**	**Tension**	**Vigour**
Angry	Confused	Sad	Worn Out	Tense	Lively
Grouchy	Muddled	Unworthy	Fatigued	Shaky	Active
Annoyed	Bewildered	Discouraged	Exhausted	Uneasy	Energetic
Furious	Efficient*	Lonely	Sluggish	Nervous	Full of pep
Bad-Tempered	Forgetful	Gloomy	Weary	Anxious	Vigorous

Participants were required to read 30 items and score them on a five-point Likert scale (0 = Not at all; 4 = Extremely) regarding how they were feeling “right now”, by either putting a circle around or filling in the corresponding number. For the score of each subscale, the score for each item was totalled, except for ‘Efficient’ which is reverse scored (Not at all = 4 points; Extremely = 0 points). To calculate TMD, the total for vigour is subtracted from the sum of all other subscales. Lower scores for all subscales are indicative of more stable mood profiles, with the exception of vigour, where higher scores are indicative of more stable mood profiles. The total TMD score could range

from -20 to 100 with a lower score representing more favourable mood. Internal consistency of the original POMS and POMS-SF is homogenous[159]. Furthermore, internal Consistency and Temporal validity were demonstrated in a clinical population in relation to completing exercise sessions[160].

3.5.1.4 Short Warwick-Edinburgh General Mental Wellbeing Scale

General Mental Wellbeing was measured by the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) questionnaire[161]. This allows for an overview of general mental health, which could be exceedingly useful in judging overall effectiveness of the study alongside the other measures. Participants were required to read 7 items and score them on a five-point Likert scale (1 = None of the time; 5 = All of the time) regarding their experiences over the last two weeks, by either putting a circle around or filling in the corresponding number. All items are positively worded e.g., I've been feeling optimistic about the future. The sum of all items was calculated for overall raw score. This overall raw score was then transformed in accordance with the recommended scoring procedure for the SWEMWBS, for example, a raw score of 12 would be transformed to the metric score of 14.08. Transformed scores could range from 7-35, and higher scores are indicative of better mental wellbeing. It has been shown to have good validity, test-retest reliability and qualitative evaluation supported these findings for use with adult and student populations in the UK[162].

3.5.1.5 Short-Form 36 Health Survey

General Physical and Mental wellbeing was measured by the Short Form 36 Health Survey (SF-36)[163]. It is the most generic of the measures used and comprises of coherent quality of life questions, commonly used in medical study. It is an eight-scale profile of functional health and wellbeing; it includes two psychometrically based physical and mental health summary measures. These were physical component score (PCS) and mental component score (MCS) which were the two measures used from this questionnaire. Participants were required to read 36 items across eight sections: [a] vitality, [b] physical functioning, [c] bodily pain, [d] general health perceptions, [e] physical role functioning, [f] emotional role functioning, [g] social role functioning and [h] mental health. Participants scored the items on different variants of a Likert scale. An example item is: Compared to one year ago, how would you rate your health in general? SF-36 was scored using software, where scores are coded, therefore scales could not be reported at this time. However, higher scores indicate more favourable health states. The SF-36 has been used in the general population with varying levels of ill health with success, and fulfils reliability and validity criteria[164,165].

3.5.2 Statistical Analysis

Once data collection was complete, all questionnaires were scored, and raw data was put into IBM SPSS version 27 for analysis. Initially, checks were made for missing values, outliers and normal distribution. Missing values were coded in the data file and pairwise deletion was used in the main analysis. A series of between subject analysis of variance tests (ANOVAs) were then conducted to examine the differences between

the participants in each intervention on all outcomes in the baseline time-point. A series of mixed model ANOVAs were conducted to explore the effects of the interventions (between-subjects factor: Green Exercise, MBSR, and Circuit Training) over time (within-subjects factor: week 1, 4 and 8) on each outcome. Eta squared (η^2) values were used as effect sizes. In this thesis 0.01 was regarded as a small effect size, 0.06 a medium effect size, and 0.14 a large effect size.

In addition to statistical significance and effect sizes, MCID values were also calculated. MCID is “the smallest difference in score in the domain of interest which patients perceive as beneficial...”[166]: (p.408) Different methods of calculating MCID have been proposed in the literature and have been broadly categorised into anchor-based and distribution-based methods. In the current study, a distribution-based method was used. Specifically, the mean of timepoint 1 was subtracted from the mean of timepoint 2 and the mean of timepoint 3 respectively and these differences were divided by the SD for each outcome in each condition. For each outcome and intervention, therefore, there were two MCIDs calculated showing whether there was a minimal clinically important difference identified by week 4 and then week 8 respectively. A value of 0.5 or greater was used as a criterion for MCID[166]. In a review of MCID methods in health-related quality of life instruments, Mouelhi et al 2020 found that the majority of studies that used distribution-based methods favoured MCIDs as multiple of the SD of the mean change, with 0.5 SD typically corresponding to the MCID.

3.6 Qualitative Approach

This element adopted a descriptive qualitative approach. The primary source of qualitative data was from observational field notes. Sessions were overtly observed, and conversations were recorded verbatim by hand by the primary researcher, a female student with a Bachelor of Science degree, seeking a Master of Science degree during each session. Brief supplementary field notes were also taken. Handwritten notes were selected to minimise distraction to participants, e.g., the tapping of keys especially in the mindfulness intervention would have been a distraction from the quiet practises and for researcher ease e.g., taking a laptop on a Green Exercise walk is more difficult and cumbersome than a clipboard, paper and pen.

Sessions were not audio or video recorded for participant considerations and functional reasons. In functional terms, managing video and audio equipment on Green Exercise walks would also have been a barrier. Participant confidentiality was also important in this study; therefore, it was decided video recording was not appropriate due to the sensitive nature of information shared during interventions. Further, presence of a video camera could be intimidating as it is a more intrusive methodology which can alter participant behaviours and experience of the interventions[168], especially during the MBSR interventions where creating a safe and comfortable space is important. Video and Audio recordings may have caused fears for data protection in terms of being identifiable by voice or image[169]. It may have made sessions less personable if participants felt uncomfortable being addressed by name by service providers or feel unable to refer to each other by their real names. Participants were aware of observation and in the field notes, participants' identities

(e.g., real names, departments worked in etc) were undisclosed and only the researcher could identify which comments belonged to each participant.

3.6.1 Research Characteristics

The primary researcher has no formal qualitative training, however thematic analysis was selected as an effective gateway method to learning about qualitative methodology. However, the researcher has an extensive background in relation to therapeutic processes so was well equipped to provide a non-judgemental, safe space for all participants. The researcher had no prior relationship with any of the participants before the study was undertaken. Participants were aware of the researcher observing, but the researcher observed silently and did not participate in the interventions to maintain as much objectivity and reduce bias as much as possible. As such, participants took little to no notice of them during the intervention sessions. Participants knew that this study was in collaboration with OH and was providing services to reduce workplace stress and related physical and mental health complaints but were unaware of the research question.

3.6.2 Data Processing and Thematic Analysis

All field notes were transcribed and coded by the researcher, who used a reflexive approach and themes were inductive. Participant identifiers were anonymised. All transcribed data was stored on a password protected computer, and original copies were securely destroyed.

Thematic analysis was selected to assess the field notes taken during the sessions. It is a flexible and accessible method for beginners in Qualitative research and allows for additional insight into participant's experience within the interventions. Thematic analysis was conducted following the six phases of Thematic Analysis by Braun and Clarke (2006 and 2019)[170,171]. Phase 1 = Data Familiarisation, Phase 2 = Generating Initial Codes, Phase 3 = Searching for themes, Phase 4 = Reviewing themes, Phase 5 = Defining and naming themes and Phase 6 = Producing the report. The process was checked in accordance with the 15-Point Criteria Checklist as a guideline. Whereby, data was transcribed in appropriate detail. A thorough, inclusive coding process was completed, and checks were made to ensure that the themes were consistent, coherent and distinctive. Analysis was balanced between narrative and extracts from transcribed data, and they are well interpreted with a well-organised account about the data and topic at hand. Each section was given equal attention to ensure that the assumptions made in the written portion are clearly explained and concepts are consistent throughout.

3.6.3 Reflexivity and Methodological Integrity

The primary researcher made field notes and kept a brief diary to capture her reflections on the process. The project supervisors acted as critical friends. Part of this role included ongoing discussions about the field notes and the researcher's reflections on the study. They also provided feedback with revising and refining themes. An audit trail is provided in the appendices of the field notes (Appendix B) and the development of the themes (see Appendix B, for coding trees and codebook). It should be acknowledged that the primary researcher's own personal

experiences may have shaped interpretations of the data, but these were discussed and challenged through the critical friend process. Transcripts and findings were not returned to participants for feedback due to time constraints. In the presentation of data in section 5.0, supporting quotes are included to provide examples and illustrations of the different themes. The meaning of the data has also been interpreted in relation to the study goals and current literature in the subsequent sections.

4.0 Quantitative Results and Discussion

4.1 Participant numbers and attrition

Out of the 37 people that enrolled in the study, 18 did not complete all data points, leaving 2 in circuit training, 4 in green exercise and 9 in mindfulness. This makes a total of 15 participants who completed all data points.

Of the participants who withdrew from the study, there were several reasons attributed to this including: health reasons, workload and unexplained reasons. See table below for breakdown of numbers.

Table 2. *Intervention withdrawal and reasons*

Withdrew from Intervention	Reason	Number of Participants
Circuit Training	Workload	1
	Health Reasons	2
	Unknown	1
Green Exercise	Workload	0
	Health Reasons	2
	Unknown	6
Mindfulness	Workload	1
	Health Reasons	4
	Unknown	1

4.2 Preliminary data checks

A Shapiro-Wilks test was used to check the normality assumption. The majority of data met the assumption (Shapiro-Wilks tests = 0.823-0.984, ps = 0.007-0.991).

Mauchly's test indicated the sphericity assumption was violated for two outcomes (Mauchly's Ws =0.304-0.890, ps = 0.001-0.527), the Greenhouse-Geiser correction was applied in these instances.

Levene's test indicated that homogeneity of variance assumption was satisfied for all outcomes (Levene's Statistics = 0.004-2.120, ps = 0.163-0.996).

4.3 Descriptive Statistics

Descriptive statistics for all outcomes across interventions and time are shown in table 3 (next page). At baseline, participants were typically similar or above norms for each outcome. At baseline, for PSS participants scored between 21-25 which is considered high perceived stress. At timepoint 3, participants scored 13-19 which is average[147].

Table 3*. Descriptive statistics for all outcomes across interventions and time.*

Outcome	Condition	Timepoint 1			Timepoint 2			Timepoint 3		
		n	Mean	SD	n	Mean	SD	n	Mean	SD
PSS	Circuit Training	6	24.33	7.09	4	11.00	8.12	2	19.00	5.66
	Green Exercise	16	21.06	8.39	8	17.13	7.45	4	13.00	5.66
	MBSR	15	25.00	6.35	12	19.25	5.89	9	17.56	10.64
RSE	Circuit Training	6	13.33	5.65	4	16.50	4.12	2	15.00	7.07
	Green Exercise	16	15.25	7.22	8	17.75	6.07	4	18.25	5.85
	MBSR	15	13.67	5.52	12	17.00	5.27	9	20.00	6.56
TMD	Circuit Training	6	24.67	21.14	4	4.25	12.31	2	19.50	3.54
	Green Exercise	16	29.06	26.10	8	12.63	14.79	4	0.250	11.18
	MBSR	15	26.27	21.85	12	15.92	23.70	9	12.00	15.95
SWEMWBS	Circuit Training	6	18.98	2.69	2	18.81	2.72	2	17.17	1.15
	Green Exercise	16	19.67	3.54	8	20.73	4.01	4	23.42	4.76
	MBSR	15	19.32	2.93	11	21.33	2.73	9	22.17	4.55
PCS	Circuit Training	6	42.54	8.64	2	50.28	1.73	2	50.80	5.59
	Green Exercise	15	44.55	11.67	8	46.99	6.88	4	41.29	2.47
	MBSR	15	48.14	12.65	11	47.70	9.08	9	47.99	7.69
MCS	Circuit Training	6	38.16	12.35	2	45.67	1.75	2	34.99	7.62
	Green Exercise	15	34.32	14.15	8	43.55	10.82	4	51.30	5.80
	MBSR	15	32.02	11.24	11	41.68	10.44	9	45.25	13.58

4.4 Results of Inferential Analysis

Between-Subjects ANOVA on Baseline data: A series of between subject ANOVAs were conducted to examine the difference between the interventions on each outcome. There were no significant differences between the circuit training group, the green exercise group and the MBSR group ($Fs_{2,34}$ = 0.066-1.176, ps = 0.321-0.936, η^2s = 0.004-0.065).

Table 4. *One-way ANOVA between the conditions on the baseline data*

	F	P	η^2s
PSS1	1.176	0.321	0.065
RSE1	0.323	0.726	0.019
TMD1	0.095	0.910	0.006
SWEMWBS1	0.114	0.893	0.007
PCS1	0.617	0.546	0.036
MCS1	0.509	0.606	0.030

Mixed Model ANOVAs: A series of mixed model ANOVAs were conducted to explore the effects of the interventions over time on each outcome. There were no significant main effects for intervention type on any outcome (Fs $_{2,12}$ = 0.197-1.508, ps = 0.260-0.824, η^2s = 0.032-0.201). Although there were no significant interaction effects on any outcome (Fs $_{2.358,24}$ = 0.315-1.894, ps = 0.144-0.865, η^2s = 0.050-0.241), the main effect of time was significant for two outcomes after a Bonferroni correction (the corrected alpha was 0.0083): RSE and MCS (Fs $_{2,24}$ = 11.651-13.664, ps <0.001, η^2s = 0.493-0.532).

For RSE, pairwise comparisons showed that the baseline mean was significantly lower and end point (mean$_{diff}$ = -5.204, p = 0.005, 95% CI -8.782, -1.625). There was no significant difference between baseline and mid-point after the Bonferroni correction was applied (mean$_{diff}$ = -2.769, p = 0.048, 95% CI -5.521, -0.16). There was no significant difference between the mid-point and endpoint means (mean$_{diff}$ = -2.435., p = 0.065, 95% CI -5.002, 0.132).

For MCS, pairwise comparisons showed that the baseline mean was significantly lower than both mid-point (mean$_{diff}$ = -11.632, p = 0.004, 95% CI -19.290, -3.974) and end point (mean$_{diff}$ = -11.388, p = 0.004, 95% CI -18.991, -3.785). There was no

significant difference between the mid-point and endpoint means ($mean_{diff}$ = 0.244., p = 1.000, 95% CI -5.535, 6.024).

Table 5. *Mixed Model ANOVA results for all outcomes.*

	Measure	df	F	P	η^2s
Condition Type	PSS	2,12	0.547	0.592	0.084
	RSE	2,12	0.514	0.611	0.079
	TMD	2,12	0.197	0.824	0.032
	SWEMWBS	2,12	1.102	0.364	0.155
	PCS	2,12	1.508	0.260	0.201
	MCS	2,12	0.545	0.594	0.083
Timepoint	PSS	1.179,14.150	6.327	0.021	0.345
	RSE	2,24	11.651	0.000	0.493
	TMD	2,24	5.084	0.014	0.298
	SWEMWBS	1.266,15.191	3.289	0.082	0.215
	PCS	2,24	0.417	0.664	0.034
	MCS	2,24	13.664	0.000	0.532
Timepoint* Condition Type	PSS	2.358,14.150	0.382	0.722	0.060
	RSE	4,24	0.315	0.865	0.050
	TMD	4,24	1.034	0.410	0.147
	SWEMWBS	2.532,15.191	0.954	0.439	0.137
	PCS	4,24	0.488	0.744	0.075
	MCS	4,24	1.894	0.144	0.240

Table 6 reports the MCID values comparing timepoint 2 and timepoint 3 to timepoint 1 respectively. At timepoint 2, five out of six of the outcomes in the Circuit Training condition had an MCID greater than the criterion value (0.5 SD). For PSS and TMD negative values indicate a favourable response (i.e., a lower score is better). For Green Exercise, only two of the outcomes (TMD and MCS) had an MCID greater than the criterion value. For MBSR, four of the outcomes (PSS, RSE, SWEMWBS and MCS) had a MCID greater in magnitude than 0.5.

At timepoint 3, only three of the outcomes (PSS, SWEMWBS and PCS) in the Circuit Training condition had an MCID greater in magnitude than 0.5. For Green Exercise, four of the outcomes (PSS, TMD, SWEMWBS and MCS) had an MCID greater than

the criterion value. For MBSR, five of the outcomes (PSS, RSE, TMD, SWEMWBS and MCS) had a MCID greater in magnitude than 0.5.

Table 6. *Minimal clinically important difference values comparing timepoint 2 and timepoint 3 to timepoint 1 respectively.*

Outcome	Condition	MCID (T2-T1)	MCID (T3-T1)
PSS	Circuit Training	-1.88	-0.75
	Green Exercise	-0.47	-0.96
	MBSR	-0.91	- 1.17
RSE	Circuit Training	0.56	0.30
	Green Exercise	0.35	0.42
	MBSR	0.60	1.15
TMD	Circuit Training	-0.97	-0.24
	Green Exercise	-0.63	-1.10
	MBSR	-0.47	-0.65
SWEMWBS	Circuit Training	-0.06	-0.65
	Green Exercise	0.30	1.06
	MBSR	0.69	0.97
PCS	Circuit Training	0.90	0.96
	Green Exercise	0.21	-0.28
	MBSR	-0.03	-0.01
MCS	Circuit Training	0.61	-0.26
	Green Exercise	0.65	1.20
	MBSR	0.86	1.18

Note: MCID calculated as Timepoint 2 or 3 mean minus Timepoint 1 mean divided by Timepoint 1 standard deviation. For PSS and TMD negative values indicate a favourable response (i.e., a lower score is better)

4.5 Statistical Analysis Discussion

The quantitative analysis explored the effects of the interventions over time on self-reported outcomes. The ANOVAs found no significant interactions which could indicate there were no differences in the rate of improvement across the different

interventions. However, there was a significant main effect for time on two outcomes: RSE and MCS. This suggests that collectively the participants of all interventions experienced improved psychological outcomes over time. Specifically, pairwise comparisons indicated that both improvements were significant from baseline to the endpoint (Week 8).

Despite the positive main effects of time on two outcomes, there were no statistically significant interaction effects. This suggests that no one intervention was superior. This is similar to Abduin et al's (2020)[55] observations where it is emphasised that participation in interventions is more important than the type of intervention. Other research has found that each of the interventions can have beneficial effects. For example, Leininger et al (2020)[77] demonstrated the benefits of Circuit Training on perceived stress on sedentary university employees. Studies by Barton and colleagues[102,103,104,105] have consistently found significant improvements in mood and self-esteem following Green Exercise exposure. Finally, Kersemaekers et al 2018[172] found MBIs to be associated with improvements in general wellbeing and reduced perceived stress. Despite this evidence, this thesis was the first to compare all three interventions on physical and mental wellbeing outcomes.

Beyond the statistical significance, the effect sizes observed in the current study do provide tentative evidence that some interventions have large effects on some outcomes. With the exception of PCS, there were large effect sizes of time on mental wellbeing outcomes. This indicates that the study may have been underpowered. However, it speaks to the potential importance of workplace wellbeing interventions on stress, self-esteem, TMD, general mental wellbeing and general physical wellbeing. Large effect sizes were also observed in a multi-study analysis of Green Exercise on general wellbeing outcomes[173]. Similarly, Lomas et al 2017[125] found MBIs to be

generally effective across wellbeing outcomes and demonstrated moderate effect sizes. Furthermore, in the current study, there was a large time*condition effect on TMD and MCS. For TMD, participants in the Green Exercise condition experienced the greatest improvement. This complements existing literature whereby TMD significantly improved following Green Exercise[102,103]. Finally, for MCS, participants in both the Green Exercise and MBSR groups experienced notable improvement, whereas those in the Circuit Training condition experienced a slight reduction in MCS. However, it should be noted that only two participants completed the Circuit Training intervention therefore caution is warranted over drawing any firm conclusions.

To complement the effect sizes, MCIDs were also examined. These are important because statistical significance is not the same as clinical significance[174]. For Circuit Training, there were five outcomes that met the criteria for MCID by timepoint 2, but this dropped to three outcomes by timepoint 3. This suggests that the participants in Circuit Training might have experienced greater benefits in the short-term (at four weeks) compared to the longer term (at eight weeks). In contrast, in the Green Exercise condition there were only two outcomes which met the criterion for MCID by timepoint 2, but this increased to four outcomes by timepoint 3. This suggests that the effects of Green Exercise may increase over time. However, this finding differs from Barton et al[103], who found that participation in Green Exercise interventions produced immediate increases in mood and self-esteem, but benefits diminished over time. Finally, in the MBSR intervention four of the outcomes met the criterion for MCID by timepoint 2 and five outcomes by timepoint 3. This indicates that participation in MBSR may lead to short-term benefits which are sustained for at least 8 weeks. This is consistent with Lomas et al's (2017)[125] findings of MBIs having positive effects on general mental wellbeing outcomes.

A few issues emerged from data analysis. Due to the nature of exercise interventions, participants may have interpreted items in the POMS questionnaire, such as ‘fatigued’ and ‘worn out’, in relation to the exercise undertaken instead of the psychological sense which was intended[106]. It also should be highlighted that the current study did not have a control group so one cannot be sure if participants would have improved irrespective of being in an intervention. Similarly, as noted above, the sample size in some interventions was small, but given that some of the effect sizes and MCID values were large, further research could find differential effects across the interventions. In future research, there could be a waiting list control group and increased sample size in some of the interventions, particularly Circuit Training.

5.0 Reflexive Thematic Analysis Results and Discussion

5.1 Reflexive Thematic Analysis Results

Thematic analysis was conducted, and three main themes were identified. These will be discussed in turn below, with example quotes from participants included. For further quotes, codebook, thematic maps and an audit trail see Appendix B. The themes and subthemes within these generally apply across all interventions, but where they were unique to an intervention this has been specified in the subsequent sections.

Table 7. *Summary of themes from the Reflexive Thematic Analysis*

Theme	Sub themes	Example codes
Positive Change	Mental Progress	Learning and Awareness Acceptance Relaxation
	Changes in Outlook	Changes in outlook about self Changes in outlook about others Changes in outlook about work
	Physical Progress	Fitness Progression Improvements to sleep
	Behavioural Change	Doing Physical Activity Sessions / Walks Healthier Lifestyle Choices Practising Mindfulness outside the sessions
Enablers	Enjoyment and engagement with Intervention	Enjoyment Coming to sessions on annual leave / days off Sadness towards the course ending
	Positive Social Factors	Positive Managerial/Colleague Influence
	Positive Environmental Factors	General Appreciation of Natural Environment Appreciation of the University's Green Spaces Appreciation of the Green Exercise walks Off campus
Barriers	Work-Related Stressors	Negative Managerial Influence Lack of time High Workload and Pressure
	Psychosocial Barriers	Poor stress management Fatigue Social Barriers
	Health Related Barriers	Physical Health Barriers Mental Health Barriers

Positive Change refers to participant reported improvements to their mental state, their views and behaviours. This comprised of four sub-themes, which were: Mental Progress, Changes in Outlook, Physical Progress and Behavioural Change.

Mental Progress relates to positive changes in mental state, by the means of acquiring positive experiences and expanding knowledge, in respect to the intervention undertaken. This included aspects such as learning and developing

awareness and acceptance. Central to achieving these positive changes was having knowledgeable course leaders for each intervention, who engaged with participants, answered their questions thoroughly and provided them with strategies and techniques they could implement outside the sessions. This added meaning and depth to sessions which would not have been present in self-led activities.

> Green Exercise, Participant 12: “I love learning all about the trees here, I remember these walks every day when I walk past them.”

In this case, learning ties in with enjoyment, but participants reporting having positive memories to look back on reflects well on Green Exercise. The positive impact of conducting green exercise interventions with a group led by an active course leader was highly appreciated by the participants and had a positive impact on their Enjoyment and Engagement.

> Green Exercise, Participant 30: Thanks for all your effort on this, I know it was for research as well as our wellbeing, but [Course Leader] made it enjoyable and everyone's company was looked forward to. Please also thank [Course Leader] for me when you next see him.”

Participants also spoke of a range of psychological outcomes, including feeling relaxed, happy and motivated. Mindfulness participants in particular spoke of how they had learnt skills to facilitate relaxation, and how a calm state enabled them to have clarity and control over their choices, which promoted intrinsic motivation.

> Mindfulness, Participant 36: “Like [Mindfulness, Participant 37], I came here with a lot of stress, but I was able to switch off and just relax. It was very effective today. I was aware that there was quite a lot of noise (squash players were using the court downstairs), but I could phase it out because I knew I

> didn't have to worry about it. I started thinking how useful it would be to just have a space to sit just for 5 or 10 minutes."

Mindfulness was effective in helping participants to accept themselves and some participants were able to realise their own potential and find newfound trust in themselves.

> Mindfulness, Participant 18: "I am enjoying being kinder to myself and starting to feel less guilty about it […] It's about making me well, and I'm feeling more well in myself."

Many participants spoke of how the intervention had changed their outlooks on life, their views about themselves, about others and about work. Some participants inferred that the MBSR course in particular had helped give them permission to love themselves and put themselves first without detriment to their attitudes towards work.

> Mindfulness, Participant 35: "I think we are now better equipped to help students and colleagues now too." [in response] Mindfulness, Participant 36: "Yeah, I had a student who was stroppy with me but afterwards a colleague asked me if I was alright, and I just said he was stressed out and it was okay. I wouldn't have done that before."

Participants over all interventions acknowledged that looking after themselves is of equal importance to looking after the students too. These outlook changes extended outside of the University and has influenced home life.

> Mindfulness, Participant 33: "A lot of this I am implementing at home and has helped me improve my relationship. I'm also passing on my knowledge to

> others." [in response] Mindfulness, Participant 35: "I think now my relationship is better too because I am calmer. Before I was 1000 miles per hour and expected my partner to be the same but now, we can be more relaxed together, enjoy the garden and each other more."

Physical Progress is participant reported increased fitness levels and reduction of physical ailments such as sleep issues. This was observed in the Circuit Training intervention. Participants reported requiring appointments for fatigue previously but as a result of the interventions, they no longer feel they need to see a doctor about it anymore.

Another common indicator for progression of fitness was weight loss, participants particularly in the Circuit Training intervention.

> Circuit Training, Participant 27: "This is the first time I have been below 15 stone in a long time. Thank you for organising this."

Participants have reported positive Behavioural Change, which is the evidence of participants utilising what they have gained from the course in everyday life. This extended from improving their diets, engaging in physical activity outside of the interventions to practising mindfulness outside the sessions.

> Green Exercise, Participant 30: "Me and [Green Exercise, Participant 31] have planned to go on some lunchtime walks following some of the routes we have done."

Although no follow up was completed, there was some evidence from participants which suggested that they had continued engagement with the activities outside of the interventions.

> Green Exercise, Participant 12: “I didn’t want to miss out going for a walk so thought I would go for a walk on my lunch break by myself. I wanted to try and find all the bat boxes (on campus).”

There were indicators from the Mindfulness intervention which demonstrated the effectiveness of skills learned from MBSR as a facilitator when beginning a new job role.

> Mindfulness, Participant 35: “As I only started my new job 3 weeks ago, I don’t imagine they’ll have noticed the change, but I have gone into this differently, I’m less flappy and much more efficient.”

Enablers are defined as influences that positively affected intervention effect for participants. This comprised of three sub-themes, which were: Enjoyment and Engagement with Intervention, Positive Social Factors and Positive Environmental Factors.

Enjoyment and Engagement with Intervention is participant expressed positive affective state as result of the activity undertaken or feelings indicating that the interventions are a worthwhile use of time. Enjoyment was common over all intervention groups and was the most recurring comment by participants when referring to the interventions.

> Green Exercise, Participant 30: “I'll be honest I really enjoyed the green exercise and found it helped me through some difficult times personally. I found myself looking forward to the walks and was able to leave everything troubling me (both work and personal) behind on the walks and focus on the moment - something I normally find quite difficult to do […] I did not realise how much I’d enjoy this until I actually came along. I wonder if people were not seeing the benefits of walking in general, let alone with likeminded people and in the natural environment.”

Sometimes the sessions coincided with participants’ days off or planned annual leave. It became an unexpected trend early on where participants would still attend the sessions despite having time off.

> Circuit Training, Participant 1: “I can work harder today because I know I don’t have to go back to the office afterwards.” [in response] Circuit Training, Participant 3: “It’s holiday for me as well.”

The high levels of Enjoyment could also be seen when many participants expressed sadness towards the courses coming to an end.

> Circuit Training, Participant 27: “I am feeling a bit rubbish mentally today, maybe because today is the last session.”

This may offer a possible reason for some of the participant’s negative responses on some of the questionnaires on the third timepoint. Some participants directly left notes on questionnaires to state why they felt this way, for example, Mindfulness, Participant 36 wrote: (On week 8 POMS questionnaire) “Feeling sad it is the end of the course and won’t be back with the group again.”

Positive Social Factors are defined as positive influences others have had in regard to supporting participants to do the interventions and positive effects of other participants and the course leaders during the sessions. Some participants reported positive engagement with their colleagues and managers, showing how positive reinforcement and flexibility in the workplace allowed them to participate and benefit from the intervention.

> Green Exercise, Participant 30: “I am grateful my managers saw what a state I was getting in, and they referred me to Occupational Health themselves. They supported me with participating in this course. It allows me to look forward to taking some time away knowing that I do not have to feel guilty about it.”

The effect also applied to positive influences from colleagues. Participants reported cases of colleagues sharing the workload more than usual so participants may attend the interventions, knowing that they did not have to. Examples of social support such as these would not have been captured by questionnaires alone and are an important implication for the use of qualitative research methods in future workplace studies.

> Mindfulness, Participant 25: “I didn’t think I could attend today but other teams helped, they understood it was so I could come to the session. It was really nice of them.”

Positive Environmental Factors refer to participant expressed appreciation for green spaces. This was not exclusive to Green Exercise. Participants reported nourishment from the natural environment and appreciation for nature, generally and on the University grounds regardless of the type of intervention.

> Mindfulness, Participant 36: “We are so lucky to have such a lovely location with the squirrels and the ducks and the trees.”

The University of Essex, Colchester Campus is a Green Flag awarded winner, which is an internationally accredited award for quality, open green spaces. Reflections from participants over different interventions showed that they had not previously appreciated or actively engaged with the green spaces around their work environment.

> Green Exercise, Participant 30: “On the surface, you'd think just going for a walk around the grounds would mean and achieve little but in fact I found the opposite. You can take a walk round the grounds any time but on the green exercise it was with decent company and having [Course Leader’s] expertise on hand made trees interesting and led me to appreciate how many different types of trees there are on campus.”

Barriers are influences that negatively affect participants’ ability to engage in the interventions, their wellbeing and ability to perform at work. The subthemes were: Work-Related Stressors, Psychosocial factors and Health-Related factors.

Managerial influence has been reported as a tangible negative factor for the participants, expressing a need delegate self-care and stress management to times outside of work hours.

> Green Exercise, Participant 12: “I have too big of a workload to be granted the time. I might have to use my lunch break to come to these sessions consistently. I am willing to though because I feel like these sessions are the kind of thing that will really help me.”

Participants frequently reported barriers to their ability to enjoy their professional life, namely in the form of high pressure or unbalanced workload.

> Mindfulness, Participant 33: “I quite enjoy my job but I’m having to do an extra day at the moment due to the department being short staffed. I tend to take everything on and end up taking work home to keep up.”

Time pressure was highlighted by participants are negative factor in workplace stress and their perceived ability to engage with the interventions. Conversely, it was also a major indicator of Engagement factor, as participants reported a strong desire to participate, nonetheless.

> Mindfulness, Participant 23: “I’m worried about securing the time for the sessions.”

> Mindfulness, Participant 23: “I can’t afford to be here, but I’ve been so busy I bloody well need these 2 hours!”

Uncooperative colleagues were reported to increase stress among participants, especially when the issue caused work life to seep into their private lives.

> Circuit Training, Participant 1: “I’m annoyed. People keep sending me emails out of working hours and it stresses me out.”

Psychosocial Barriers included issues surrounding relaxation, concentration, poor stress management and fatigue. Participants reported finding issue with relaxing, especially in public or professional spaces. The intervention caused participants to conduct introspection about their daily mental state, resulting participants realising their levels of stress fatigue and emotional exhaustion.

> Mindfulness, Participant 24: “I must admit, I can be relaxed in my personal, private life, but outside not so much.”

Participants admitted general poor stress management, despite a conscious understanding that their approach is hazardous to their own wellbeing.

> Mindfulness, Participant 36: “I suppose that’s the worst way of doing things really, keeping it covered when underneath we are crumbling and making ourselves ill.”

> Mindfulness, Participant 25: “Doing this makes me realise just how tired I am all of the time.”

Participants admitted having issues with handling daily tasks when their stress and frustration levels are high, which was often linked to a higher rate of irritability due to the ever-present stress.

> Mindfulness, Participant 23: “I am less able to cope with the unexpected when I’m stressed. I get annoyed easily.”

The social aspect of maintaining mental and physical wellbeing played a negative role in participants’ routine self-care, with perceived unwelcoming environments or lack of guided structure being highlighted as de-motivational factors

> Green Exercise, Participant 30: “I do not do much physical activity at all, I would like to, but the gym can feel overwhelming.”

> Mindfulness, Participant 22: “Without guidance, I’m finding being mindful in real life situations impossible.”

Despite participants being, or becoming, more aware of issues in their mental wellbeing and stress levels, prior to the interventions these concerns did not translate into practical mitigation attempts.

> Mindfulness, Participant 25: “I’ve always had trouble with stress but never done anything about it.”

> Green Exercise, Participant 30: “I am worried about my mental and physical health, it’s not easy to be active when sitting in front of a computer all day.”

5.2 Reflexive Thematic Analysis Discussion:

The qualitative analysis explored the words and experiences of participants during the interventions. Three key themes emerged from the data: Positive change, enablers and barriers. Collectively, these themes and their respective sub-themes highlight the potential benefits of engaging in workplace physical activity and wellbeing interventions, but a range of contextual factors can impact on engagement, adherence and effectiveness.

Participants across all three interventions experienced a number of similar positive changes, enablers and barriers. Positive changes included mental progress, physical progress and changes in outlook. Previous qualitative research has demonstrated that participants experience positive changes from workplace wellbeing interventions. For example, qualitative findings revealed that participants experienced relaxation, self-awareness, self-acceptance, self-reliance and improved relationships as a result of MBSR sessions[129]. Consistent with previous research[66,67,129], the present study found that enjoyment was an important enabling factor. Enjoyment may have contributed to adherence and the experience of positive psychological outcomes.

Another enabling factor was positive social experiences. Previous research[67] found that the social aspect of group-based interventions contributed to positive experiences. Finally, a commonality in literature was guilt being a barrier to participation in MBSR studies[129]. Participants expressed feeling guilty taking time for themselves to take part in mindfulness sessions, which is similar to participant experiences in the current project.

Despite the relative consistent effects observed across the three interventions, there were some issues that were unique to one intervention. For example, appreciation of Green Walks mostly applied to the Green Exercise intervention, however, one participant in the Mindfulness intervention mentioned appreciation of the University's green spaces available on campus. Further, the current study identified that Green Exercise was best supported by managers which could also have contributed to adherence.

Although the thematic analysis has provided rich insight into the words and experiences of participants, it should be acknowledged that the data was based on observations rather than interviews. Future research should consider interviewing intervention participants to develop a more detailed understanding of their experiences. This was considered in the current study, but considerations for participant privacy and informal feedback from participants indicated that many would be reluctant to do this.

6.0 General Discussion:

6.1 Summary of collective findings

The purpose of the study was to advance understanding of the effects of different interventions on stress and wellbeing. The specific aim was to compare the effects of three 8-week interventions; Circuit Training, Green Exercise and MBSR on stress, self-esteem, mood, general wellbeing and quality of life in employees at the University of Essex. Overall, both the quantitative and qualitative findings indicated that all of the interventions were associated with positive psychological effects. The quantitative findings did not suggest one intervention was superior, but the qualitative findings highlighted some subtle differences, with MBSR associated with the most beneficial effects. Further, the qualitative data suggested that Enjoyment and Engagement with Intervention, Positive Social Factors and Positive Environmental Factors were enablers that facilitated engagement with the interventions and that Work-Related Stressors, Psychosocial factors and Health-Related factors were potential barriers.

6.2 Significance of findings

The beneficial effects of the interventions on psychological outcomes were found in both quantitative and qualitative analyses. Previous research has also found Circuit Training (e.g.,[65,77]), Green Exercise (e.g.,[98,59]) and MBSR (e.g.,[121,125]) interventions were also associated with positive effects on health and wellbeing. Previous research on Circuit Training has mostly focused on physical outcomes, such as an increase in isometric strength[75], however, although Circuit Training has had limited attention in wider literature, small amounts of research surrounding Circuit Training and other

physical activity initiatives were observed for sedentary employees[67] and the current study adds to this emerging pool of literature. The current study also complements previous research at the University of Essex, which has demonstrated that Green Exercise in the form of walking during the lunch break increased the mental health of office workers[98]. Further, significant research has been conducted on the beneficial effects of MBSR as workplace interventions, however, systematic reviews have identified that workplace studies are mostly on nurses and teachers and therefore recommend MBSR be conducted in more diverse worksites to draw comparisons and extend the literature[125,133].

The magnitude of some effect sizes and MCIDs indicate the potential impact that workplace interventions can have on psychological outcomes. These are important because statistical significance is not the same as clinical significance[174]. In a study by Baer 2003[132], MCID scores indicated MBSR can bring participants with mild to moderate stress to within normal range. In the current study, in the MBSR intervention, five of the outcomes met the criterion for MCID at 8 weeks. There is less literature that has reported MCIDs for Circuit Training and Green Exercise workplace interventions, but in the present thesis three outcomes for Circuit Training and four outcomes for Green Exercise met the criterion for MCID at 8 weeks.

One of the most significant factors to emerge from the qualitative findings was managerial influence has a significant role regarding the perception of and attendance to the interventions. It was recommended by OH for participants to take time out of their working day to take part in the interventions. Some participants, particularly professional service staff, claimed to have difficulty with their managers allowing them the time to take part in the sessions due to heavy workloads. This led to an abundance of missed sessions and the cause of one participant to withdraw.

In a culture of highly competitive job markets, any extra maintenance or allowance that a worker needs from their manager could flag them as problematic, troublesome or someone requiring more resources than other employees. Whilst this is not grounds for dismissal, it may highlight the employee as someone less able to keep up, and thus prioritise them when looking for replacement employees. Some employees may feel shame as a manifestation of the notion that they are painting a target on their backs. There was a reflection of similar feelings identified in qualitative analysis and in wider literature[129].

> Mindfulness, Participant 18: “I feel guilty and embarrassed to tell my manager where I am going.”

This further demonstrates the absolute need for communication and trust between employers and employees.

6.3 Applied implications

Although the current findings are tentative, they could offer implications for both organisations and individual employees seeking to enhance wellbeing within the workplace. Given the beneficial effects observed for all three interventions, organisations could offer a choice of Circuit Training, Green Exercise and MBSR to employees. This in part reflects a recommendation by NICE[49] that organisations should offer mindfulness, meditation or yoga on an ongoing basis. However, the element of choice may empower individuals and facilitate their intrinsic motivation. Further, participant feedback suggested the use of drop-in sessions instead of set interventions to contend with commitment anxiety that could have been felt towards attending scheduled sessions. Finally, given the positive quantitative and qualitative

findings individual employees should be encouraged to make use of physical activity and wellbeing interventions in the workplace.

6.4 Strengths and Limitations

Using a multi-method approach has allowed for a much more detailed insight into the participant's overall experience with the interventions and study process. Participants often wrote notes on questionnaires with reasons for the way they answered which would not have been taken into account otherwise, for example:

> Green Exercise, Participant 12: (On POMS form) "All negative responses relate to one person at the weekend which I identified in the session. Otherwise, successful and happy in the week." (On Cohen form) "as per previous questionnaire, negative responses relate to weekend only."

It highlights that whilst questionnaires allow for an overview of participant's experience, they do not analyse the full story. Another example where this applies is:

> Mindfulness, Participant 37: (On POMS form) "I can now take action, which is not reflected in the questionnaire."

Further, there was an emphasis in reviews[60] for implementation of multi-method approaches which are notably lacking in workplace intervention studies.

The social aspect of the interventions may have served as a strength in this study, qualitative elements of similar Circuit Training interventions[67] suggested that participants enjoyed the social nature of the group activities.

Limitations: Recruitment seems to be a significant issue in workplace interventions in general. This study in particular relied upon referrals, and advertising to staff within

one institution. An unexpected barrier identified by participants was the reach of the all-staff email may not have been as far as anticipated. Most staff at the University get a lot of emails, with a lot of them being newsletters and adverts that they may not read fully. This was highlighted by some referred participants who would have received the all-staff email, but none of them had seen it.

From reflections on the referral system, in relation to the ease of the referral process, it may have been beneficial to implement a self-referral system as well. Reaching out to OH could have been quite an intimidating process for a lot of people, which was also observed by participants.

> Mindfulness, Participant 35: “Lots of people need sessions like these but are put off by the referral process.”

One of the main barriers encountered during this study was participant availability, as the University consists of many different departments, which all operate on different timetables. Therefore, it is very difficult to establish a convenient time for all to do the sessions. Many participants were also unable to commit to the full eight weeks of each intervention as the flow of workload can be sporadic and difficult to work around. The selling point of these services was that they would be during the workday but was more difficult to organise than first anticipated.

Participants chose their groups which may be a source of bias. Individuals may have been highly motivated to partake in a specific intervention which could have an impact on results. Furthermore, as participants were aware of observational field notes being taken, so the Hawthorne Effect may have occurred, whereby participants may have acted favourably or differently as a result. Further, not using a control was

a limitation. In retrospect, a waiting list could have been used as a control group, however, it could be considered unethical to withhold treatment when interventions might be helpful[57].

In the current study, not many participants chose to enrol on the Circuit Training intervention and there was a high degree of dropout for those who did. A study completed by Taylor et al (2020)[175], which was published after the interventions in this study were completed, found that participants perceived Circuit Training in the workplace was beneficial and enjoyable, but it was also considered the most challenging and tiring of the physical activity interventions included. Participants felt Circuit Training made them feel sweaty, embarrassed and was not work-attire appropriate. Potential participants in the current study may have been put off by the idea of having to bring a change of clothes, not having enough time, or not wanting to have to shower in the middle of their working day. It should be noted, however, that participants in the current study who did complete Circuit Training found it to be enjoyable.

With regard to the MBSR intervention, pre-course screening was used to identify participants suffering from more severe mental health issues or participants who may have been at risk from completing traditional MBSR protocols (n=1 in the current study). This limited inclusivity of the offering. However, trauma-sensitive approaches to mindfulness are being developed which could reduce uncomfortable experiences[176,177], with promising results of clinically and statistically decreased PTSD and depression symptoms[178]. This is another reason why different interventions should be available for employees so they can find one that fits their needs.

8.6 Future Research

There should be far more emphasis on preventative measures before mental health illnesses develop. There has also been identification that there is a need for more managerial staff to undertake mental health first aid training. This aims to improve mental health literacy at the top of the business so it can be filtered down, and thus reduce social distance from those suffering from mental health illnesses. Studies have shown that Mental Health First Aid (MHFA) improves ability to recognise mental disorders, which improves the amount of help provided and the confidence in doing so[179]. Since it has been rolled out in other countries and adapted as necessary, and further trials have shown similar findings, one of these trials looked at participant mental health benefits which yielded positive results[180]. A system like this could be incredibly beneficial to those working in an institution such as a university.

Recommendations from NICE[48] and participant feedback suggests that interventions should be based on consultation with staff following the idea of designing interventions with people rather than for people. Further, based on wider literature (e.g.,[55]) yoga could be used as an alternative to Circuit Training for future study, as it combines physical activity with components of mindfulness and can help build a stronger relationship between mind and body. Many participants may see the value in this. Yoga can also be perceived as a less intense activity than Circuit Training. Studies could also possibly investigate the use of online interventions, especially post-pandemic where many more people are working from home.

For future study, there is still a significant need for studies that look at the long-term maintenance after a short-term intervention. It has been demonstrated that many

interventions are effective in the short-term but lose many participants by the time the follow-up is to be conducted. It would be worthwhile for future studies to include longer follow-ups post intervention to help track how many participants are still engaging in physical activity.

6.6 Conclusion

The purpose of the study was to advance understanding of the effects of different interventions on stress and wellbeing. Overall, both the quantitative and qualitative findings indicated that all of the Circuit Training, Green Exercise and MBSR interventions were associated with positive psychological effects. This study highlighted not just the usefulness of interventions but also their immense necessity in today's work culture. This study can be used alongside existing literature to raise greater awareness of the issue and the potential of workplace interventions as a buffer.

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Appendix

Appendix A

Literature Review Search Strategy

Literature Review keyword search strategy

Example Boolean searches:

“Workplace intervention AND Physical Activity OR Green Exercise OR Mindfulness/MBSR”

“Workplace intervention AND Stress OR self-esteem OR mood OR wellbeing”

(Mental health outcomes) Workplace intervention AND Stress OR depression OR anxiety

Core Keywords
“Workplace Intervention” “Circuit training” or “Circuit*” “Physical activity intervention” or “Physical activity-based” “Green Exercise” or “Nature-Based intervention” or NBI “Mindfulness” or “Mindfulness-based stress reduction” or “MBSR” or “Mindfulness-Based Intervention “Stress” or “Workplace Stress”, “Self-esteem”, “mood”, “mental wellbeing”, “physical health”

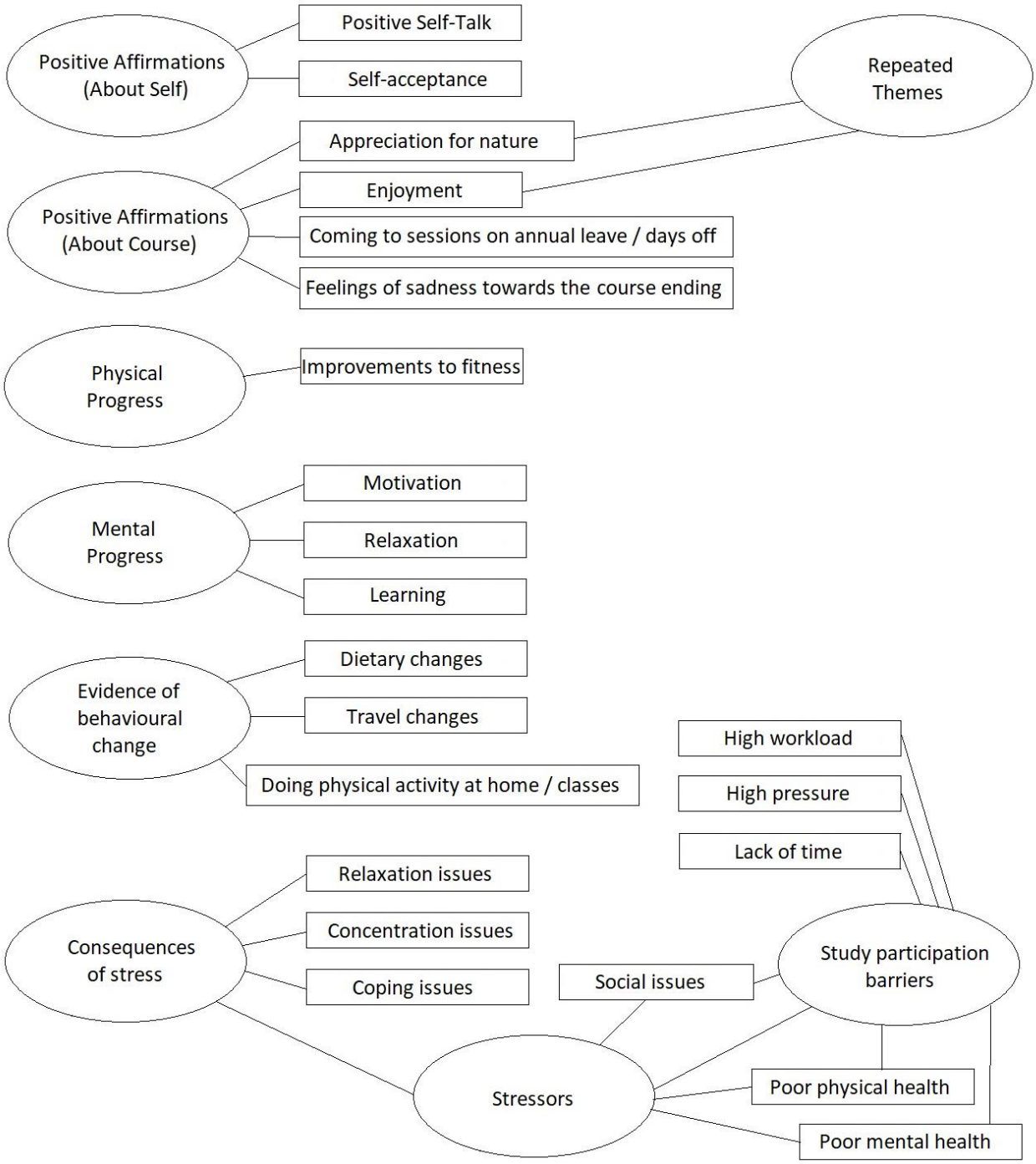
Outcome	**Example Keywords**
Physical Health Outcomes	Sedentary behaviour,
Mental Health Outcomes	Anxiety, Depression, Mental illness
Work-related Outcomes	Absenteeism, Presenteeism, Job satisfaction, Workload

Appendix B

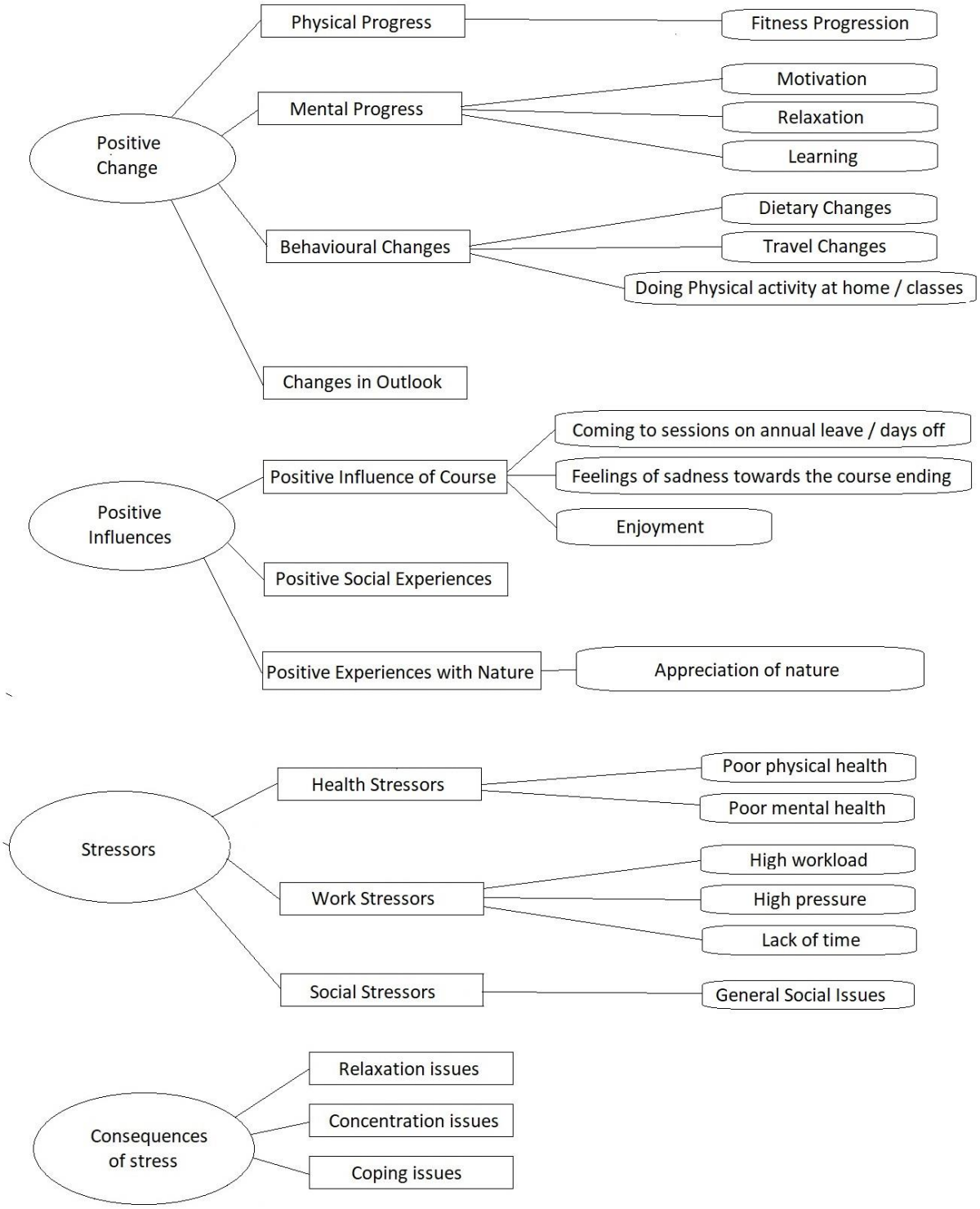
Thematic Analysis Process

Thematic Analysis Process Diagrams

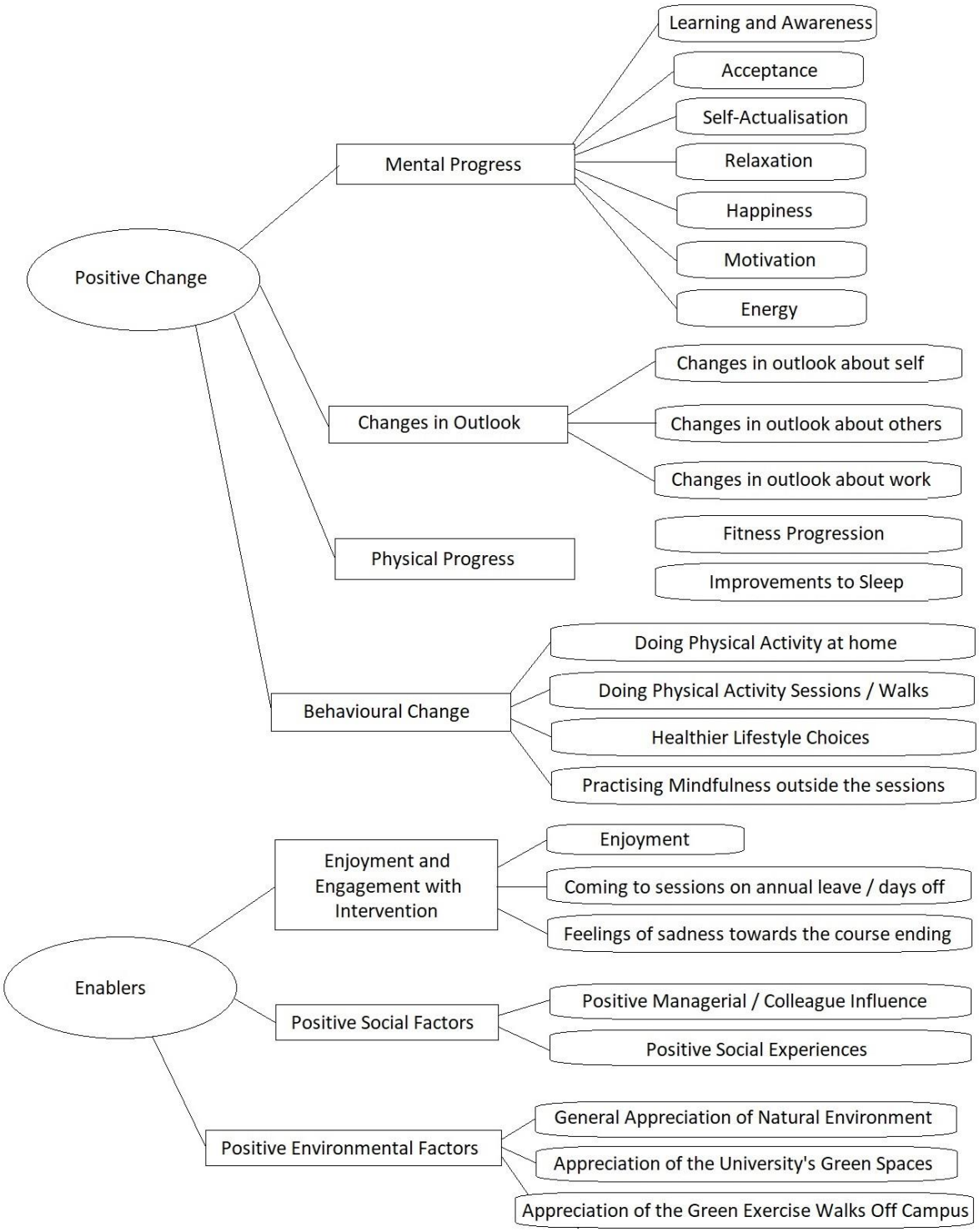
Initial Ideas for themes and subthemes based on transcribed notes:

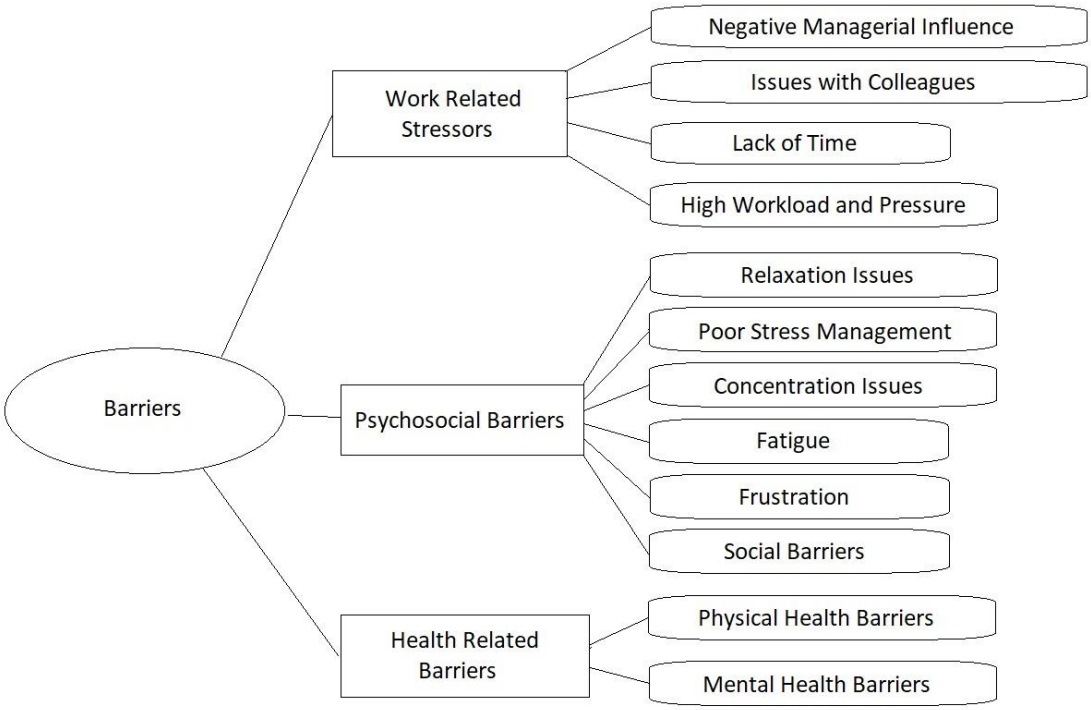


Developed thematic map, showing themes were revised and condensed:



Final Thematic Map, showing three main themes, all sub themes and corresponding codes:




Barriers
Work Related Stressors
Negative Managerial Influence
Issues with Colleagues
Lack of Time
High Workload and Pressure
Psychosocial Barriers
Relaxation Issues
Poor Stress Management
Concentration Issues
Fatigue
Frustration
Social Barriers
Health Related Barriers
Physical Health Barriers
Mental Health Barriers

Codebook

Code	Definition	Extract from Transcribed Notes
Learning and Awareness	Participant identified points of knowledge gained from the course that can be used going forward.	Mindfulness, Participant 33: “I’ve learnt the warmth of letting kindness in and realising what kindness is.” Mindfulness, Participant 36: “I now have a bigger understanding of mindfulness. As well as the different elements of learning to be mindful and practising self-care as best we can.”
Acceptance	Participant identified process of embracing their own experience whether it be positive or negative.	Green Exercise, Participant 30: “Having others along that have clearly been through similar or worse helped as well - it never hurts to be reminded that it doesn't matter how bad you think things are there, you're not the only one and it helps maintain a perspective on things.” Mindfulness, Participant 18: “I find myself telling myself to step back now. It’s quite nice to sit and have my breakfast, I used to mindlessly eat my toast and be done with it. It’s little things like that; but being kinder.” Mindfulness, Participant 16: “I’m admiring everything and taking the time to be still. I don’t want to think about all the other things I should be doing.”
Self-Actualisation	Participant realisation of their potential, their talents and feelings of fulfilment.	Mindfulness, Participant 35: “I think for me, when I meditate, I feel the thoughts coming but I feel in a deeper state. Even when I’m doing things, I’m in a meditative state and it’s beautiful. My thoughts are quieter. It feels nice, very nice. I feel more me.”

		Mindfulness, Participant 36: “I feel empowered, with that I have the strength and clarity to make the right choices.”
Relaxation	Participant identified freedom from tension and negative affect.	Mindfulness, Participant 36: “I feel calm.” Mindfulness, Participant 37: “I was left with a soothing feeling in my tummy.”
Happiness	Participants report general feelings of joy and pleasure.	Circuit Training, Participant 27: “I feel good but out of breath.” Mindfulness, Participant 37: “I feel a happier person, I feel happier in myself.”
Motivation	Participant identified desire to achieve goals.	Circuit Training, Participant 1: “My shoulder is hurting a little, but I still want to try as many activities as I can. Can you (course leader) check to make sure I am doing this right please?” Circuit Training, Participant 27: “I am eager to get back to it (exercising).”
Energy	Participant identified feeling active or energised.	Circuit Training, Participant 3: “I leave the gym feeling more energetic.” Mindfulness, Participant 32: “I felt calm but yet energised!”
Changes in outlook about self	Participant reported feelings of changing their attitudes towards themselves.	Green Exercise, Participant 12: “I have been able to slow down and feel calmer in myself.” Mindfulness, Participant 37: “I feel like now I can change; I am definitely different to how I was before.”
Changes in outlook about others	Participant reported feelings of changing their attitudes towards other people.	Mindfulness, Participant 33: “I think now my relationship is better too because I am calmer. Before I was 1000 miles per hour and expected my partner to be the same but now, we can be more relaxed together, enjoy the garden and each other more.”

		Mindfulness, Participant 35: “I used to be quite harsh on me and my husband when we should be doing things rather than watching TV but now I just don’t.”
Changes in outlook about work	Participant reported feelings of changing their attitudes towards work.	Circuit Training, Participant 1: “I am not thinking about the meeting anymore, I won’t give it any more of my thoughts.” Green Exercise, Participant 30: “It (Green Exercise) also reminded me there is more to life than being sat at a desk working, something a lot of us tend to forget.” Mindfulness, Participant 33: “I have been slowing down too, especially at work, and generally finding more time for myself.”
Fitness Progression	Participant identified tangible progress in relation to physical fitness.	Circuit Training, Participant 1: “The format of the sessions is suiting my current physical abilities. On the whole, I feel I am benefitting from them.” Green Exercise, Participant 12: (At the top of the hill, referring to the walk up the hill) “You know, that was easier than I thought.”
Improvements to Sleep	Participant identified improvements to sleeping and sleeping patterns.	Circuit Training, Participant 3: “I’ve been finding it easier to sleep since starting exercising.” Mindfulness, Participant 35: “That’s a point for this, I’m a lot less tired now. I’ve been in and out of appointments for fatigue but now I feel like I don’t really need it.”
Doing physical activity at home	Participants report undertaking physical activity at home.	Circuit Training, Participant 2: “I have done some of these (stretching exercises) at home too.” Circuit Training, Participant 27: “I want to carry on exercising at home. I know my knees need

		work, but I'm worried about over stretching." (Course leader ran through some recovery exercises he could do at the end of the session).
Doing Physical Activity Sessions / Walks	Participants report joining physical activity sessions (e.g., yoga) or partaking in walks in their free time.	Circuit Training, Participant 27: "I've researched a local boxing club because I want to continue with boxing in particular. I enjoy it and I want to keep increasing my fitness levels. I even bought boxing equipment to use at home." Green Exercise, Participants 30 and 31: "Me and Participant 31 have planned to go on some lunchtime walks following some of the routes we have done." (I sent him the map routes, so he knew where to go). Mindfulness, Participant 32: "I have recently started yoga."
Healthier Lifestyle Choices	Participants report making healthier lifestyle choices (e.g., changing diet and travel choices).	Circuit Training, Participant 1: "I am making choices to eat healthier; I've starting cooking with more vegetables." Circuit Training, Participant 27: "I decided to walk to University from town in the snow last week. It was good exercise but tired me out."
Practising mindfulness outside the sessions	Participant report practising mindfulness techniques learned in the sessions in real-life situations.	Mindfulness, Participants 32 and 33: (Talking about the pillow exercise from the previous session both participants have been thinking about it). Participant 32: "I used that idea to get through a situation in the week." Mindfulness, Participant 33: "I like to do practise in the morning when I can which is good."

Code	Definition	Extract from transcribed notes
Enjoyment	Participant expressed positive affective state as result of the activity undertaken.	Circuit Training, Participant 2: "I enjoy doing these sessions." Green Exercise, Participant 12: "I'm really enjoying getting to do this every week." Mindfulness, Participant 18: "On the whole it has been a pleasant experience, we have enjoyed stepping back."
Sadness towards the course ending	Participant expressed negative feelings, mostly in the form of sadness, in relation to the course ending.	Circuit Training, Participant 27: "I am feeling a bit rubbish mentally today, maybe because today is the last session." Green Exercise, Participant 30: "I wish there were some more walks." Mindfulness, Participant 33: "Last one, oh…I don't want it to end."
Coming to the sessions despite having time off	Participants coming to the sessions despite being on annual or otherwise having no other reason to be at university that day.	Circuit Training, Participant 27: "I came to University especially for this session even though I had time off. I would be sitting around at home otherwise." Mindfulness, Participant 35: "I have been able to clear my mind particularly well today, but I wonder if it has something to do with that I am off today, I haven't had to see a lot of people, so I haven't had a lot to clear in the first place."
Positive Managerial/ Colleague Influence	Participant reports of situations where managers and colleagues have been positive in regard to participation in the course.	Green exercise, Participant 28: "Now they (managers) see that I come back from the sessions in a better mood they do not question it." Mindfulness, Participant 25: "I didn't think I could attend today but other teams helped, they understood it was so I could come to the session. It was really nice of them."

Positive Social Experiences	Participant reports of course leader or other participants enhancing the effectiveness of the intervention.	Circuit Training, Participant 2: “It is a lovely, friendly place and the helpers are encouraging yet don’t push you too far.” Mindfulness, Participant 35: “I felt warm and calm, really felt the love in the room.”
General appreciation of Natural Environment	Participants expressing interest and appreciation of the general natural environment.	Green Exercise, Participant 12: “There was a lovely bird tweeting at one point too.” Mindfulness, Participant 24: “Looking at the sun and being outside makes me happy.”
Appreciation of the University’s Green Spaces	Participants expressing interest and appreciation of nature specifically at the University of Essex, Colchester Campus.	Circuit Training, Participant 27: “I sat outside to eat my lunch after last week’s session because the weather was nice, and I was very warm.” Green Exercise, Participant 29: “I don’t spend much time on campus so I’m very surprised just how many different kinds of tree there are here.” Mindfulness, Participant 36: “I have noticed there are some beautiful flowerbeds outside the Silberrad centre that I hadn’t noticed before.”
Appreciation of the Green Exercise Walks Off Campus	Participants expressing interest and appreciation of the Wivenhoe Trail.	Green Exercise, Participant 13: “Isn’t it so nice that we basically have these spaces on our doorsteps, although we don’t use them enough.” Green Exercise, Participants 11 and 13: “It would be nice to bring the kids on walks like these so they could learn about nature and appreciate their local surroundings too.”

Code	Definition	Extract from Transcribed Notes
Negative Managerial Influence	Participant reports of situations where managers and colleagues have been negative regarding participation in the course.	Green Exercise, Participant 28: "My managers were not on board with me attending these walks at first." (They emailed me asking me what the point is but once I gave them more information and what we are aiming to achieve, they were more understanding). Mindfulness, Participant 18: "I feel guilty and embarrassed to tell my manager where I am going."
High Workload and Pressure	Participant reports of having too much work to do and feelings of too much pressure.	Circuit Training, Participant 1: "I have to waste a lot of time answering emails of people who have not read instructions properly and it makes me very agitated that my workload gets added to by people being ignorant who want to pass the buck." Green Exercise, Participant 12: "I am feeling overworked and there is a lot of pressure in my department." (Participant 13 agrees). Mindfulness, Participant 32: "I have no children so tend to take work home with me."
Lack of Time	Participants report not having enough time to either complete work in time or not having enough time for themselves / intervention sessions.	Circuit Training, Participant 26: (via email) "I am sorry to have to say I am going to withdraw from circuits, I have too much work on and cannot commit the time to it." Mindfulness, Participant 22: "I am so bad at disciplining myself to do the practise. I just can't seem to find the time." Mindfulness, Participant 37: "I've been resisting a lot (practising mindfulness); I struggle to find the time in the

		morning and then in the evening. I know it works for me when I do it, but I don't know what time I can do these things."
Issues with Colleagues	Participant identified issues with colleagues in relation to workload.	Circuit Training, Participant 1: "I'm annoyed. People keep sending me emails out of working hours and it stresses me out." Mindfulness, Participant 23: "I am tired of the lack of acknowledgement; I feel cross and unacknowledged. I have trouble acknowledging myself too, I want my confidence stroked a bit."
Relaxation Issues	Participant identified issues relating being unable to slow down or relax.	Mindfulness, Participant 32: "I found it hard to slow down." Mindfulness, Participant 34: "It feels like when many of my thoughts come down the river, they get like a stone on top of them, so they don't go and it seems to mostly be about the surgery, about how some of it is unknown."
Poor Stress Management	Participant identified stress processing and stress coping methods that could be considered unhealthy.	Green Exercise, Participant 12: "When I'm stressed, I shut myself away from people. I don't have much trust in others. It is all down to me." Mindfulness, Participant 37: "It was hard for me to find something that only annoyed me to a 5, with me it always feels like a 10."
Concentration Issues	Participant identified trouble with focus and concentration at the sessions, at work, and in general.	Green Exercise, Participant 30: "I'm always focused on my destination that I rarely slow down to appreciate the surroundings on campus." (Participant 28 and Participant 29 agree).

		Mindfulness, Participant 22: “I found it more difficult to bring attention back, I was aware of less focus.”
Fatigue	Participant identified issues with fatigue that presented itself during the intervention sessions.	Mindfulness, Participant 25: “Doing this makes me realise just how tired I am all of the time.” Mindfulness. Participant 32: “I think I might have drifted off, I’m just so tired.”
Frustration	Participant identified frustration about work and feelings of inadequacy in intervention sessions.	Mindfulness, Participant 24: (How did it feel when the stressor happened?) “Just another thing I have to deal with (rolls eyes).” Mindfulness, Participant 34: “I found myself frustrated that I couldn’t let go of my thoughts. Like of what’s coming, how I’m going to deal with it (stress). It feels like every thought had its own independent voice talking over each other.”
Social Barriers	Participant identified issues stopping them from being able to make time for themselves or participate in physical activity / mindfulness.	Green exercise, Participant 12: “I take on too many social things.” Mindfulness, Participant 25: “My social calendar gets so full I leave no time for me and my husband.”
Physical Health Barriers	Participant identified issues stopping them from maintaining a physically active lifestyle.	Green Exercise, Participant 11: “I am concerned about my mental and physical health. I hope that the walks won’t be too difficult.” Green Exercise, Participant 30: “I am worried about my mental and physical health, it’s not easy to be active when sitting in front of a computer all day” Mindfulness, Participant 34: “I noticed my body cracking and popping more than usual, maybe my body is telling me I

		need to get looked at (by a doctor) more often.”
Mental Health Barriers	Participant identified issues stopping them from reaching out for help with mental health difficulties.	Green Exercise, Participant 29: “I suffer from anxiety and I’m a bit shy.” Mindfulness, Participant 25: “I’ve always had trouble with stress but never done anything about it.”

Audit Trail

Notes on Wellbeing WorkOut

Tuesday 25th April

My observations:

- [redacted] arrived early, she happily talked with [redacted] and I about her trip to Cambridge

- [redacted] has started jogging between stations

- [redacted] seemed very eager today, at one stage she went straight into the next activity without taking the 15 second break

- [redacted] has increased intensity in boxing especially

- [redacted] is also smiling a lot more and takes in what [redacted] says about how she can increase intensity/difficulty of activities

25

Notes on Wellbeing WorkOut

Week 6, Day 2

[redacted] attended, [redacted] was absent due to illness and [redacted] emailed saying she cannot attend

[redacted] has caught a bit of a cough.

[redacted] struggled rather a lot with this session but kept on going even when offered more rest time → determination

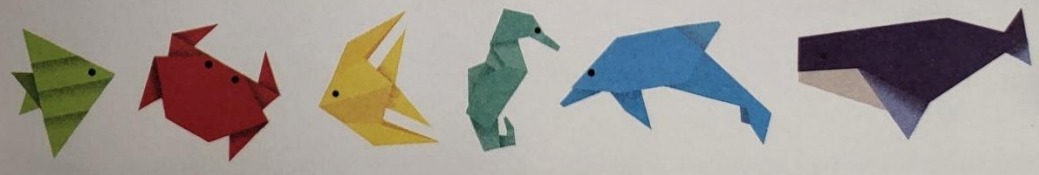
[redacted] came in specially for this even though he has time off

"Would be sitting around at home otherwise"

Other notes/participant feedback:

"Seems to be working! Good fun, great staff, I leave the gym feeling more energetic"

"I am really enjoying these sessions, they give me a boost to carry on and it is helping me lose weight. I have met some lovely people here and I look forward to coming to each session.
Would recommend as it is a lovely, friendly place and the helpers are encouraging yet don't push you too far. A +++ "



Appendix C

Research Materials

Informed Consent Form and Demographic Sheet.

INFORMED CONSENT FORM

Please thoroughly read the information below and sign on the dotted lines on the bottom of this sheet.

In this study you will be required to attend three different types of classes, these are: a circuit based physical activity program, outdoor walking sessions and mindfulness sessions.

You will also be required to attend a form filling session where you will have the opportunity to ask any

I have read and understood the participant information sheet.	Yes / No
I have been given the opportunity to ask any questions. Any questions asked have been answered fully and to my satisfaction.	Yes / No
I would like to see a copy of the results.	Yes / No
To my knowledge, I have no medical conditions or injuries that could make me unsuitable for participation in this study.	Yes / No

If yes, please give details below and we can discuss if you will be able to participate or not. ……

I hereby consent to voluntarily engage in physical activity and psychological classes at the University of Essex. I have provided accurate information as to my health status and readiness to undertake physical activity.

I understand I am free to withdraw from the study at any time for any reason and do not have to provide an explanation for my withdrawal.

Date: …… Signature of Participant: ……

Date: …… Signature of Witness: ……

……

…

Wellbeing WORKOUT

DEMOGRAPHIC SHEET

Please complete this demographic sheet by circling your answer and giving your opinions on the dotted lines where necessary. Please be aware that all questionnaires will remain anonymous and will only be used for research purposes.

Date of Birth: ……..……..

Sex: Male Female Other/Prefer not to share

About how many hours of exercise do you do per week? ……...

If you do exercise, please specify which activities you do:

……

……

……

……

…….....

Participant information Sheet

PARTICIPANT INFORMATION SHEET

How have I been selected?

You have been selected as you have either responded to advertising emails or had a meeting with occupational health in regard to improving your mental/physical health as part of a rehabilitation process. If you do decide to take part, you will be given a copy of this information sheet to keep, and will be asked to sign a consent form. Participation is on a voluntary basis and please be aware that if you decide you no longer want to participate in this study then you may withdraw at any time without giving a reason.

Do I have to take part?

No, there is no obligation to take part in this study. It is your choice.

What will I have to do?

You will have the option to attend three different classes that are 8 weeks each, these are:

Circuit based physical activity sessions

Outdoor walking sessions

Mindfulness Based Stress Reduction sessions

Before the first session of each type of class, you will be asked to attend a pre-course session to fill out any paperwork. After each session thereafter, you will be asked to fill out questionnaires regarding your health.

What are the benefits?

If you choose Circuit Training or Green Exercise: The benefits of this programme are that you will be performing physical activity on a regular basis under supervision; as a result, you will see an improvement in your overall health and well-being. We hope this programme will also act as a stepping-stone in that you will be encouraged to perform more activity outside of the scheme and see this as a long-term lifestyle change.

If you choose Mindfulness: The course will provide you with useful skills and information to improve your mental well-being and will equip you to manage better in everyday life.

Will I be paid for my participation?

You will not be paid to participate in this study.

Why might you be not able to take part in the study?

A pre-study health-screening questionnaire will have been sent out prior to you receiving this information sheet, which would suggest that you have no health issues that would affect your participation in this study.

If you feel there is a problem or you have concerns about your health then please feel free to contact myself, the project supervisor, or the head of department if you feel necessary, the contact details are below.

What are the risks?

The risks of this programme are minimal; this protocol has been approved by the University of Essex Ethics Committee and has been used numerous times. All staff are highly qualified, and the equipment is safe.

What do I do if there is a problem?

If there is a problem of any kind please feel free to contact the Primary Investigator (J Hubbard, e-mail: jhubbaa@essex.ac.uk. Alternatively, the contact details for the Project Supervisor are (M Griffin, e-mail: mgriffin@essex.ac.uk; tel: 01206 873336).

What if relevant new information becomes available?

If additional information becomes available during the course of the research, it will mainly be conveyed in the form of e-mail or by letters if you have no access to e-mail (through internal post). E-mail or text messages will be used for reminders for you depending on your preference.

What will happen if I don't want to carry on with the study?

If you decide to take part, you can still leave the study at any time without giving a reason. Identifiable data already collected with consent would be retained and used in the study. No further data would be collected, or any other research procedures carried out on or in relation to you.

Will my taking part in this study be kept confidential?

If you decide to take part in this study, any information collected about you as part of this project will remain confidential and your identity will not be revealed outside the research and medical

team. Any information about you which is collected will have your name and address removed so that you cannot be recognised. Information may be looked at by regulatory authorities to check that the study is being carried out correctly. However, your name and address will not be disclosed as your identity will be allocated a code and in this way will remain anonymous. Data will be handled, processed and stored in accordance with the Data Protection Act 1998. For more information, please follow the link below.

http://www.opsi.gov.uk/acts/acts1998/ukpga_19980029_en_1

What will happen to the results of this study?

Any information collected about you will only be used for the purposes of this project and will be disposed of securely when research is complete. The results may be published in scientific journals, undergraduate reports and used in presentations to healthcare and other interested parties. You will not be personally identified in any report or publication. You can request a copy of the findings. You will also be given individual feedback after completion of the study. This is NOT a clinical diagnosis.

For further information about this project please contact:

Primary Investigator: J Hubbard, e-mail: jhubbaa@essex.ac.uk.

Project Supervisor: M Griffin, e-mail: mgriffin@essex.ac.uk; tel: 01206 873336

Thank you for taking time to read this Participant Information Sheet.

Referral Form Template

Name		
DOB		
Date of referral to OH		
Contact Details		
Physical or mental wellbeing		
Which aspect would the individual benefit from and why?	**Tick to all that apply**	**Additional information**
Circuit based activity		
Green exercise		
Mindfulness		

Verbal consent given by staff member to be referred into the Wellbeing Work0ut service	☐

OH Name:	
Date:	

Appendix D

Questionnaires

Perceived Stress Scale (Scoring instructions are printed on the second page of the questionnaire)

COHEN PERCEIVED STRESS

The following questions ask about your feelings and thoughts during THE PAST MONTH. In each question, you will be asked HOW OFTEN you felt or thought a certain way. Although some of the questions are similar, there are small differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don t try to count up the exact number of times you felt a particular way, but tell me the answer that in general seems the best.

For each statement, please tell me if you have had these thoughts or feelings: never, almost never, sometimes, fairly often, or very often. (Read all answer choices each time)

	Never	Almost Never	Sometimes	Fairly Often	Very Often
B.1. In the past month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
B.2. In the past month, how often have you felt unable to control the important things in your life?	0	1	2	3	4
B.3. In the past month, how often have you felt nervous or stressed?	0	1	2	3	4
B.4. In the past month, how often have you felt confident about your ability to handle personal problems?	0	1	2	3	4
B.5. In the past month, how often have you felt that things were going your way?	0	1	2	3	4
B.6. In the past month, how often have you found that you could not cope with all the things you had to do?	0	1	2	3	4
B.7. In the past month, how often have you been able to control irritations in your life?	0	1	2	3	4

B.8. In the past month, how often have you felt that you were on top of things?	0	1	2	3	4
B.9. In the past month, how often have you been angry because of things that happened that were outside of your control?	0	1	2	3	4
B.10. In the past month, how often have you felt that difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Perceived Stress Scale Scoring

Each item is rated on a 5-point scale ranging from never (0) to almost always (4). Positively worded items are reverse scored, and the ratings are summed, with higher scores indicating more perceived stress.

PSS-10 scores are obtained by reversing the scores on the four positive items: For example, 0=4, 1=3, 2=2, etc. and then summing across all 10 items. Items 4, 5, 7, and 8 are the positively stated items.

Your Perceived Stress Level was _____

Scores around 13 are considered average. In our own research, we have found that high stress groups usually have a stress score of around 20 points. Scores of 20 or higher are considered high stress, and if you are in this range, you might consider learning new stress reduction techniques as well as increasing your exercise to at least three times a week. High psychological stress is associated with high blood pressure, higher BMI, larger waist to hip ratio, shorter telomere length, higher cortisol levels, suppressed immune function, decreased sleep, and increased alcohol consumption. These are all important risk factors for cardiovascular disease.

Rosenberg Self-Esteem Scale

NICHD SECCYD—Wisconsin

ROSENBERG SELF-ESTEEM SCALE

The next questions ask about your current feelings about yourself. For each of the following, please circle the number that corresponds with the answer that best describes how strongly you agree or disagree with the statement about yourself now.

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
1. I feel that I am a person of worth, or at least on an equal plane with others.	1	2	3	4
2. I feel that I have a number of good qualities.	1	2	3	4
3. All in all, I'm inclined to feel that I am a failure.	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
5. I feel I do not have much to be proud of.	1	2	3	4
6. I take a positive attitude toward myself.	1	2	3	4
7. On the whole, I am satisfied with myself.	1	2	3	4
8. I certainly feel useless at times.	1	2	3	4
9. I wish I could have more respect for myself.	1	2	3	4
10. At times, I think I am no good at all.	1	2	3	4

Profile of Mood States (POMS)

Below is a list of words that describe feelings people have. Please read each one carefully. Then fill ONE circle under the answer to the right which best describes how you feel NOW.

The numbers refer to these phrases.

⓪ = Not at all
① = A little
② = Moderately
③ = Quite a bit
④ = Extremely

	Not at all	A little	Moderately	Quite a bit	Extremely
1. Tense	⓪	①	②	③	④
2. Angry	⓪	①	②	③	④
3. Worn out	⓪	①	②	③	④
4. Lively	⓪	①	②	③	④
5. Confused	⓪	①	②	③	④
6. Shaky	⓪	①	②	③	④
7. Sad	⓪	①	②	③	④
8. Active	⓪	①	②	③	④
9. Grouchy	⓪	①	②	③	④
10. Energetic	⓪	①	②	③	④
11. Unworthy	⓪	①	②	③	④
12. Uneasy	⓪	①	②	③	④
13. Fatigued	⓪	①	②	③	④
14. Annoyed	⓪	①	②	③	④
15. Discouraged	⓪	①	②	③	④
16. Nervous	⓪	①	②	③	④
17. Lonely	⓪	①	②	③	④
18. Muddled	⓪	①	②	③	④
19. Exhausted	⓪	①	②	③	④
20. Anxious	⓪	①	②	③	④
21. Gloomy	⓪	①	②	③	④
22. Sluggish	⓪	①	②	③	④
23. Weary	⓪	①	②	③	④
24. Bewildered	⓪	①	②	③	④
25. Furious	⓪	①	②	③	④
26. Efficient	⓪	①	②	③	④
27. Full of pep	⓪	①	②	③	④
28. Bad-tempered	⓪	①	②	③	④
29. Forgetful	⓪	①	②	③	④
30. Vigorous	⓪	①	②	③	④

MAKE SURE YOU HAVE ANSWERED EVERY ITEM.

SHORT FORM

A C D F T V

Scoring POMS:

Subscales	Question numbers that correspond
Anger	2, 9, 14, 25, 28
Confusion	5, 18, 24, 26*, 29
Depression	7, 11, 15, 17, 21
Fatigue	3, 13, 19, 22, 23
Tension	1, 6, 12, 16, 20
Vigour	4, 8, 10, 27, 30

* - Item is reverse scored (efficient).

Short Warwick-Edinburgh Mental Wellbeing Scale

Appendix v

The Short Warwick–Edinburgh Mental Well-being Scale (SWEMWBS)

Below are some statements about feelings and thoughts.

Please tick the box that best describes your experience of each over the last 2 weeks

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5

Short Warwick–Edinburgh Mental Well-being Scale (SWEMWBS)

Short Form 36 Health Survey

Your Health and Well-Being

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.
Thank you for completing this survey!

For each of the following questions, please tick the one box that best describes your answer.

1. In general, would you say your health is:

Excellent	Very good	Good	Fair	Poor
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. <u>Compared to one year ago</u>, how would you rate your health in general <u>now</u>?

Much better now than one year ago	Somewhat better now than one year ago	About the same as one year ago	Somewhat worse now than one year ago	Much worse now than one year ago
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

3. The following questions are about activities you might do during a typical day. Does <u>your health now limit you</u> in these activities? If so, how much?

	Yes, limited a lot	Yes, limited a little	No, not limited at all
a Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	☐ 1	☐ 2	☐ 3
b Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐ 1	☐ 2	☐ 3
c Lifting or carrying groceries	☐ 1	☐ 2	☐ 3
d Climbing several flights of stairs	☐ 1	☐ 2	☐ 3
e Climbing one flight of stairs	☐ 1	☐ 2	☐ 3
f Bending, kneeling, or stooping	☐ 1	☐ 2	☐ 3
g Walking more than a mile	☐ 1	☐ 2	☐ 3
h Walking several hundred yards	☐ 1	☐ 2	☐ 3
i Walking one hundred yards	☐ 1	☐ 2	☐ 3
j Bathing or dressing yourself	☐ 1	☐ 2	☐ 3

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a Cut down on the amount of time you spent on work or other activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Accomplished less than you would like	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c Were limited in the kind of work or other activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
d Had difficulty performing the work or other activities (for example, it took extra effort)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

5. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a Cut down on the amount of time you spent on work or other activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Accomplished less than you would like	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c Did work or other activities less carefully than usual	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

6. **During the <u>past 4 weeks</u>, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?**

Not at all	Slightly	Moderately	Quite a bit	Extremely
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

7. **How much <u>bodily</u> pain have you had during the <u>past 4 weeks</u>?**

None	Very mild	Mild	Moderate	Severe	Very severe
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

8. **During the <u>past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)?**

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks…

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a Did you feel full of life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Have you been very nervous?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c Have you felt so down in the dumps that nothing could cheer you up?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
d Have you felt calm and peaceful?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
e Did you have a lot of energy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
f Have you felt downhearted and low?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
g Did you feel worn out?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
h Have you been happy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
i Did you feel tired?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

11. How TRUE or FALSE is <u>each</u> of the following statements for you?

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
a I seem to get ill more easily than other people	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b I am as healthy as anybody I know	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c I expect my health to get worse	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
d My health is excellent	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Thank you for completing these questions!

Appendix E

Intervention Guide – Circuit Training

Equipment List

Circuit Training 1 Equipment List:

2x Chairs

1x Table

Boxing Bag, Boxing Gloves, Boxing Mitt

Table Tennis Table, 2x paddles and 20x Table tennis Balls

Kettlebells – 4kg, 6kg, 12kg (Participant may select weight)

Dumbbells – 3kg, 5kg, 7kg (Participant may select weight)

Medicine Ball – 3kg

1x Exercise Ball

1x Step-Up Board

1x Bucket

2x Crash Mats (For participant comfort during laying exercises)

5x Clipboards with stationery (pens including spares, ruler, pencil, eraser)

Questionnaires

Circuit Training 2 Equipment List:

2x Chairs

1x Table

1x (pair) Boxing Gloves, 1x Boxing Mitt

Dumbbells – 5kg, 7kg, 9kg (Participant may select weight)

Kettlebells – 4kg, 6kg, 12kg (Participant may select weight)

Set of Cones in various colours

1x Exercise Ball

1x Crash Mat (For participant comfort during laying exercises)

2x Clipboards with stationery (pens including spares, ruler, pencil, eraser)

Questionnaires

Circuit Training Room Layouts and Activities

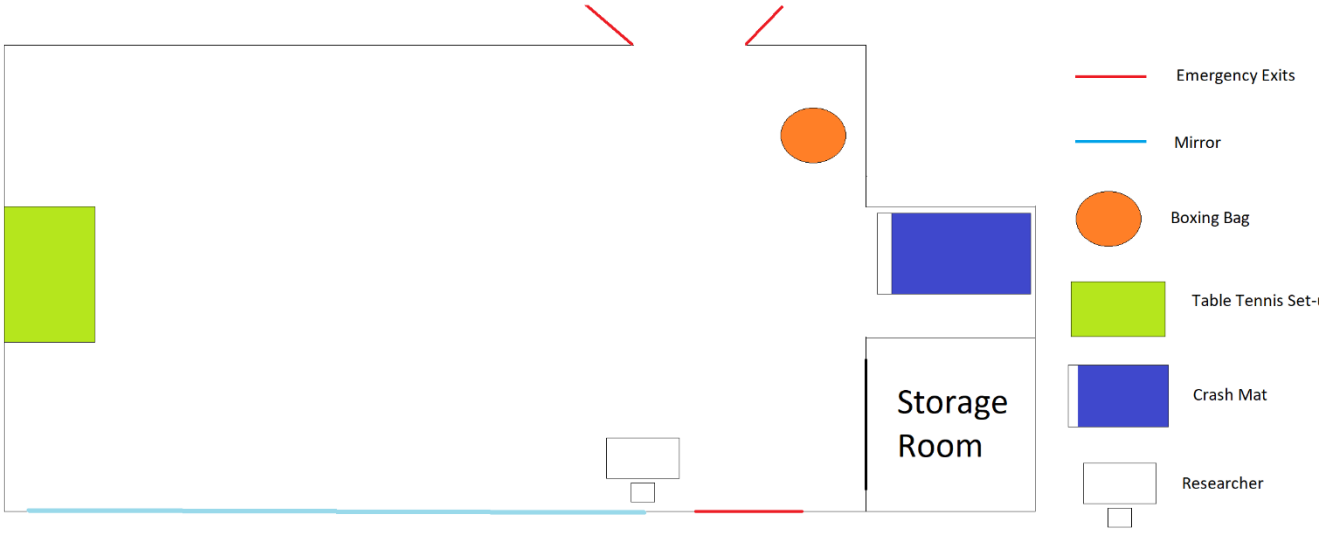
Circuit Training 1

Location: Studio 1 – University of Essex Sports Centre, Colchester Campus

General Information:

Each session commenced with a warm up before leading into the main circuit. This was comprised of 3 sets, 45 seconds on each activity and 15 seconds off. A cool down was completed before participants completed questionnaires at the end of each session.

Studio Layout:



Circuit Training 1: Main Activity Plans

Warm Up Template:

Cardiovascular: Walk around the room in a large circle 5 times to increase heart rate.

As participants progress, they may jog instead.

Stretches:

1. Quadriceps stretch – Stand on one leg with knees together, bend the knee of the other leg and bring the heel up towards the buttocks. Hold for 7-10 seconds and alternate. If participants struggle with balance, they may use a chair for support.
2. Calf stretch – Bend the back leg. Keep the front leg straight and raise toes. Hold for 7-10 seconds and alternate.
3. Hip circles – Stand with hands on hips and make circular movements with the hips. Repeat 5 times for each direction (clockwise rotation and anticlockwise rotation).
4. Arm stretches – Bend arms at the elbow and bring them in so forearms cross over and out again. Repeat 10 times.

Cool Down Template:

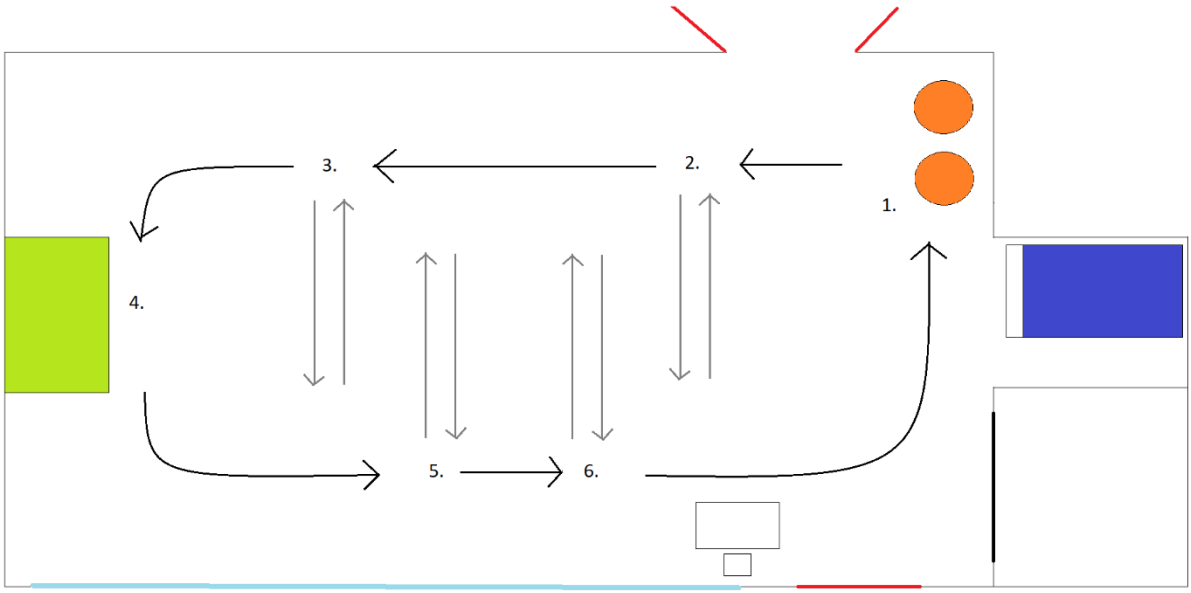
Cardiovascular: Walk around the room in a large circle 5 times.

Stretches:

1. Neck stretch – Tilt the head to one side and hold for 7-10 seconds. Repeat for the other side and up/down.
2. Arm stretches – Bend arms at the elbow and bring them in so forearms cross over and out again. Repeat 10 times.
3. Arm circles – Extend arms and rotate them round. Repeat 5 times for each direction.
4. Hip circles – Stand with hands on hips and make circular movements with the hips. Repeat 5 times for each direction (clockwise rotation and anticlockwise rotation).
5. Toe touch stretch – Bend forwards slowly and reach for your toes.
6. Quadriceps stretch – Stand on one leg with knees together, bend the knee of the other leg and bring the heel up towards the buttocks. Hold for 7-10 seconds and alternate. If participants struggle with balance, they may use a chair for support.

Week 1, Session 1

Room Layout:

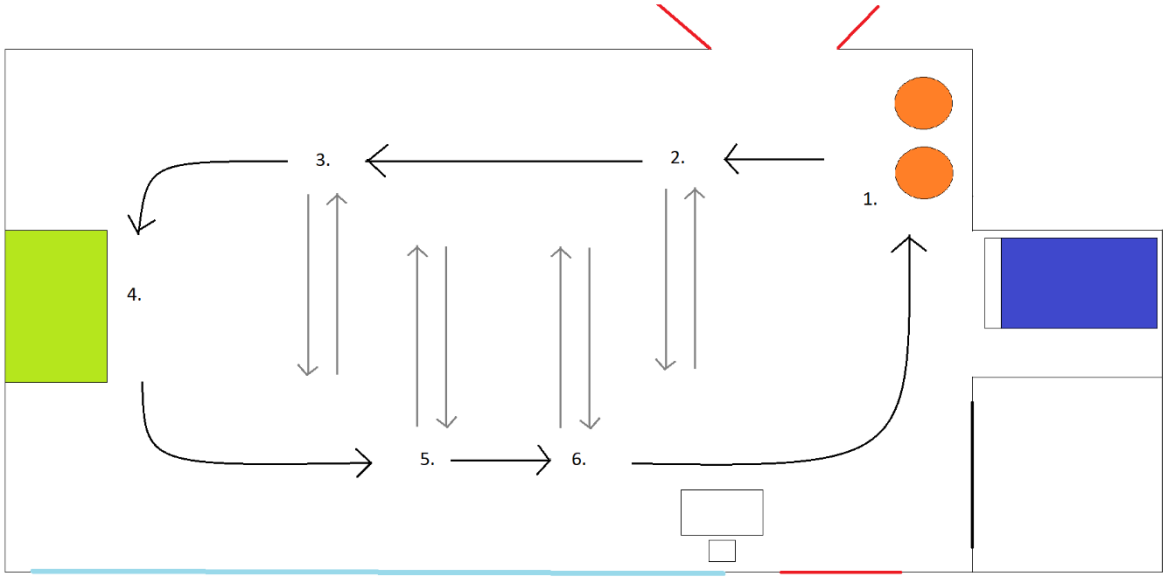


Activities:

1. Boxing – 6 punches, move around the bag and repeat if time allows.
2. Wall Push ups – 10 reps and then walk to the end of the room and back. Repeat if time allows.
3. Upright Rows – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Shoulder Press – 10 reps and then walk to the end of the room and back. Repeat if time allows.
6. Bicep Curls – 10 reps and then walk to the end of the room and back. Repeat if time allows.

Week 1, Session 2

Room Layout:

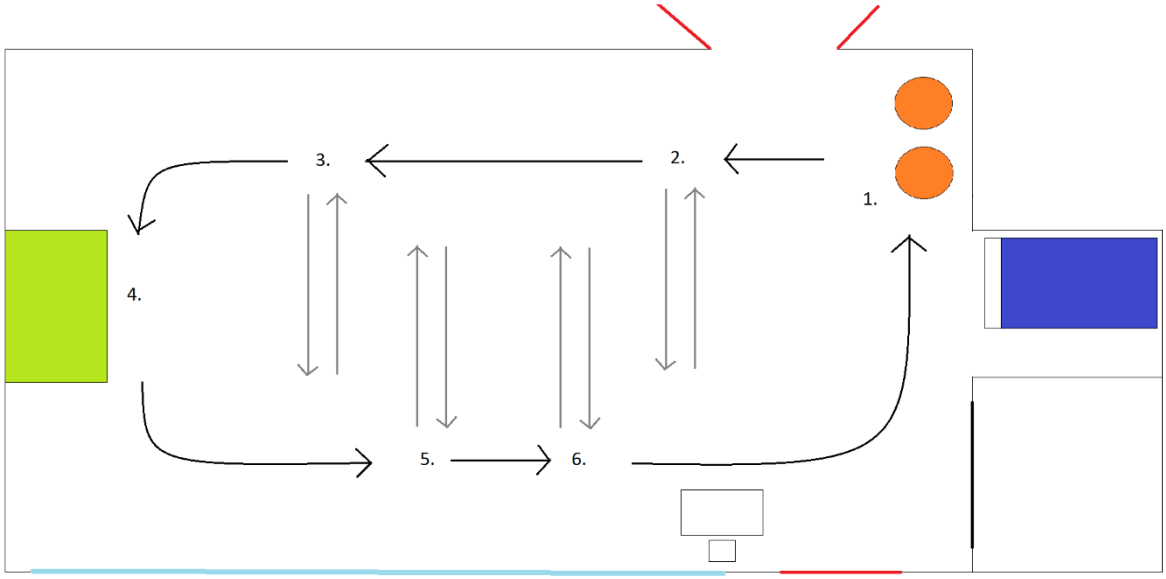


Activities:

1. Boxing – 6 punches, move around the bag and repeat if time allows.
2. Kettlebell Swing – 10 reps and then walk to the end of the room and back. Repeat if time allows.
3. Exercise Ball Squats – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Tricep Extensions – 10 reps and then walk to the end of the room and back. Repeat if time allows.
6. Step-Ups – 10 step-ups and then walk to the end of the room and back. Repeat if time allows.

Week 2, Session 1

Room Layout:

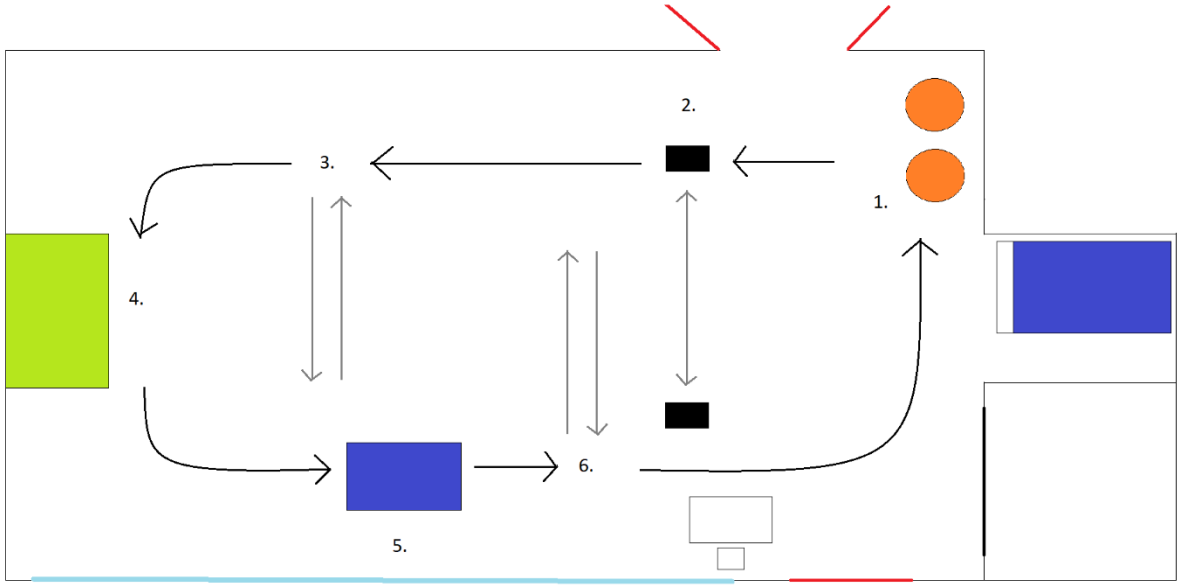


Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Shoulder Press –10 reps and then walk to the end of the room and back. Repeat if time allows.
3. Bicep Curls – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Kettlebell Swing – 10 reps and then walk to the end of the room and back. Repeat if time allows.
6. Wall Press Up – 10 reps and then walk to the end of the room and back. Repeat if time allows.

Week 2, Session 2

Room Layout:

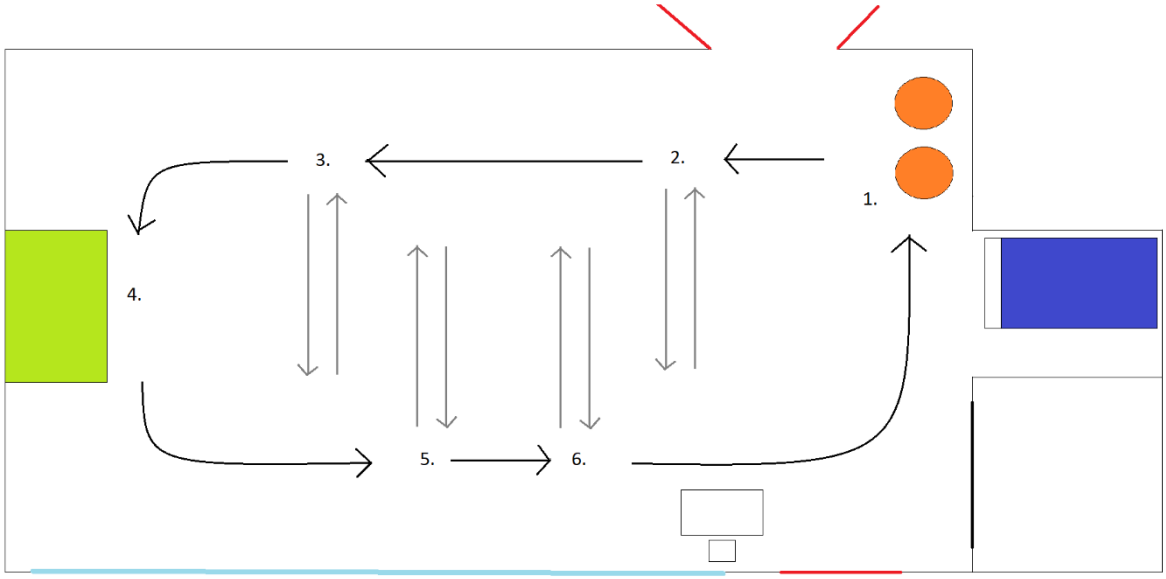


Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Step-Ups – 10 Step-Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
3. Ball Rows – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Ball Smash – (Under supervision, pick up the medicine ball, hold it over your head and throw it down onto the mat as hard as possible.) Repeat as time allows.
6. Exercise Ball Squats – 10 reps and then walk to the end of the room and back. Repeat if time allows.

Week 3, Session 1

Room Layout:

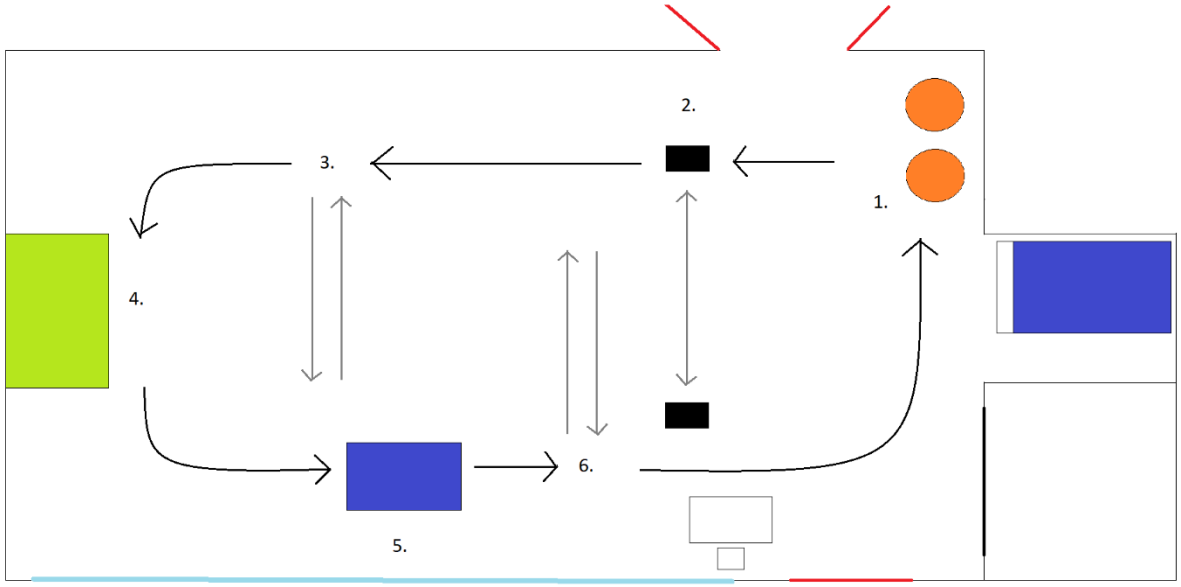


Activities:

1. Boxing – Punch while moving around the bag.
2. Shoulder Press – 10 reps and then walk to the end of the room and back. Repeat if time allows.
3. Bicep Curls – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Kettlebell Swing – 10 reps and then walk to the end of the room and back. Repeat if time allows.
6. Wall Press Up – 10 reps and then walk to the end of the room and back. Repeat if time allows.

Week 3, Session 2

Room Layout:

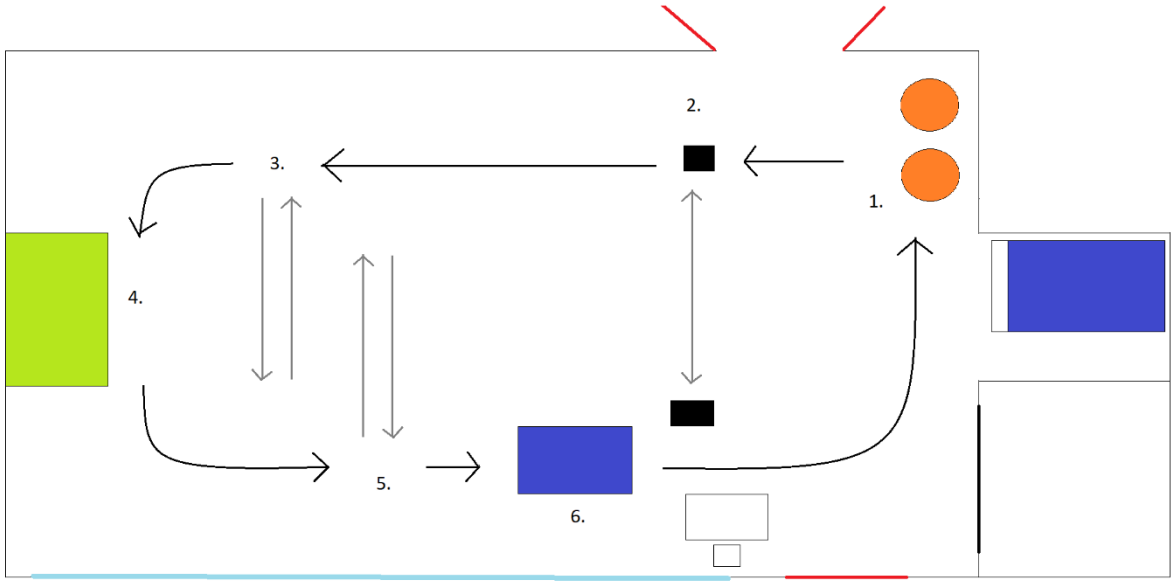


Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Step-Ups – 10 Step Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
3. Shoulder Press – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Ball Smash – Repeat as long as time allows.
6. Exercise Ball Squats – 10 reps and then walk to the end of the room and back. Repeat if time allows.

Week 4, Session 1

Room Layout:

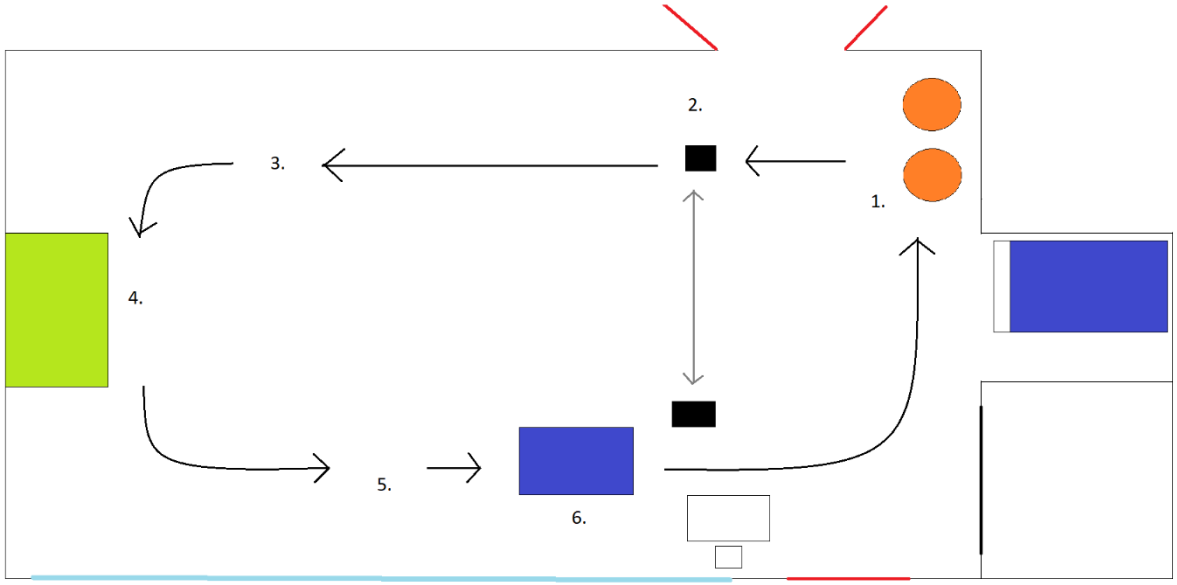


Activities:

1. Boxing – (Course instructor has a boxing mitt and moves around the participant) 2 punches on boxing bag then 2 punches on mitt and repeat whilst moving with the instructor.
2. Step-Ups – 10 Step-Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
3. Kettlebell Swing – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Try to keep a rally with an instructor.
5. Exercise Ball Squats – 10 reps and then walk to the end of the room and back. Repeat if time allows.
6. Ball Smash - Repeat for as long as time allows.

Week 4, Session 2

Room Layout:

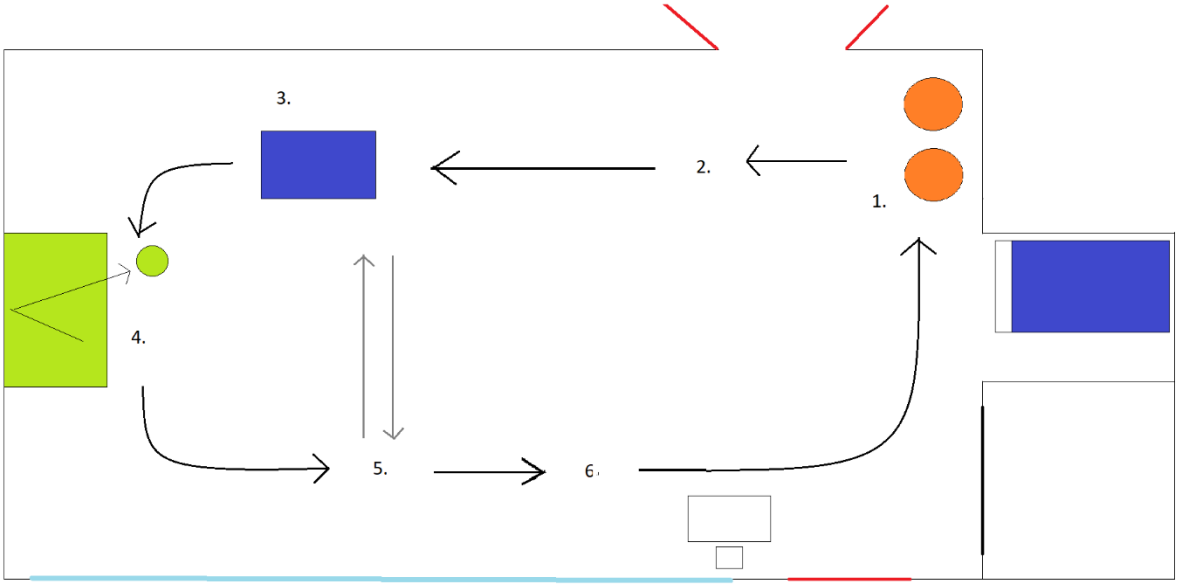


Activities:

1. Boxing – (Course instructor has a boxing mitt and moves around the participant) 2 punches on boxing bag then 2 punches on mitt and repeat whilst moving with the instructor.
2. Step-Ups – 10 Step-Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
3. Bar Rows – Repeat for as long as time allows.
4. Table Tennis – Serve the ball against the wall and try to keep a rally for as long as possible.
5. Exercise Ball Squats – Repeat for as long as time allows.
6. Full Press Up (if this is too difficult, participants can do wall press ups) – Repeat as long as time allows.

Week 5, Session 1

Room Layout:

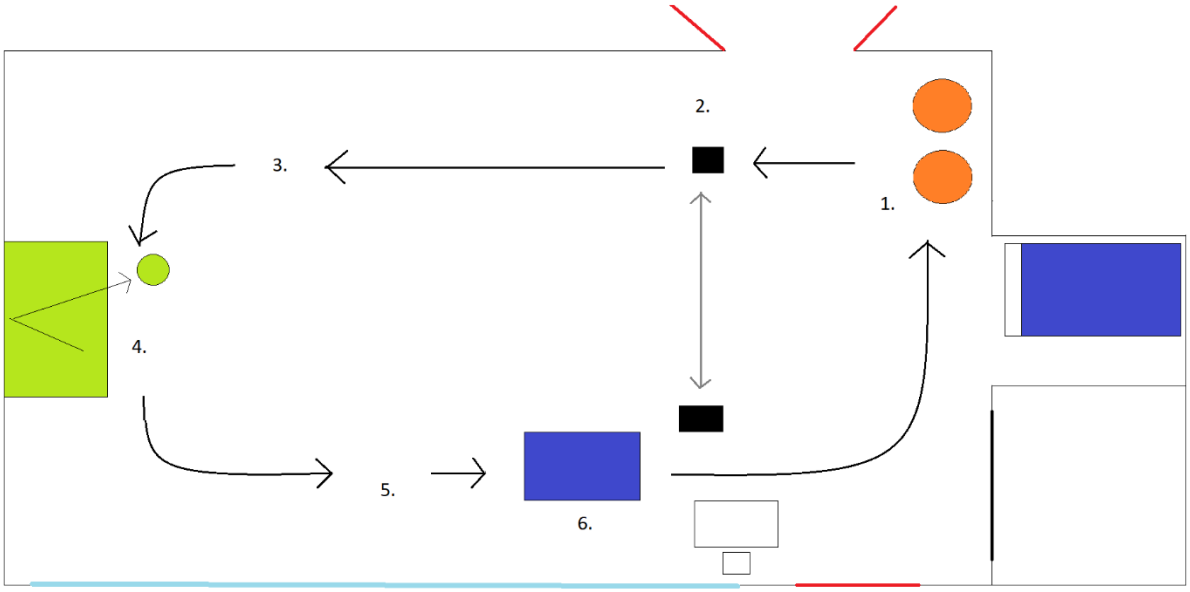


Activities:

1. Boxing – (Course instructor has a boxing mitt and moves around the participant) 2 punches on boxing bag then 2 punches on mitt, then 4 punches on boxing bag then 4 punches on mitt. Repeat if time allows.
2. Dumbbell Rows – Repeat for as long as time allows.
3. Glute Bridges (with frog stance) – Repeat for as long as time allows.
4. Table Tennis – Play against the wall, every 10 seconds try to get the ball in the bucket.
5. Kettlebell Swings – 10 reps and then walk to the end of the room and back. Repeat if time allows.
6. Wall Press Ups – Repeat for as long as time allows.

Week 5, Session 2

Room Layout:

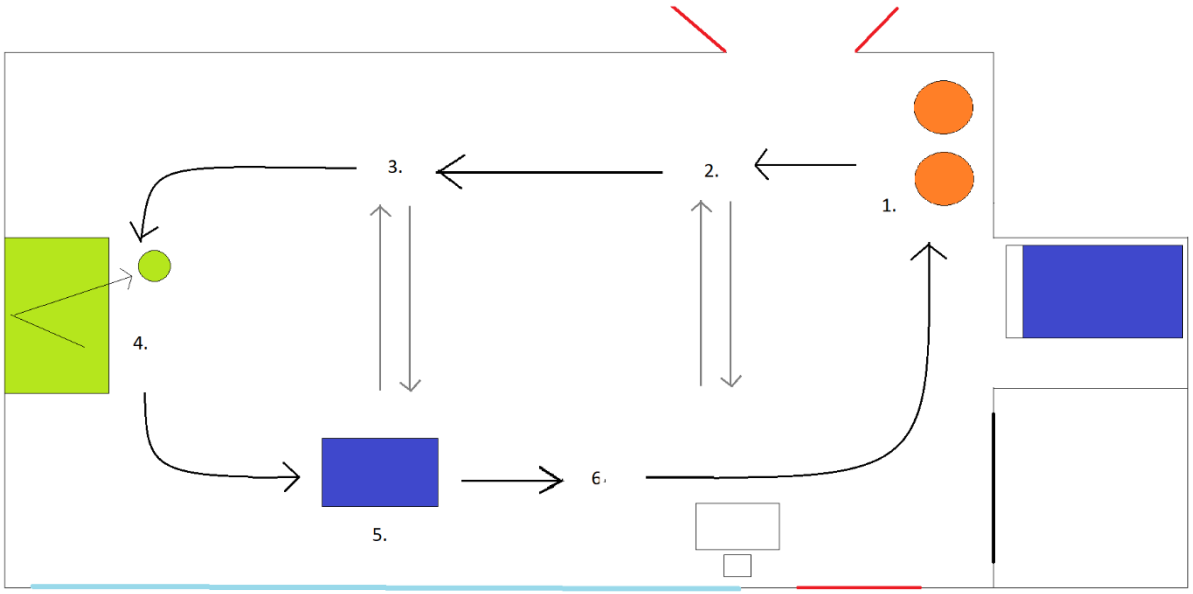


Activities:

1. Boxing – (Course instructor has a boxing mitt and moves around the participant) 2 punches on boxing bag then 2 punches on mitt. Course leader moves from side to side. Repeat for as long as time allows.
2. Step-Ups – 10 Step-Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
3. Leg Raises (Single leg and alternate) – Repeat for as long as time allows.
4. Table Tennis – Play against the wall, every 10 seconds try to get the ball in the bucket.
5. Exercise Ball Squats – Repeat for as long as time allows.
6. Ball Smash – Repeat for as long as time allows.

Week 6, Session 1

Room Layout:

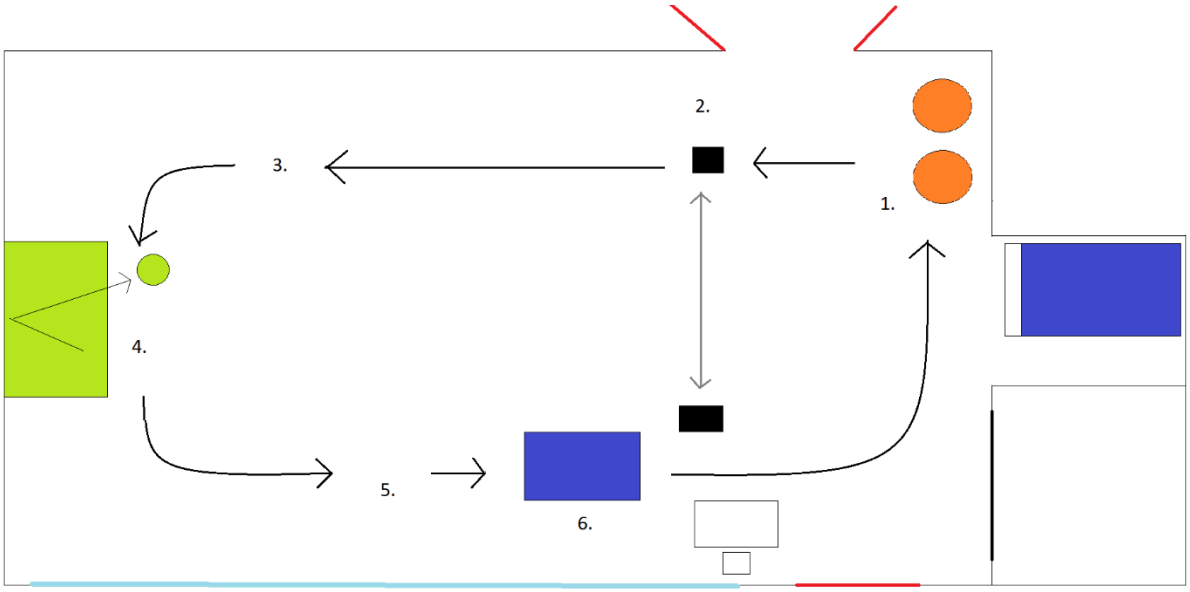


Activities:

1. Boxing – (Course instructor has a boxing mitt and moves around the participant) 2 punches on boxing bag then 2 punches on mitt. Course leader moves from side to side. Repeat for as long as time allows.
2. Kettlebell Swing – 10 reps and then walk to the end of the room and back. Repeat if time allows.
3. Dumbbell Rows – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Play against the wall, every 10 seconds try to get the ball in the bucket.
5. Hip Thrusts – Repeat for as long as time allows.
6. Wall Press Up – Repeat for as long as time allows.

Week 6, Session 2

Room Layout:

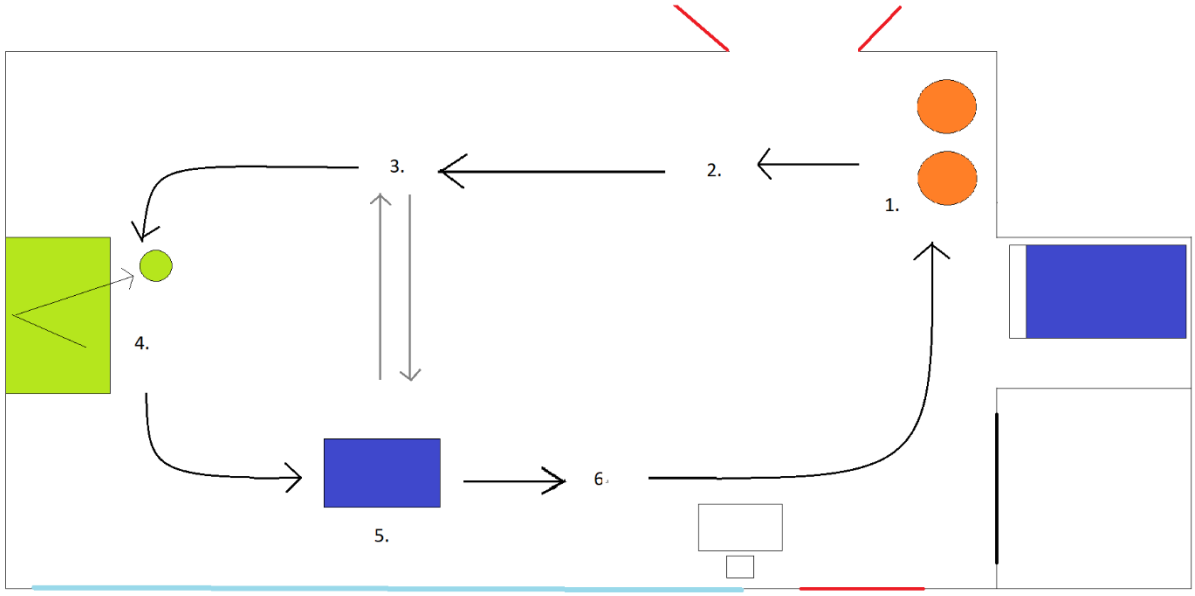


Activities:

1. Boxing – (Course instructor has a boxing mitt and moves around the participant) 2 punches on boxing bag then 2 punches on mitt. Course leader moves from side to side. Repeat for as long as time allows.
2. Step-Ups – 10 Step-Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
3. Single Leg Extensions (alternate leg after each rep) – Repeat for as long as time allows.
4. Table Tennis – Play against the wall, every 10 seconds try to get the ball in the bucket.
5. Ball Squats – Repeat for as long as time allows.
6. Ball Smash – Repeat for as long as time allows.

Week 7, Session 1

Room Layout:

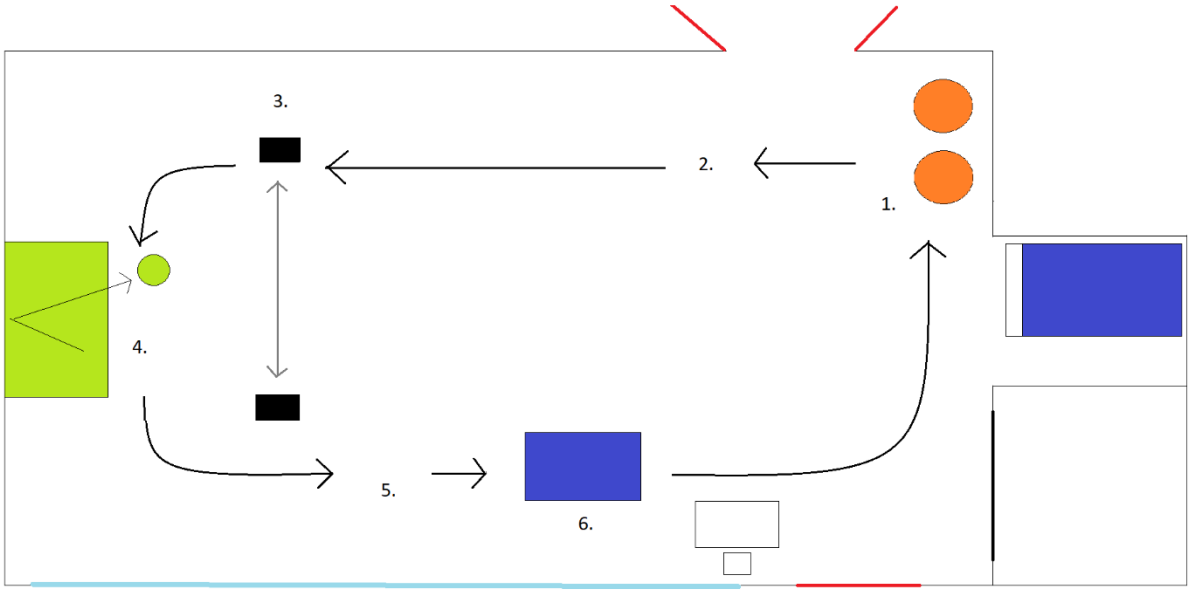


Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Kettlebell Swings – Repeat for as long as time allows.
3. Dumbbell Rows – 10 reps and then walk to the end of the room and back. Repeat if time allows.
4. Table Tennis – Course Leader holds the bucket and calls to the participant what side they want them to aim for. Repeat for as long as time allows.
5. Hip Thrusts – Repeat for as long as time allows.
6. Wall Press Ups – Repeat for as long as time allows.

Week 7, Session 2

Room Layout:

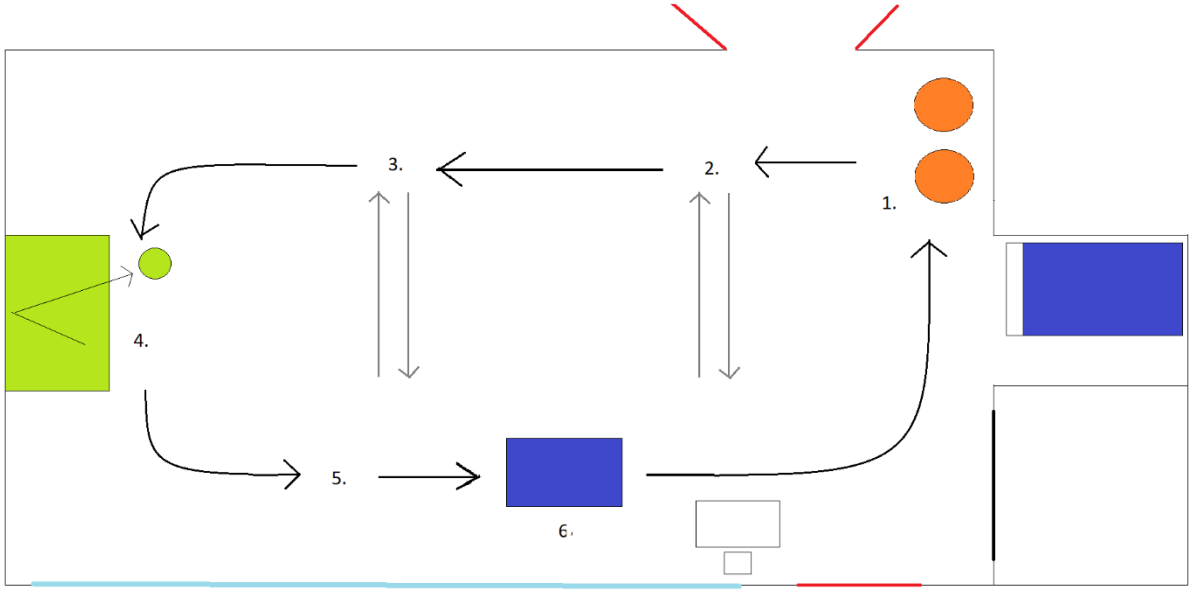


Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Single Leg Extensions (alternate leg after each rep) – Repeat for as long as time allows.
3. Step-Ups – 10 Step-Ups, walk to the other step-up board and do 10 Step-Ups. Repeat if time allows.
4. Table Tennis – Try to get as many balls in the bucket as possible within the time.
5. Exercise Ball Squats – Repeat for as long as time allows.
6. Ball Smash – Repeat for as long as time allows.

Week 8, Session 1

Room Layout:

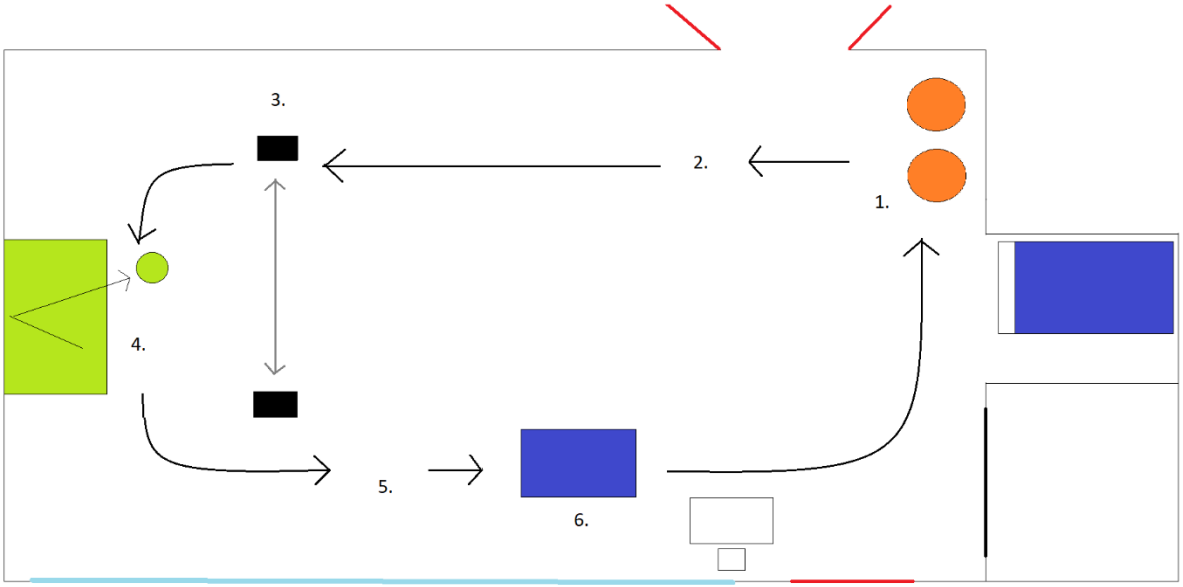


Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Kettlebell Swing – 10 reps and then walk to the end of the room and back. Repeat if time allows.
3. Dumbbell Rows – 10 reps and then walk to the end of the room and back.
4. Table Tennis – Try to get as many balls in the bucket as possible within the time.
5. Wall Press Ups – Repeat for as long as time allows.
6. Hip Thrusts – Repeat for as long as time allows.

Week 8, Session 2

Room Layout:



Activities:

1. Boxing – 6 punches, move around the bag and repeat.
2. Single Leg Extensions (alternate leg after each rep) – Repeat for as long as time allows.
3. Step-Ups – 10 Step-Ups, jog to the other step-up board and do 10 Step-Ups. Repeat if time allows.
4. Table Tennis – Try to get as many balls in the bucket as possible within the time.
5. Exercise Ball Squats – Repeat for as long as time allows.
6. Ball Smash – Repeat for as long as time allows.

Circuit Training 2

Location: Studio 1, University of Essex Sports Arena, Colchester Campus.

Circuit Training 2: Main Activity Plans

Each session commenced with a warm up before leading into the main circuit. This was comprised of 3 sets, 45 seconds on each activity and 15 seconds off. A cool down was completed before participants completed questionnaires at the end of each session.

Studio Layout:

Warm Up Template

Cardiovascular: Walk around the room in a large circle 5 times to increase heart rate. As participants progress, they may jog instead.

Stretches:

1. Quadriceps stretch – Stand on one leg with knees together, bend the knee of the other leg and bring the heel up towards the buttocks. Hold for 7-10 seconds and alternate. If participants struggle with balance, they may use a chair for support.
2. Calf stretch – Bend the back leg. Keep the front leg straight and raise toes. Hold for 7-10 seconds and alternate.
3. Hip circles – Stand with hands on hips and make circular movements with the hips. Repeat 5 times for each direction (clockwise rotation and anticlockwise rotation).
4. Arm circles – Extend arms and rotate them round. Repeat 5 times for each direction.

Cool Down Template:

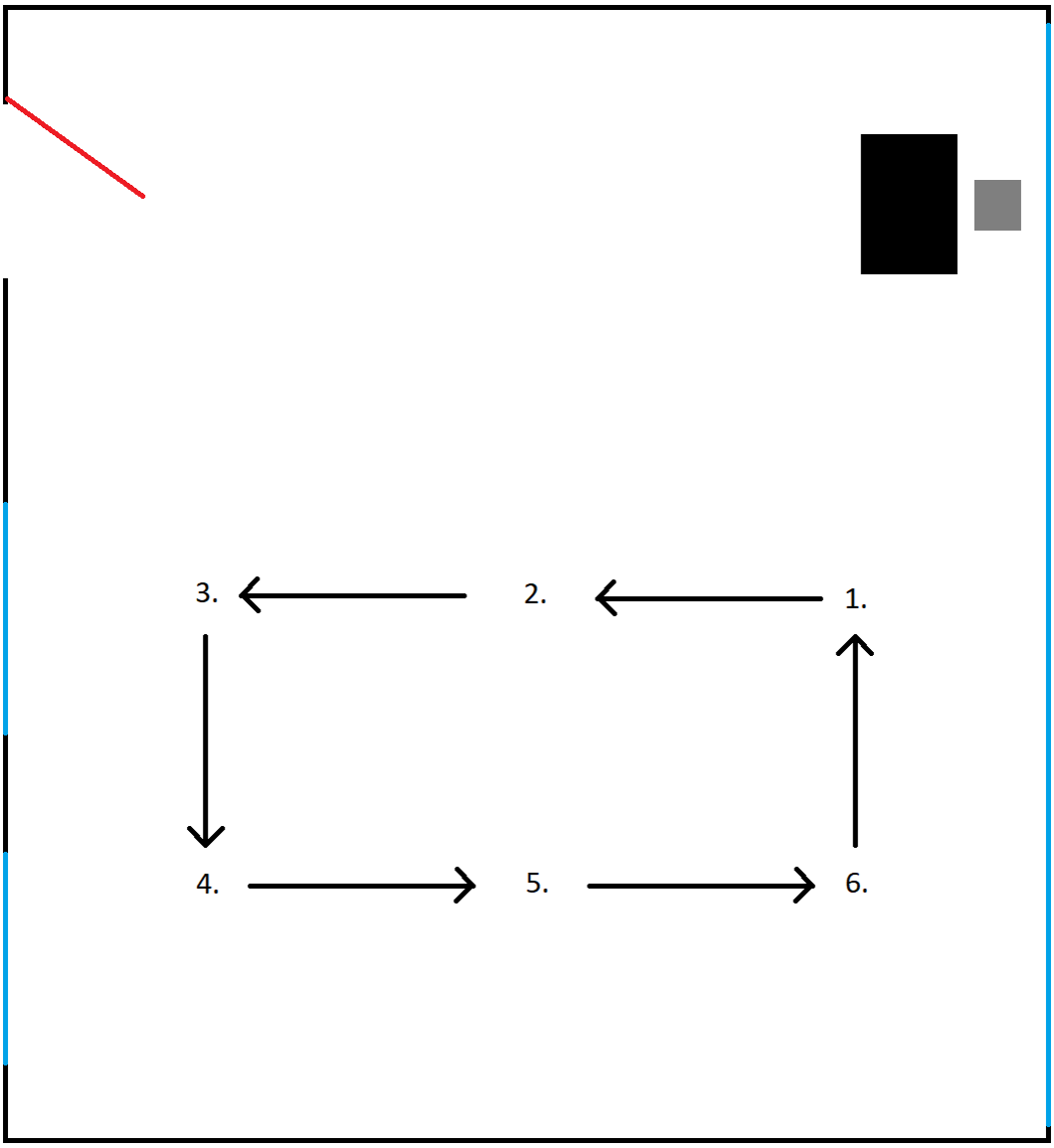
Cardiovascular: Walk around the room in a large circle 5 times.

Stretches:

1. Neck stretch – Tilt the head to one side and hold for 7-10 seconds. Repeat for the other side and up/down.
2. Hip circles – Stand with hands on hips and make circular movements with the hips. Repeat 5 times for each direction (clockwise rotation and anticlockwise rotation).
3. Toe touch stretch – Bend forwards slowly and reach for your toes.
4. Quadriceps stretch – Stand on one leg with knees together, bend the knee of the other leg and bring the heel up towards the buttocks. Hold for 7-10 seconds and alternate. If participants struggle with balance, they may use a chair for support.

Circuits 2 General Room Layout:

Most of the sessions followed the same structure, design and room format (as seen below). These sessions were completed with minimal equipment. The Sports Arena studio was new at this point, and we did not have access to the same facilities and equipment as the previous circuit training sessions. Activities were adapted to incorporate more bodyweight exercises but still followed the overarching theme of the other block of circuit sessions.



Circuit Training 2 Activities:

General Information:

Each activity was repeated as many times as the participant could within 45 seconds. Participants had 15 seconds to rest between activities. Participants may ask to stop or to have a drink at any time.

Any activity involving any kind of weight, the course leader supervised participants and spotted if necessary.

These sessions became more like personal training sessions as there was one consistent participant in this intervention.

Activities:

Week 1, Session 1

1. Sit Ups
2. Bodyweight Squats
3. Shoulder Press
4. Squat Holding Dumbbell (7kg)
5. Bodyweight Lunges
6. Press Ups

Week 1, Session 2

1. Kettlebell Swing (6kg)
2. Single Leg Swing Deadlift
3. Single Arm Bent Over Row
4. Laying Kettlebell Raise (4kg)
5. Chest Flys
6. Standing Upwards Chest Flys

Week 2, Session 1

1. Boxing Routine (with course leader): Cross, Uppercut and Hook. Repeat for as long as time allows.
2. Kettlebell Raises (6kg)
3. Side Raises (6kg)
4. Boxing Routine (with course leader): Jab, Cross, Uppercut. Repeat for as long as time allows.
5. Sit Ups
6. Single Leg Extensions

Week 2, Session 2

1. Boxing Routine (with course leader): Jab, Jab, Cross. Repeat for as long as time allows.
2. Kettlebell Swing (12kg)
3. One-handed Kettlebell Swing (12kg)
4. Boxing Routine (with course leader): Jab, Jab, Block. Repeat for as long as time allows.
5. Toe Touches
6. Star Jumps

Week 3, Session 1

1. Boxing Routine (with course leader): Cross, Uppercut, Jab. Repeat for as long as time allows.
2. Weighted Squat (6kg)
3. Bicep Curl (7kg)
4. Bent Over Rows
5. Weighted Lunge (6kg)
6. Dumbbell Overhead Tricep Extensions (6kg)

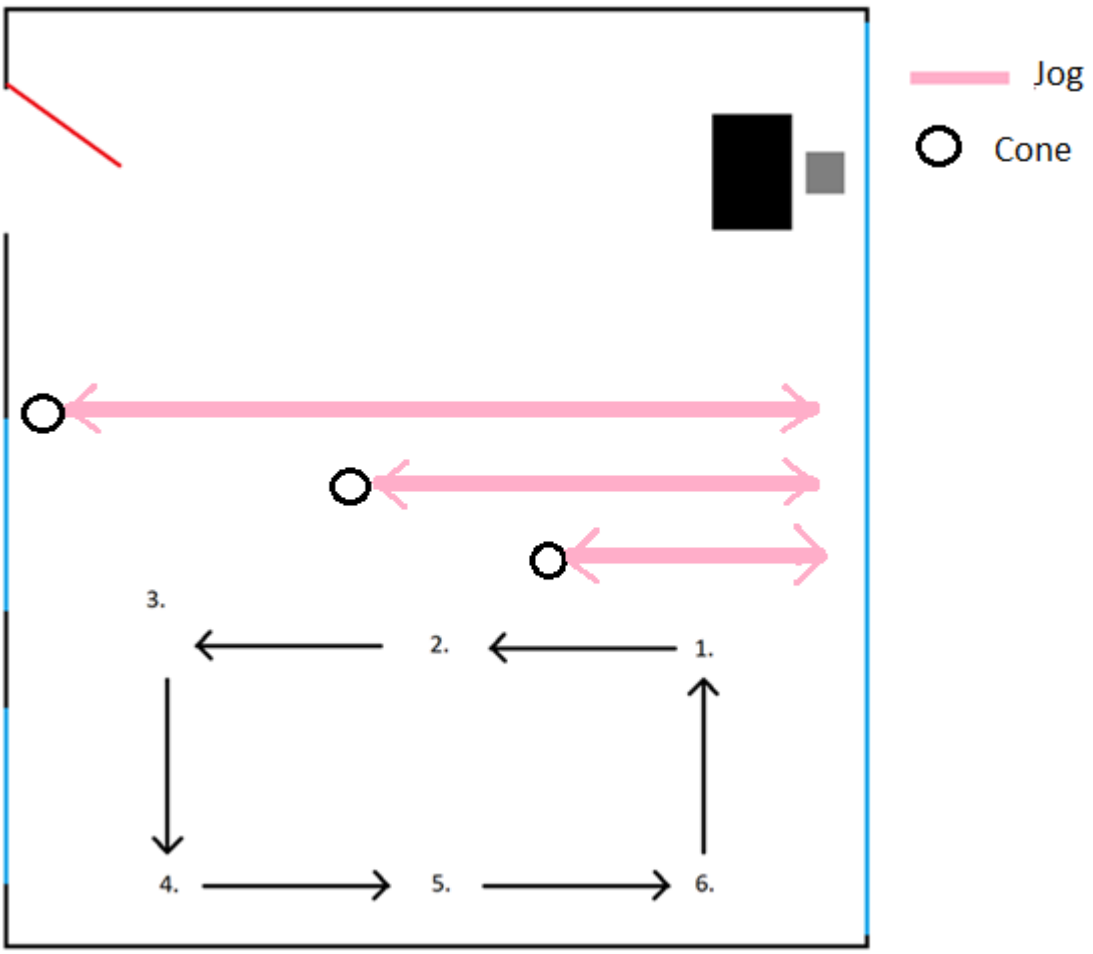
Week 3, Session 2

1. Boxing Routine (with course leader): Hook, Uppercut, Cross, Block. Repeat for as long as time allows.
2. One-Handed Toe touches
3. Pike Alternating Toe Touches

4. Boxing Routine (with course leader): Jab, Jab, Cross, Duck. Repeat for as long as time allows.
5. Leg Raise to Pike
6. Star Jumps

Week 4, Session 1

1. Kettlebell Tricep Extensions (6kg)
2. Kettlebell Goblet Squats (12kg)
3. Cone Drill (See diagram below) - Course Leader shouts for the participant to jog to either the furthest, middle or closest cone. Once the participant reaches the cone, they touch the cone and then jog back to starting position for the next command. Repeated for as long as time allows.
4. Kettlebell Bicep Extensions (6kg)
5. Kettlebell Romanian Deadlifts (12kg)
6. Boxing Routine (with course leader): Jab, Jab, Cross. Repeat for as long as time allows.



Week 4, Session 2

1. Boxing Routine (with course leader): Jab, Uppercut, Cross, Block. Repeat for as long as time allows.
2. Bodyweight lunges
3. One-Handed Toe Touches
4. Knee Raises
5. Star Jumps
6. Sit Ups

Week 5, Session 1

1. Jump Squats
2. Toe Touches
3. Boxing Routine (with course leader): Jab, Jab, Duck, Uppercut. Repeat for as long as time allows.
4. Sit Ups on Exercise Ball
5. Side crunch on Exercise Ball
6. Plank on Ball (Try to hold for 45 seconds)

Week 5, Session 2

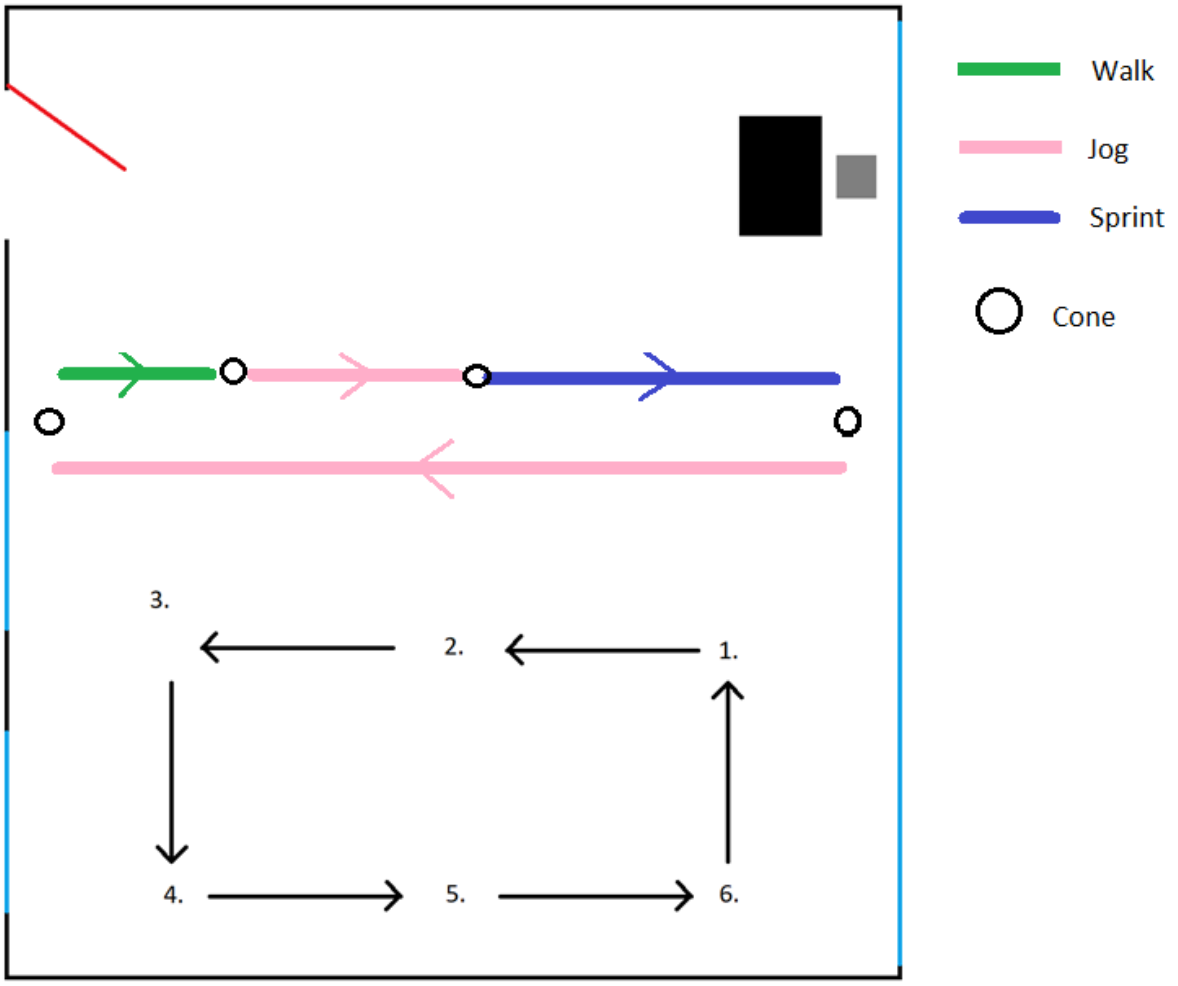
1. Boxing Routine (with course leader): Course leader shouts the name of a punch or duck/block, and participant must respond.
2. Kettlebell Swing (12kg)
3. Cone Drill
4. Knee Raises
5. Hip Thrusts
6. Kettlebell Romanian Deadlifts (12kg)

Week 6, Session 1

1. Boxing Routine (with course leader): Jab, Jab, Cross, Uppercut, Duck, Right Hook. Repeat for as long as time allows.
2. Turkish Get up
3. Kettlebell Swing (12kg)
4. Cone Drill
5. Stiff Leg Deadlift
6. Plank on Ball (Try to hold for 45 seconds)

Week 6, Session 2

1. Press Ups
2. Burpees
3. Shuttle Runs (See diagram below) – Participant was asked to either walk, jog or sprint between cones. Repeat if time allows.
4. Boxing Routine (with course leader): Course leader shouts the name of a punch or duck/block, and participant must respond.
5. Leg Raises with added instability (Course leader pushes down on participant's legs and the participant must control them.)
6. High Knees

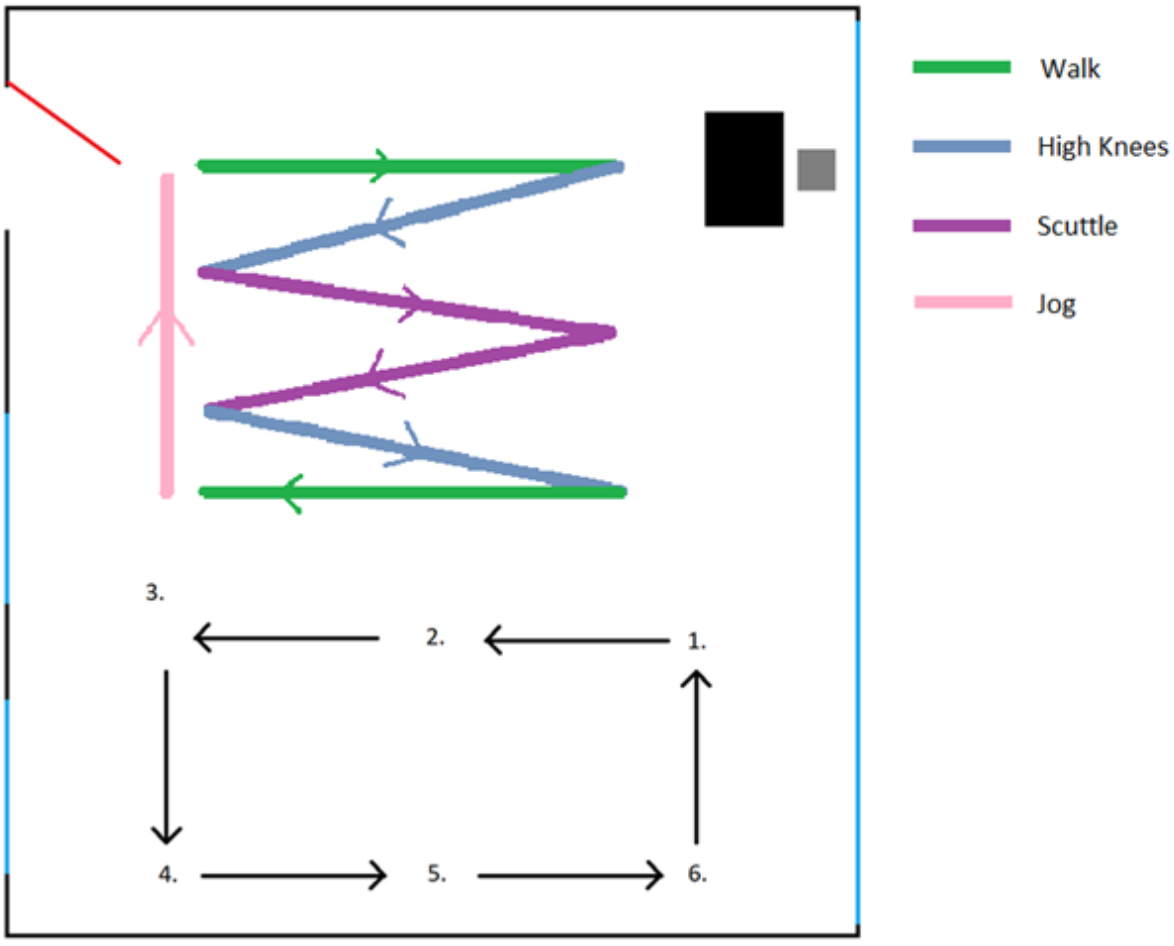


Week 7, Session 1

1. Alternating Lunges
2. Chair Assisted Tricep Dips
3. Boxing Routine (with course leader): Course leader shouts the name of a punch or duck/block, and participant has to respond.
4. Mountain Climbers
5. Bicep Curls (7kg)
6. Sit Ups

Week 7, Session 2

1. Windmills
2. Squat Lunge
3. Walk/Jog/Scuttle/High Knees Drill (See diagram below)
4. Butterfly Kicks
5. Burpees
6. Knee Raises



Week 8, Session 1

1. Press Ups
2. Boxing Routine (with course leader): Course leader shouts the name of a punch or duck/block, and participant must respond.
3. Bodyweight Lunges
4. Walk/High Knees/Scuttle/Jog Drill
5. Bodyweight Squat
6. Leg Raises with added instability (Course leader pushes down on participant's legs and the participant must control them.)

Week 8, Session 2

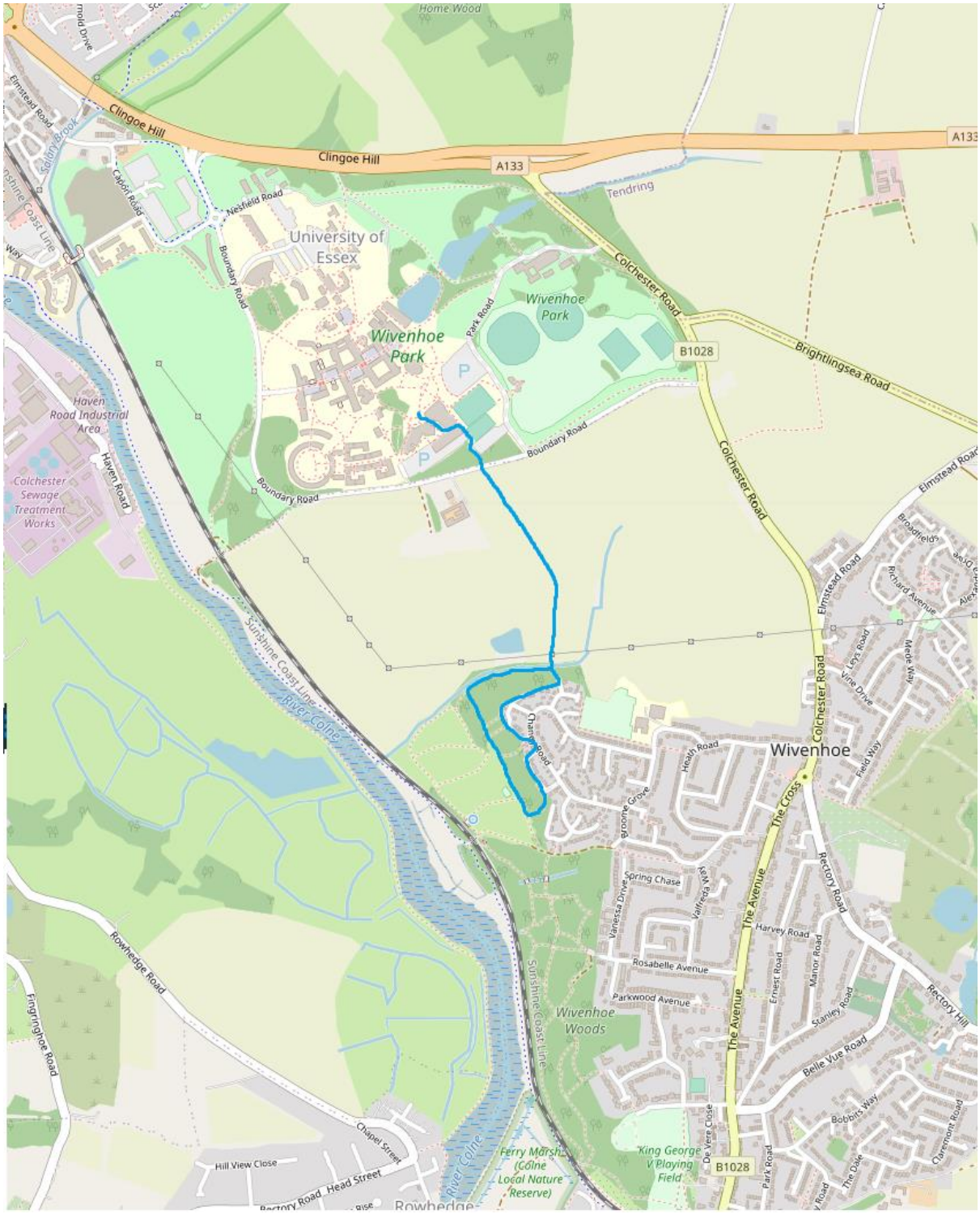
1. Boxing Routine (with course leader): Course leader shouts the name of a punch or duck/block, and participant must respond.
2. Alternate Leg Raises
3. Cone Drill 2
4. Weighted Squat (12kg)
5. Press ups
6. Knee Tucks

Appendix F

Intervention Guide - Green Exercise

Green Exercise Route Maps

Block 1, Week 1:



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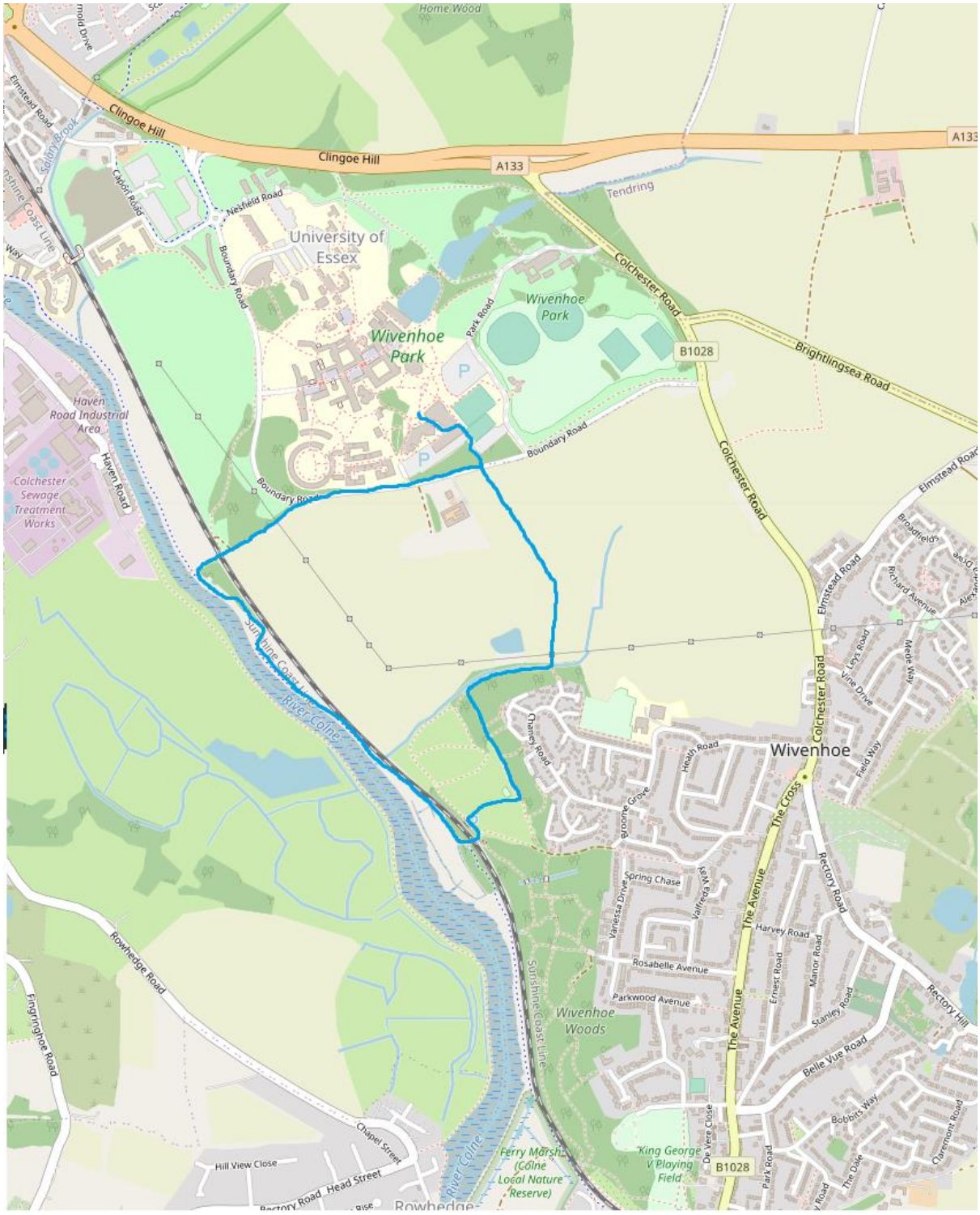
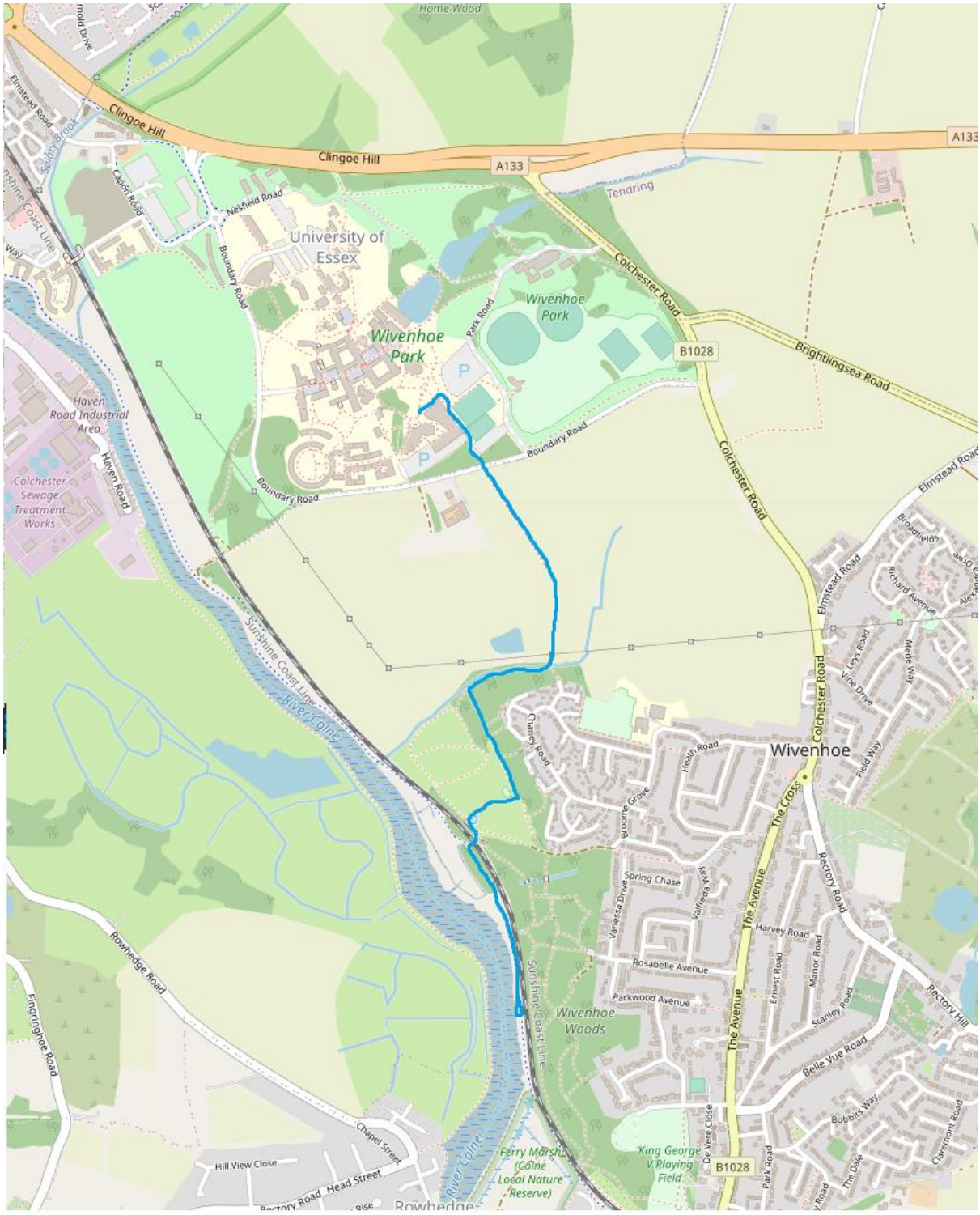
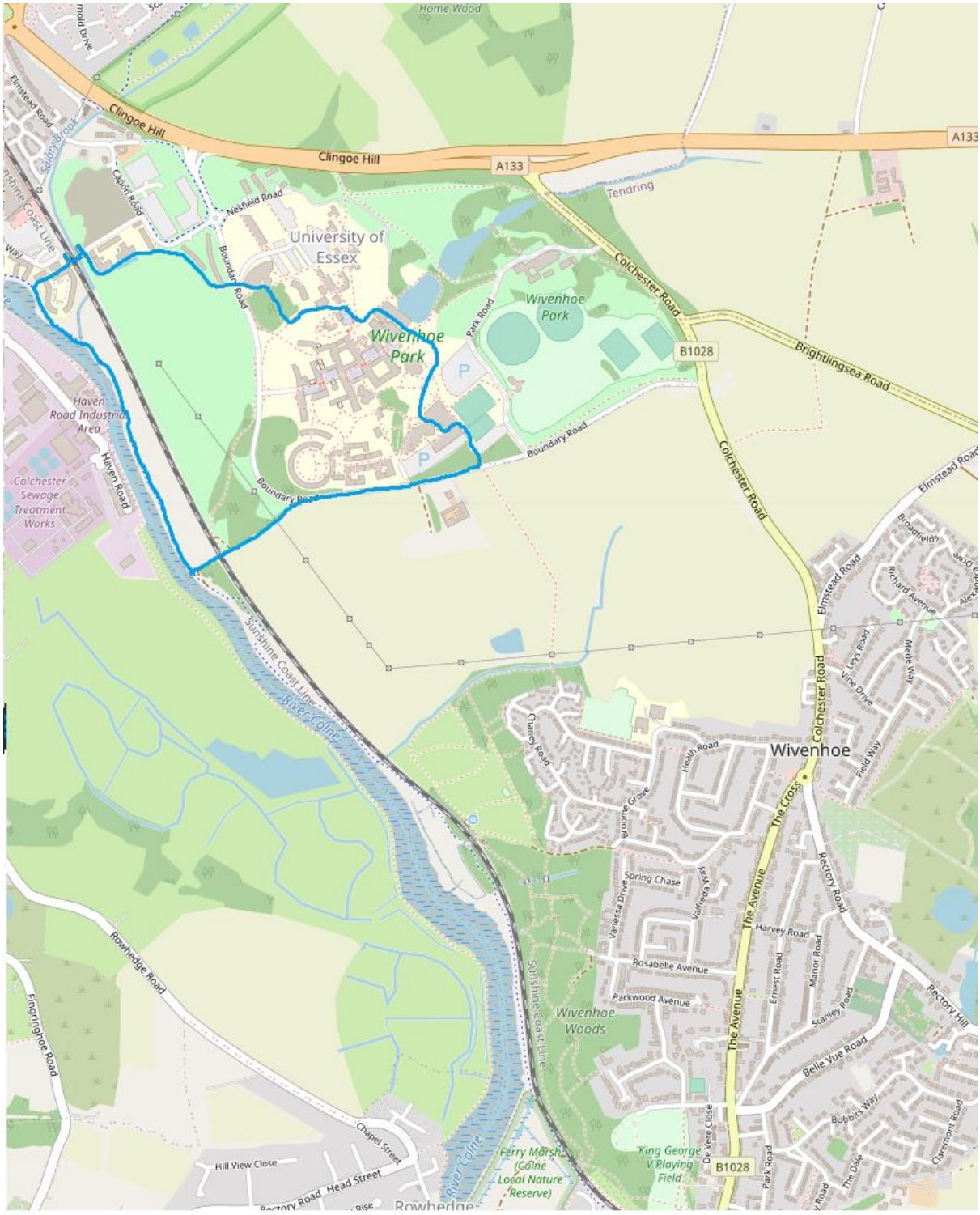


Block 1, Week 3:

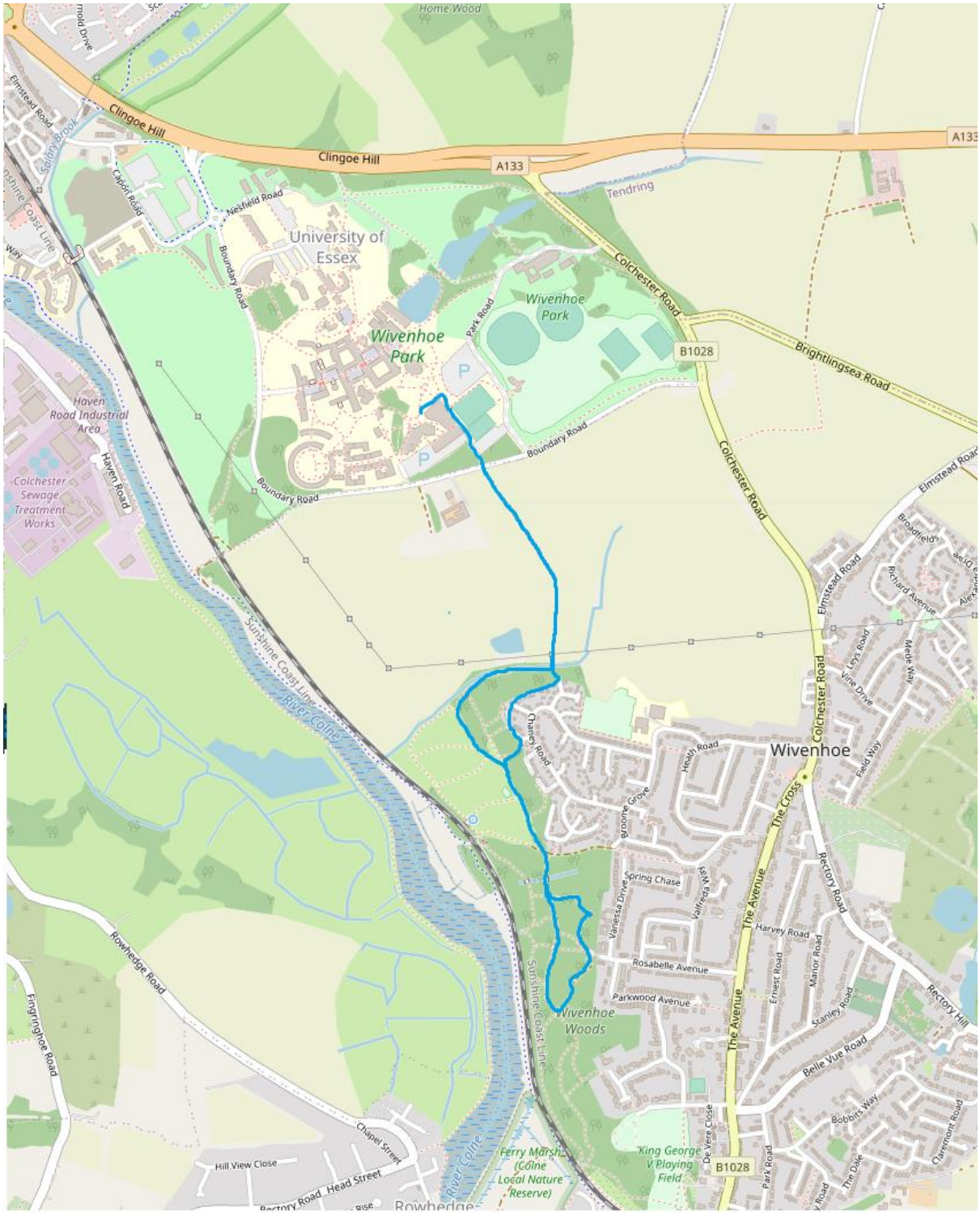


Blocks 1 & 2, Week 4:

Block 1, Week 5:

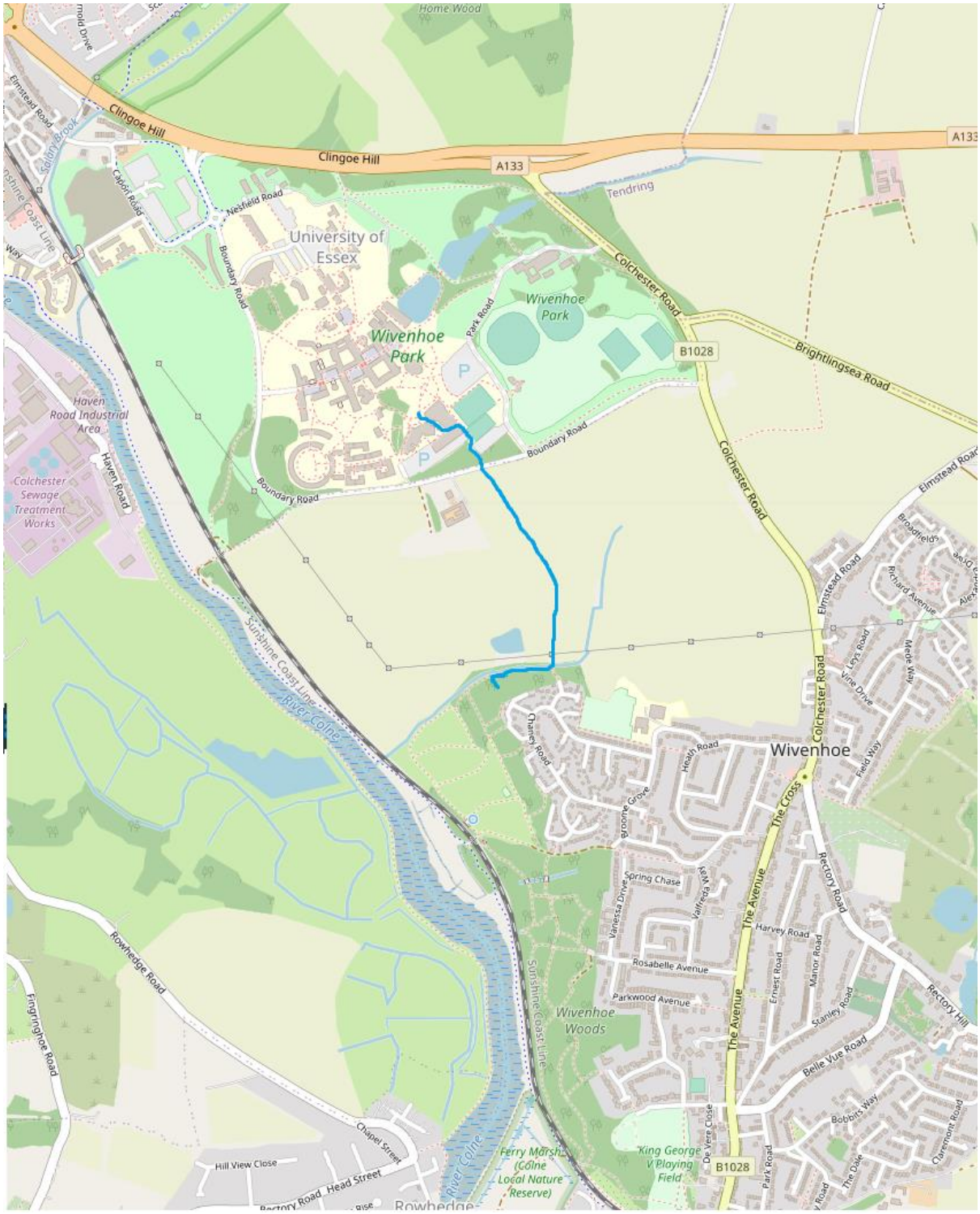


Block 1, Week 6:



Blocks 1 & 2, Week 7:

Blocks 1 & 2, Week 8:



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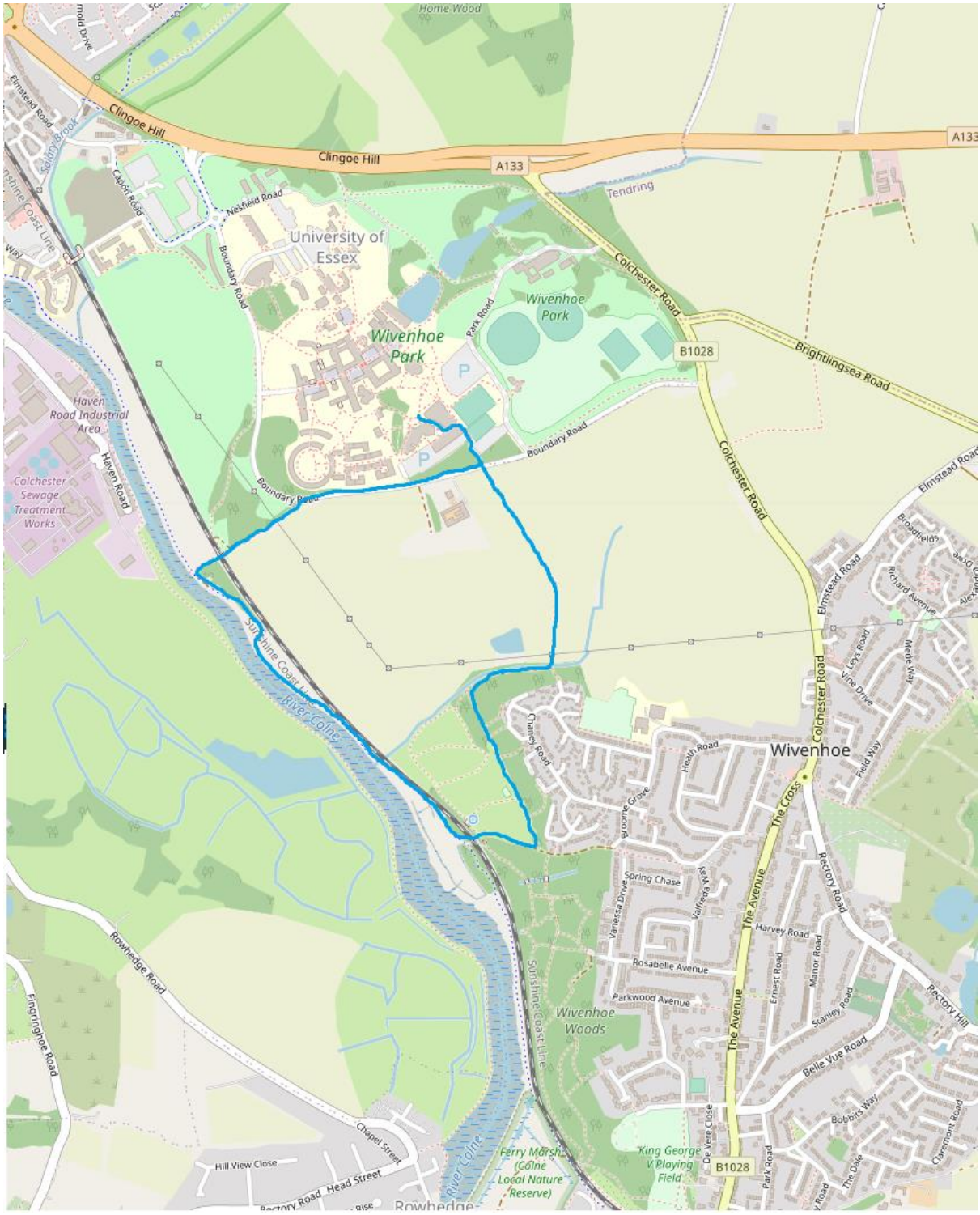

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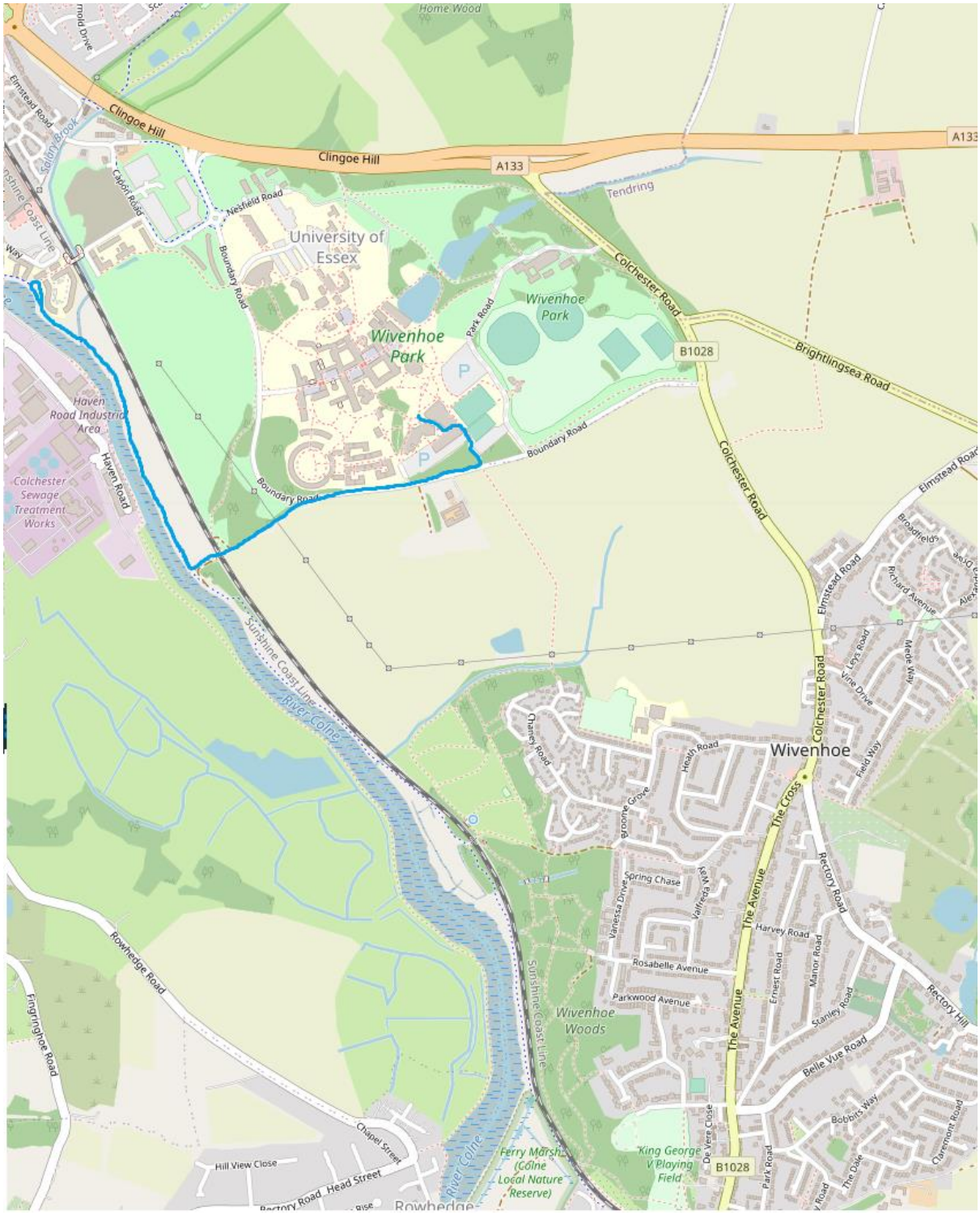

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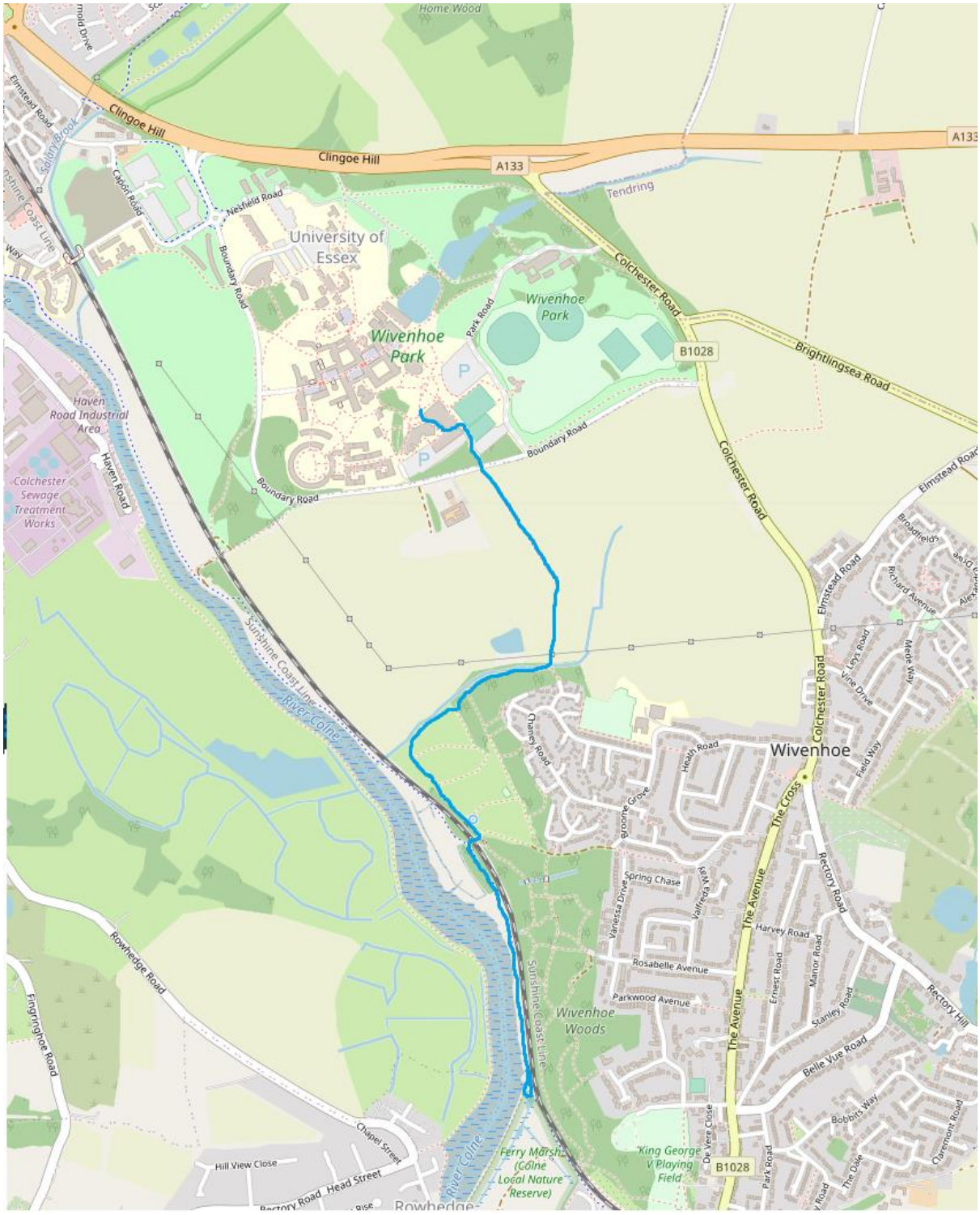
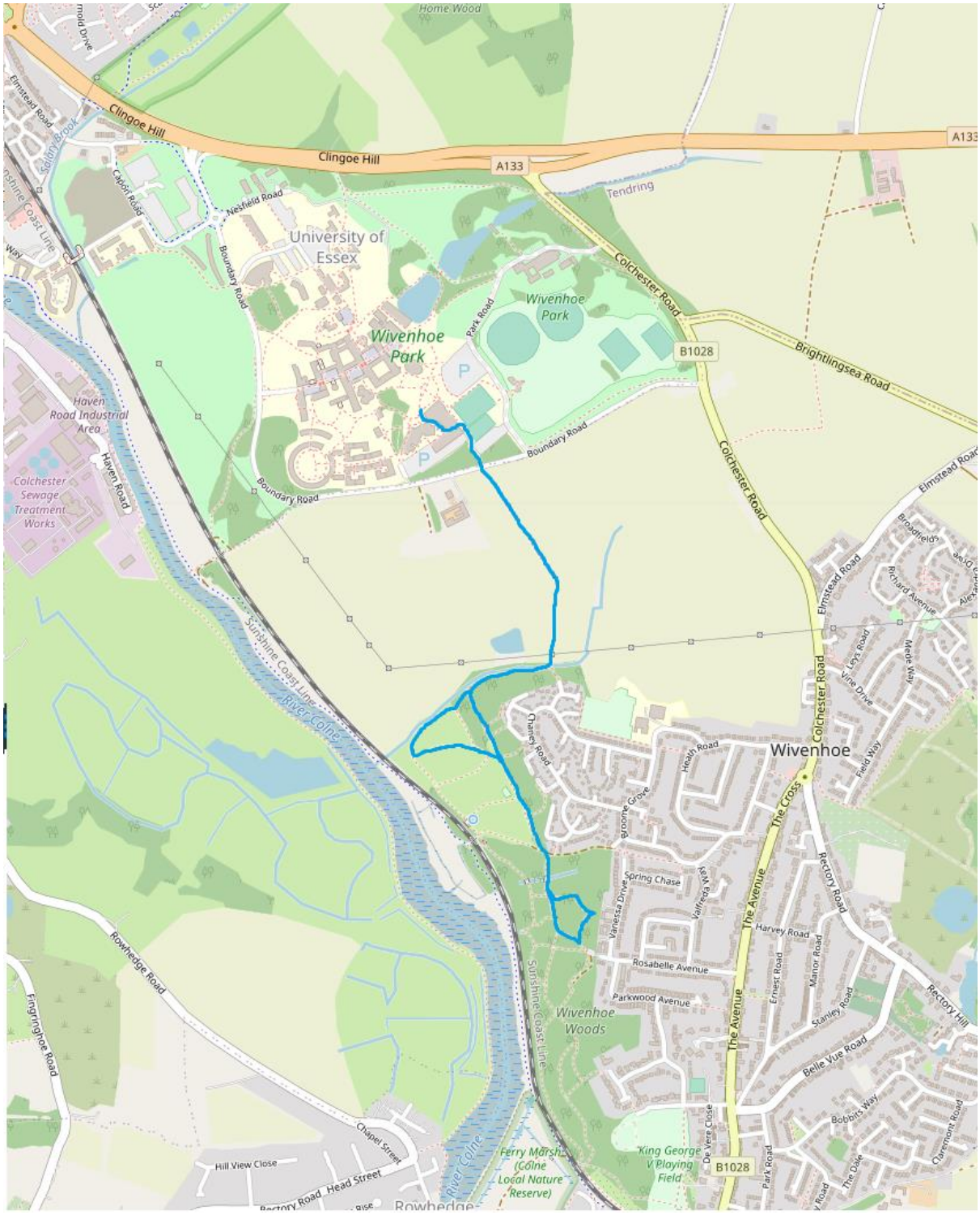
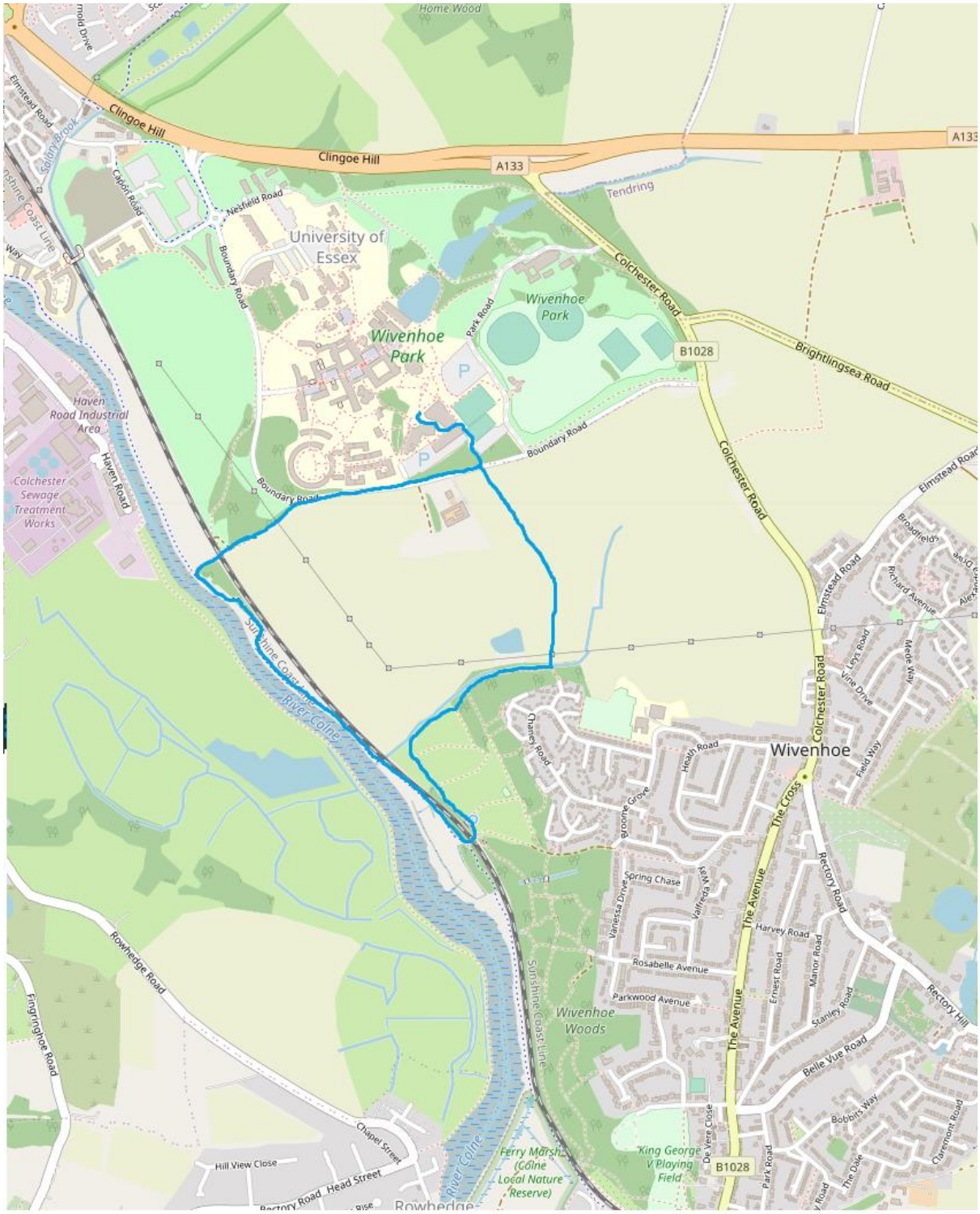


Block 2, Week 5:



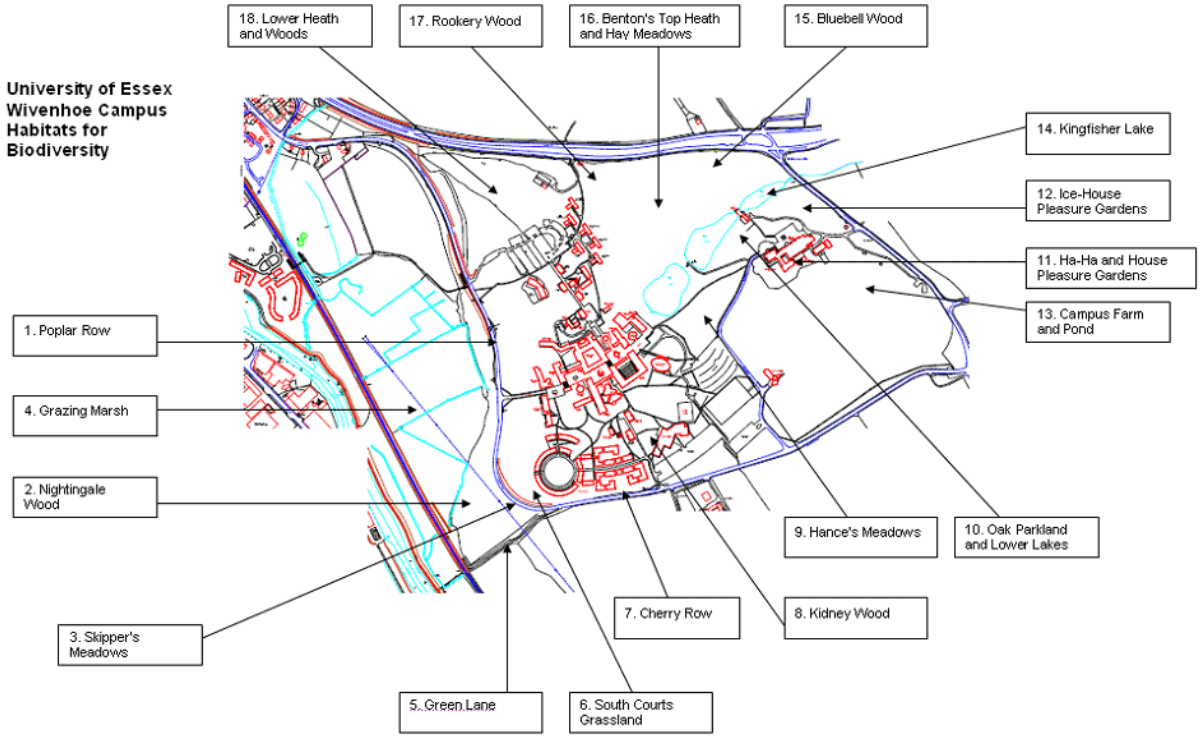
Block 2, Week 6:



Green Exercise University of Essex Tree Walk Information Pack and Biodiversity Map

Website link to Tree Walk Guide - https://www.visitcolchester.com/things-to-do/university-of-essex-tree-trail-p1230531 (Last accessed, 25/07/2022).

Website link to Biodiversity and Grounds Map and Guide - https://www.essex.ac.uk/sustainability/biodiversity-and-grounds (Last accessed, 04/10/2022)



Green Exercise Weather Reports

Green Exercise Block 1:

Week Number and Date	Colchester Weather Report
Week 1 – 19/09/2017	13°C / 55°F – Cloudy
Week 2 – 26/09/2017	18°C / 64°F – Mostly Cloudy
Week 3 – 03/10/2017	15°C / 59°F – Partly Cloudy
Week 4 – 10/10/2017	16°C / 61°F – Cloudy
Week 5 – 24/10/2017	18°C / 64°F – Cloudy
Week 6 – 31/10/2017	11°C / 52°F – Mostly Cloudy
Week 7 – 07/11/2017	10°C / 50°F – Cloudy
Week 8 – 14/11/2017	9°C / 48°F – Cloudy

Green Exercise Block 2:

Week Number and Date	Colchester Weather Report
Week 1 – 14/11/2018	13°C / 55°F – Partly Cloudy
Week 2 – 21/11/2018	6°C / 43°F – Mostly Cloudy
Week 3 – 28/11/2018	12°C / 54°F – Cloudy
Week 4 – 05/12/2018	12°C / 54°F – Partly Sunny
Week 5 – 12/12/2018	7°C / 45°F – Mostly Cloudy
Week 6 – 19/12/2018	9°C / 48°F – Partly Cloudy
Week 7 – 16/01/2019	8°C / 46°F – Cloudy and Light Rain (Did not rain until after the session had ended)
Week 8 – 23/01/2019	3°C / 37°F – Partly Cloudy

Appendix G

Intervention Guide - Mindfulness Based Stress Reduction

Mindfulness Pre-Course Form

MBSR/MBCT

Group member information – please complete and return

Your name: Occupation:

Your date of birth:

Your address:

Your phone number: Your email:

Your GP:
- Name:
- Phone Number:

Name and phone number of someone to contact in emergency:

To help the instructor, please answer the following questions where appropriate. The information you give is strictly confidential and will be seen only by the instructor or her supervisor. She will not keep the information, and will destroy this sheet after the course.

1. If you have any physical illness or other limitation that may make sitting, standing, walking, or doing simple exercises difficult for you, please tell us about it here:

2. If you have had any other ill health within the last few years, such as anxiety or depression, please tell me about it here:

3. If you are taking any medication at present, please say what it is:

4. If yes, what it is for?

5. Have you had any life event in the last year that might make the work on the course difficult for you?

If there are any further queries, the course instructor will contact you to talk individually.

If you have any difficulties during the mindfulness course, it is important that you tell the instructor so she can guide you more effectively.

Mindfulness Equipment List

12x Chairs

4x Tables

1x Standing Whiteboard

1x Standing Flipchart

10x Yoga Mats

10x Pillows

10x Blankets

Mindfulness Room Layouts

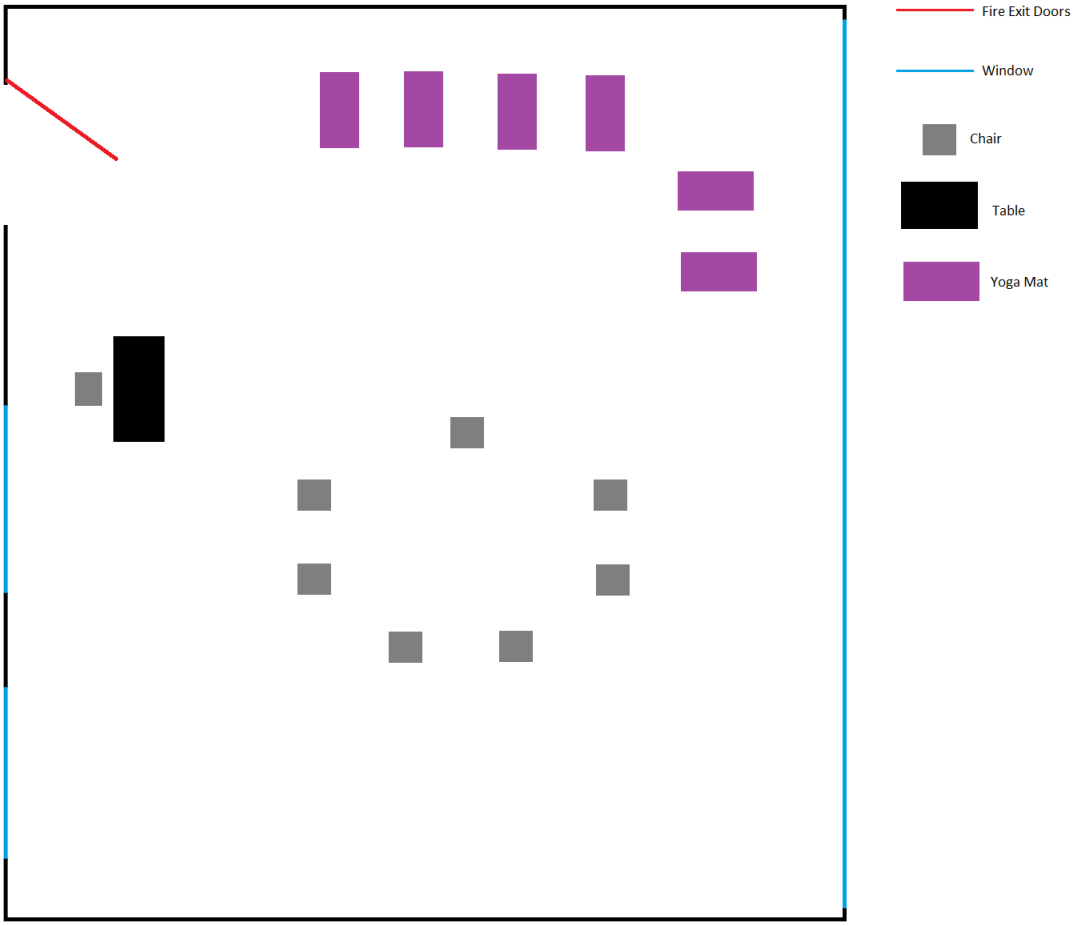
Mindfulness 1 – Room Layouts

All sessions for Mindfulness block 1 took place at the University of Essex, Colchester campus in the Sports Arena Studio 2.

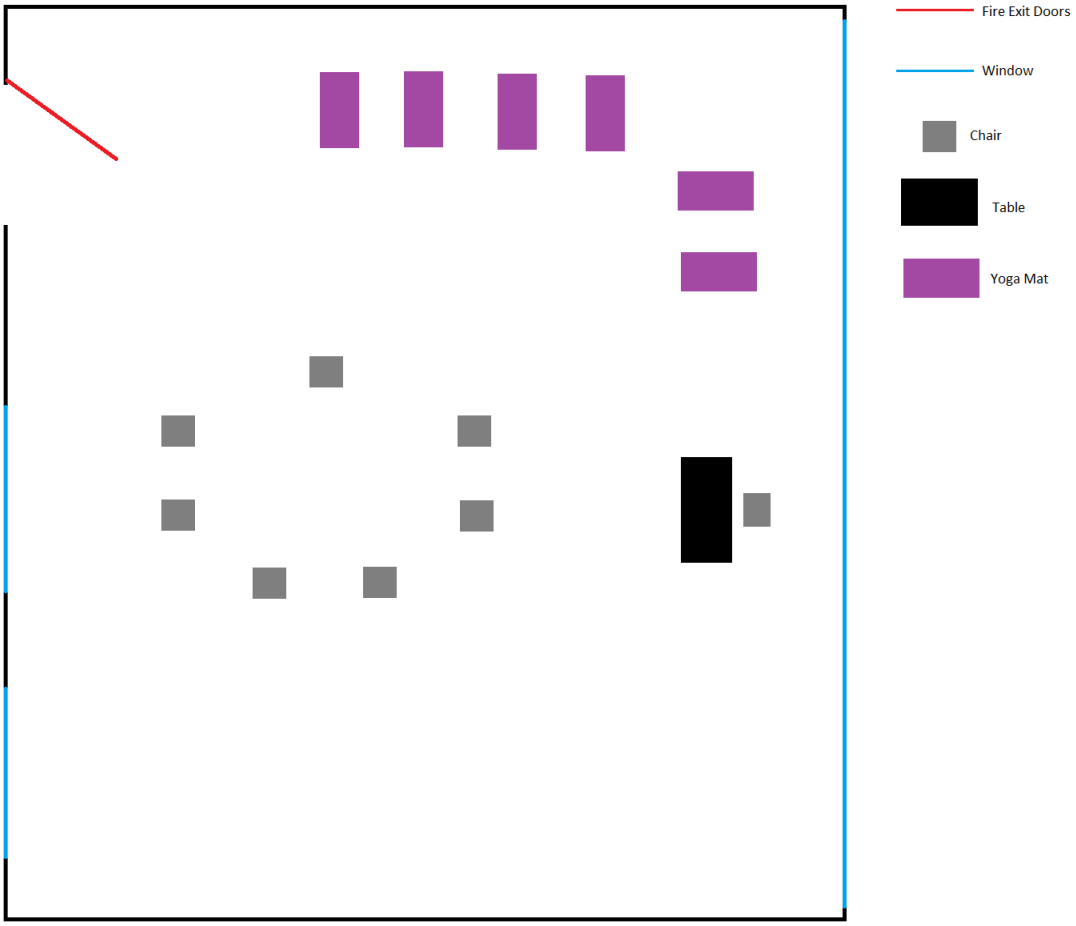
Measures that were kept constant:

1. Air conditioning set to ‘Cool 21°’ for every session unless participants requested it be changed.
2. Windows were closed to minimise outside noise.
3. Blinds were kept closed for privacy.
4. Artificial lights were on.
5. The researcher was set up with a table and chair to the side of the room, so the participants were not distracted by their presence.

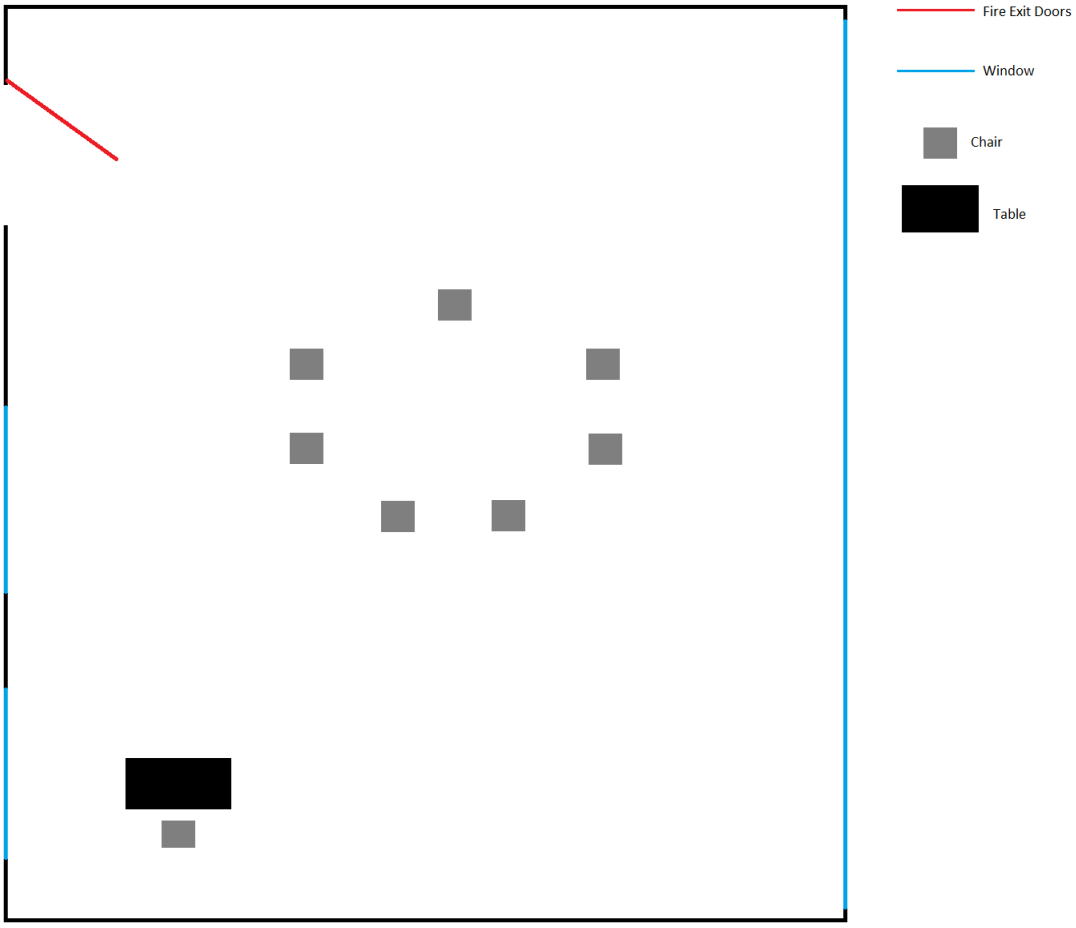
Mindfulness 1, Session 1:



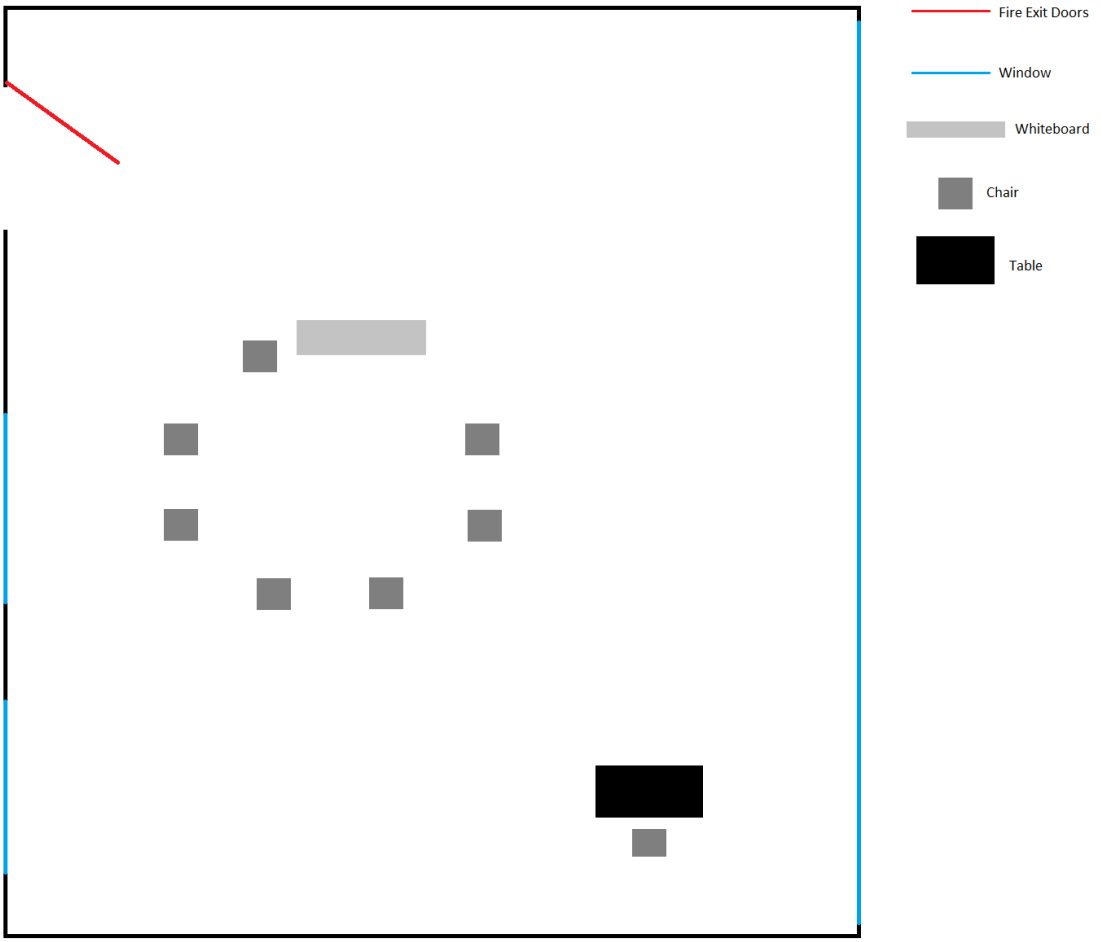
Mindfulness 1, Session 2



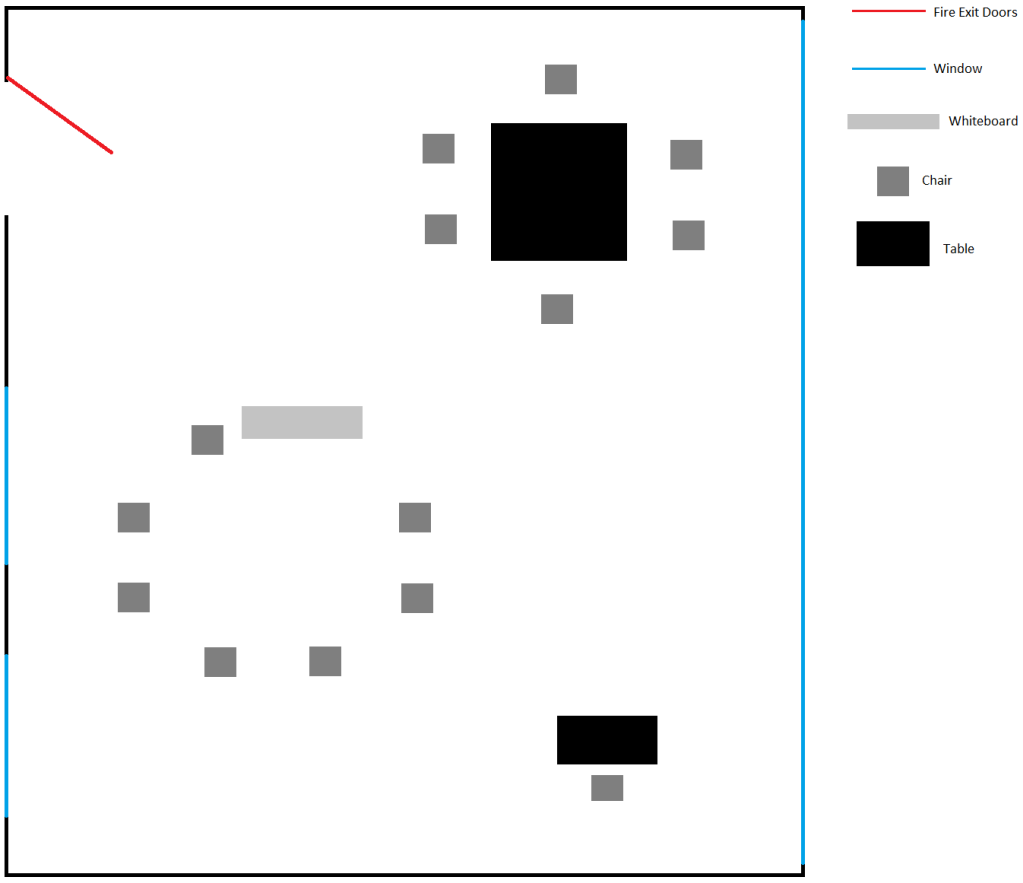
Mindfulness 1, Session 3:



Mindfulness 1, Sessions 4, 5, 6 and 7



Mindfulness 1, Session 8



Mindfulness 2 – Room Layouts

All sessions for Mindfulness block 2 took place at the University of Essex, Colchester campus in the Sports Psychology Laboratory.

Measures that were kept constant:

Ambient temperature was used for weeks 1-7. On Week 8 the air conditioning was set to ‘Cool 21°’ for participant comfort.

Windows were closed to minimise outside noise.

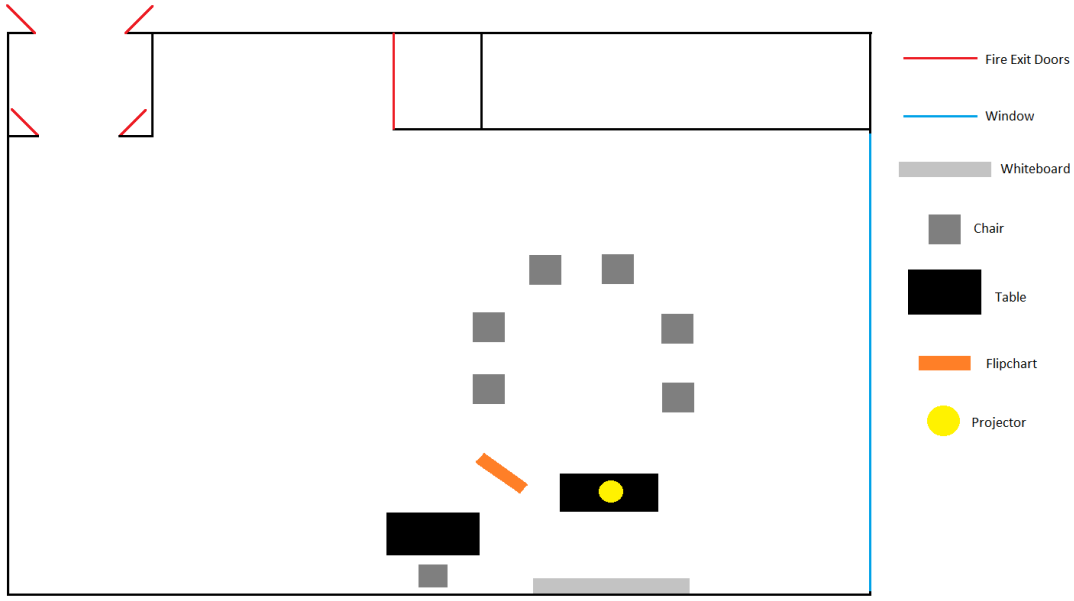
Blinds were open. The room is on the second floor so the blinds could be left open.

Artificial lights were on in one side of the lab. The other side of the lab was naturally lit due to the blinds being open. If a video was to be played, then the researcher got up to turn the lights off and then turned them back on once the video had ended.

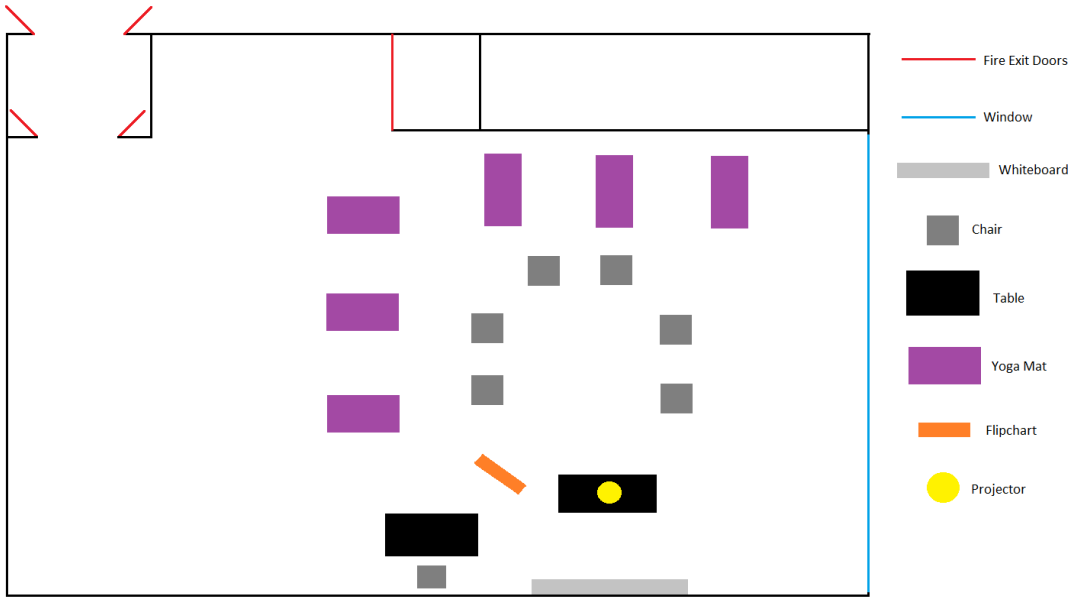
The researcher was set up with a table and chair to the side of the room, so the participants were not distracted by their presence.

–

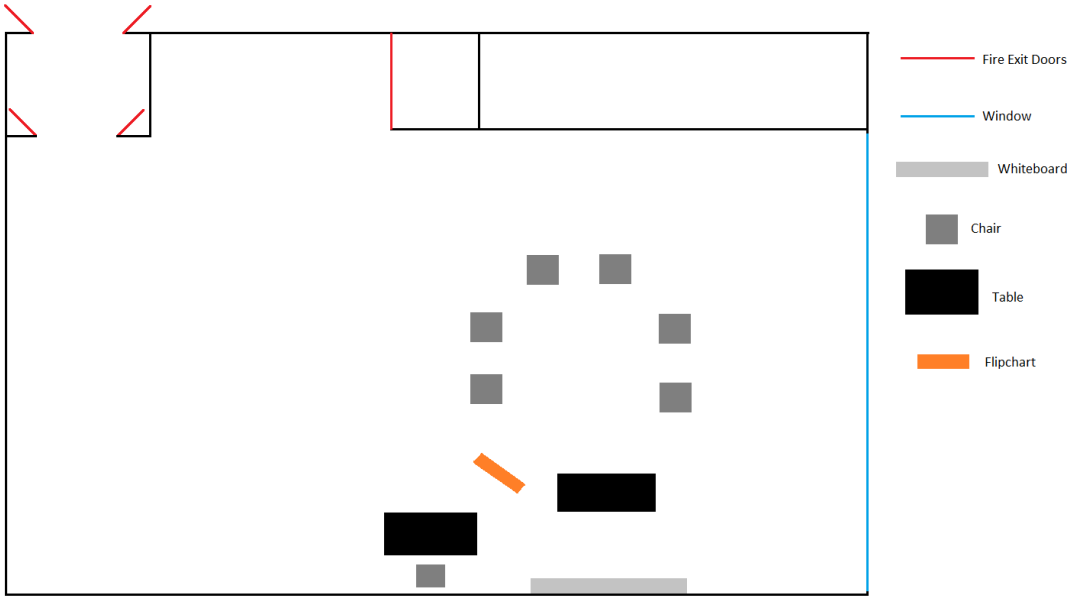
Mindfulness 2, Session 1



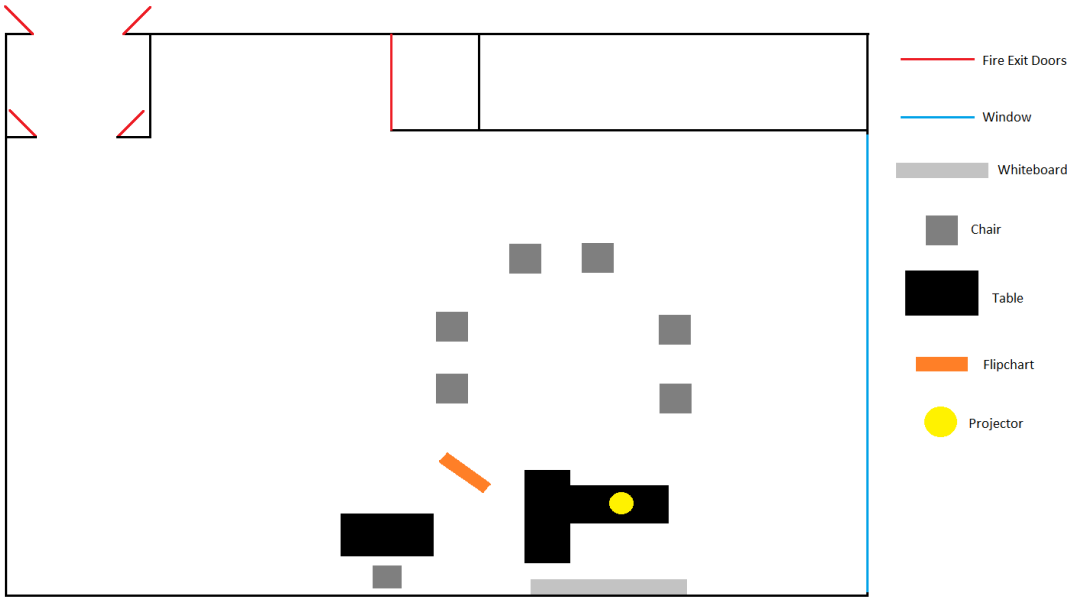
Mindfulness 2, Session 2



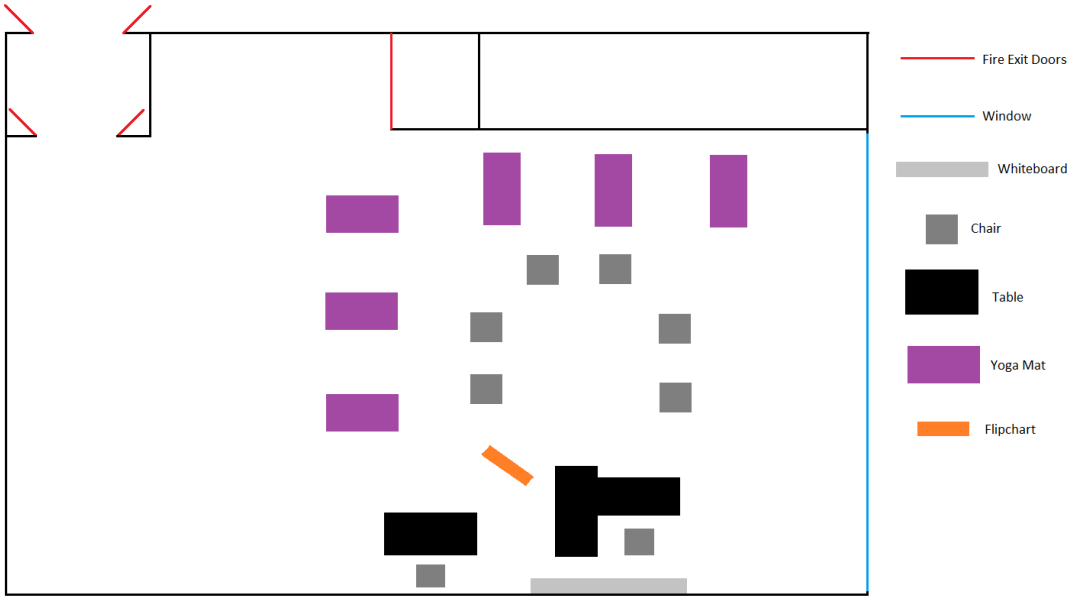
Mindfulness 2, Session 3



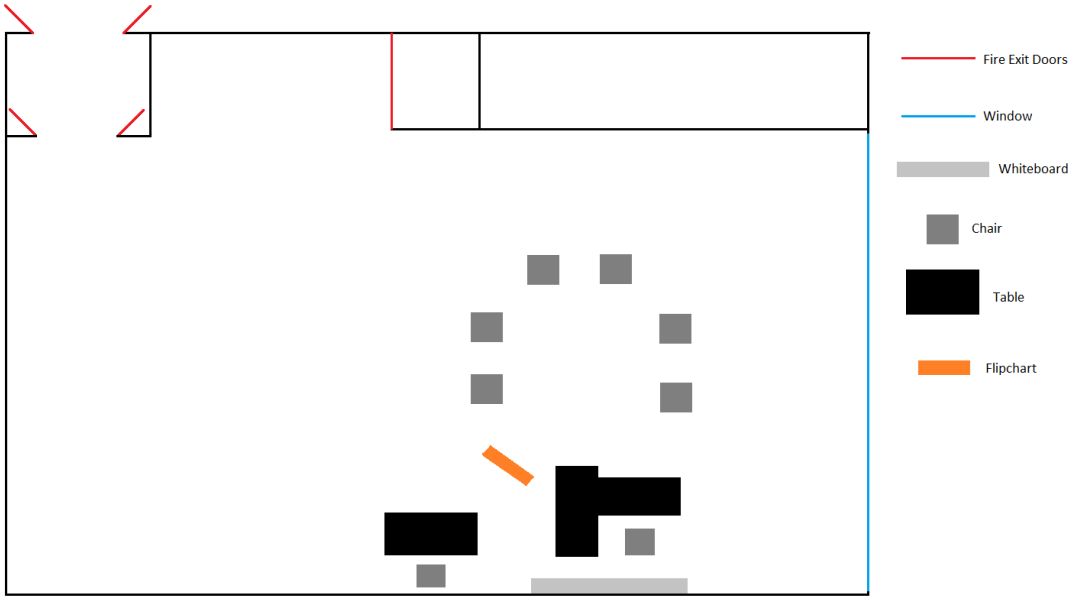
Mindfulness 2, Session 4



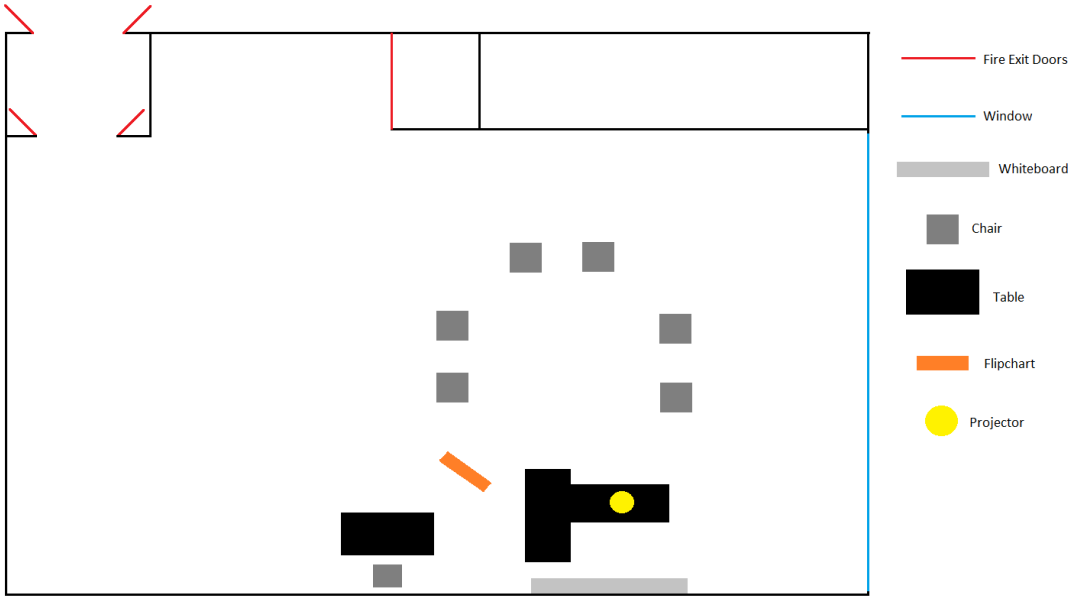
Mindfulness 2, Session 5



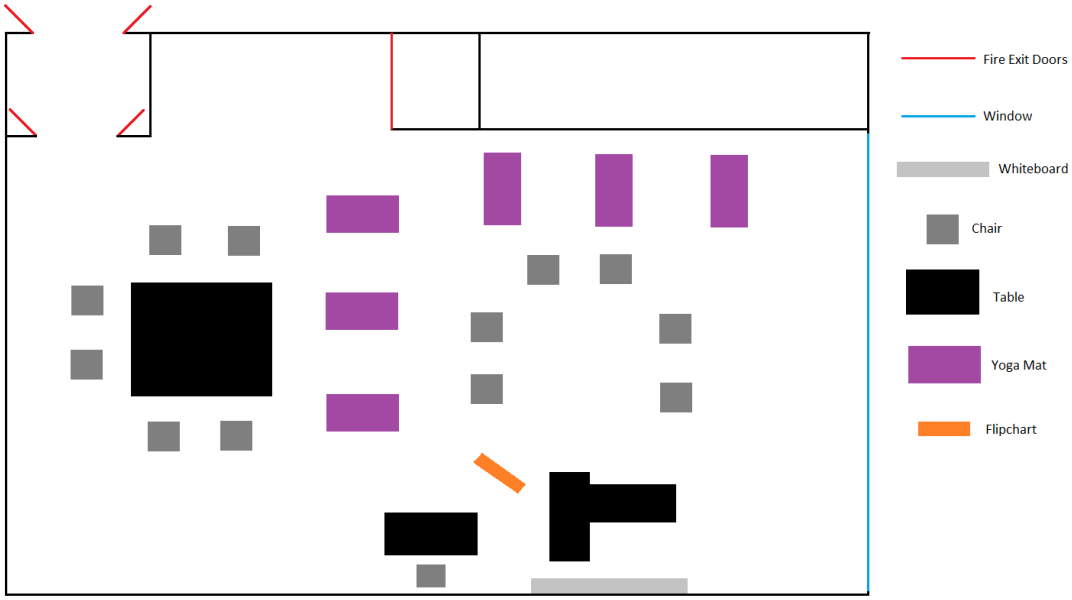
Mindfulness 2, Session 6



Mindfulness 2, Session 7



Mindfulness 2, Session 8



Session structure and practise scripts

Mindfulness Block 1

Week 1

Brief introduction:

A short introduction was conducted for the participants to start to get to know each other. This was followed directly by a group discussion on what the participants are hoping to get from these sessions and what they are sceptical about.

A whiteboard was used to write participant suggestions.

Origins of Mindfulness:

7 attitudinal factors of mindfulness:

Patience – Having the patience with the self and the practises.

Letting go – It is okay to be here and expect results but, in this instance, it is important to let go a bit and experience the moment.

Acceptance – People are left with the idea that mindfulness makes you placid but if we do not accept our immediate experience, we just end up fighting it the entire time. It is about having an honest look at what is going on.

Non-Striving – Not aiming to do something because it leads to something else. Need to be in the moment for the practise to be useful / most effective.

Beginner's Mind – Dropping expectations and preconceptions. We could be feeling anxious, or we could have decided that it will be good or bad before it happens – not allowing ourselves to have our minds changed.

Trust – Learning to trust yourself, recognising how pulled around you are by other people's opinions – not how you feel about yourself.

Non-Judging – We are constantly in a process of judgement; we will be learning how to put things down. Judgements can be very disruptive. There is no perfect way to be mindful, bring supportive attitudes to help each other.

Main Practise – Body Scan:

Goals and general information:

1. Bringing your awareness into the body.
2. Drawing attention to each part of the body – so you become aware of what is happening in each body part.
3. Subtle sensations may appear that you may not have noticed before
4. Need an attitude of curiosity.
5. There is a possibility of distraction – but that is part of the process of becoming mindful, when you notice that you are distracted and then making the conscious choice of what to think about.
6. Having breath awareness.
7. There will be an anchor body part that delivers the greatest sensation. For example in a chair the feet would be the anchor as they are the only body part in direct connection with the floor. When laying it could be the bottom, back or feet if you lay with bent legs and feet flat on the floor.

Body Scan Protocol:

All participants were asked to lay on mats with blankets. They have the option to go under the blanket if they want to.

Chimes to mark beginning of practise

Participants were encouraged to breathe deeply for a few moments.

“Drawing attention to where the body makes contact with the floor. Drawing attention to the breath, not needing to breathe in any particular way, whatever is comfortable.

Notice the flow of the breath. Notice the point where the in breath becomes the out breath.

Feeling where the clothes contact the skin.

Take attention down the body, into the left leg, all the way down to the left toes. It may help to wiggle the toes. Draw attention to the left foot, the sole, the top, the inside, the heel. Notice sensations and temperatures. The left ankle, the left calf – notice how it makes contact with the floor. The left knee, the top, the back… is one part warmer or colder? Shifting attention now to the left thigh, the front, the back.

Where is my attention now? Is the mind busy? If it is, try and bring the awareness back to the left thigh. Now to the left side of the hip. Notice feelings in the whole left leg,

Shift attention to the right side of the body. Draw attention down to the right toes, the right foot, the top, the sole, the touch of clothing/mat/air. The right ankle and heel, the right calf – Can you feel contact? Any aches? Shifting attention now to the right knee, the front, the back. If the mind has wandered, bring it back. The right thigh, the front, the back. Now to the right side of the hip. Be curious about what is happening in your own body. Notice the whole right leg.

Next, draw attention to your pelvis, the lower back, the abdomen, the whole lower part. Can you feel digestion or your organs? Can you feel the touch of your clothes on your body as you breathe? Now following up the back (mid-back), the front of the ribcage. What do you notice here? Notice your upper back/chest. Notice breathing, clothing and

mat support. If the mind has wandered, or judgements arisen, try to bring it back, pay attention to experiences as they arise.

Shift attention to both shoulders, it is possible to hold both in awareness. If you have been caught in a story, notice it and bring it back. Now to the left and right upper arms, the triceps, the biceps. Perhaps one sensation arises as another goes? Is it constant? You do not have to understand or judge, just notice.

Notice the left and right elbow. Is there contrast with clothing or the air – is one part warmer or cooler? Are they different? Down to the lower left and right arm, the left and right wrists. Left and right hand, the top, the palm. Are there any sensations? Do you notice the temperature? Are they subtle? Notice each of your fingers and thumbs. Be curious. Bring attention to the fingers if your mind has wandered. Draw attention to the whole left and right arms.

Shift awareness to the neck. Are there any sensations? Movement? Become aware of the space between the neck and shoulders. Now to the neck itself, the front, the back, the sides.

Up to the back of the head – Feel the contact with the floor or cushion, what sensations do you feel? The top of the head, down over the face, the forehead, the eyes and the muscles around the eyes, the cheeks, the nose. Can you feel the breath? The lips, the mouth, the tongue, the jaw, the chin, the whole face.

To finish, attend to the whole body quickly. (Lasts less than one minute).

Bring the mind back to the room, the people you are with. Focus on breathing for a moment, wiggle your fingers and toes.”

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. The group were set some home practise involving trying a body scan at home.

Week 2

Practise 1: Body Scan (See script from Week 1)

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Practise 2: Group discussion - Talking about home practise (5 minutes)

Practise 3: Discussion

“Imagine you are walking down a familiar street and see someone you know on the opposite side of the street. You go to wave and say hello and they ignore you – how do you feel?”

Participant answers were written on the whiteboard and discussed.

“How does this link with mindfulness? Having the capacity to be able to think that it might not be a problem with you and not to jump to conclusions. Acknowledge the reaction, sometimes we need to think of others as well as ourselves. We have a variety of options – we spend too much time blindsided by thoughts; we sometimes forget that we do not have to think negatively straight away. We can respond with kindness.”

Practise 4: Breath awareness practise

“First focus on posture. Give the body a clear signal that we are upright and awake but relaxed. Place hands in the lap or on the legs. The sense of the chair supporting you. Sense of upright relaxedness. Allow the mind to settle, focus on breathing and quietness.”

Chimes to signify start of practise

“Notice your feet on the floor, your body supported by the chair. Allowing the shoulders to drop away from the ears, sense of the whole body being seated and still. Remembering at any time if the breath becomes problematic to bring awareness back to the feet on the floor – focus on the breath. Notice air coming into the body – through nostrils, down into the lungs, notice how the chest rises and falls and how the in breath becomes the out breath. No particular breathing pattern.

Notice where you feel the breath most strongly – take time to explore this for you. If thoughts, stories or distractions arise, notice them and bring attention back to the breath. If today the focus on the breath is difficult, count on every out breath, count to 10 then back to 1.

Notice any rigidity or trying too hard, soften the effort, if you get pulled away, try to focus on where you feel the breath most strongly. Let go of any effort, notice how you are feeling in this moment. Notice feet on the floor, the weight of the body, the sounds of the room, bringing to mind the people with us and where we are.”

Chimes signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to focus on some pleasant experiences during the week to discuss next week.

Week 3

Practise 1: Mindful Movement

“Sense of weight in the chair being supported. Checking how you are feeling right now. Notice if your attention is elsewhere, just notice it and bring it back to the room.”

Chimes sound to signify start of practise

“Bring attention to the breath, the movement of the breath in your body.

Start sitting up, your spine away from the chair – tilt the body forward and back to the centre (Repeat 3 times).

Then return to the original position and focus on breath.

Drop arms and tilt the body to the right and then slowly back to the centre. Repeat for the left side (Repeat side to side sequence 5 times).

Can you tilt a little further next time?

Notice any sensations around your waist, shoulders, arms and hands.

Return hands to lap and return to a central position.

Move head and neck – Tilt head slowly, right ear to right shoulder. Then back to the centre. Then tilt head slowly left ear to left shoulder.

Feel the muscles moving, notice the sensations.

Repeat this 3 times with the course leader's guidance and once in silence. (5 times in total.)

Tune back into the breath.

Turn the head – to slowly look over the right shoulder.

Does it become too difficult to go any further?

Return to centre.

Turn the head – to slowly look over the left shoulder.

Repeat 2 times on each side with guidance and once on each side with silence (4 times in total).

Turn the shoulders gently to the right.

Notice what muscles are working to create the movement, do not try to label them, just experience it.

Turn the shoulders gently to the left.

Repeat 2 times on each side.

Come back to the centre and be comfortable.

Raise your right arm into the air very slowly, feel what it is like for your arm to just be there, feel the sensations, then lower it very slowly and gently. Then let the arm hang gently down by your side. Notice any difference in the arm you just raised and the one you did not.

Raise your left arm into the air very slowly and gently. Is it the same or different to your right arm? Lower slowly and gently and let it hang down by your side.

Once complete, check in on the stillness, then slowly come to a standing position.

Feel your feet flat on the floor, have your eyes open or closed as you desire.

Lift weight onto the balls of your feet then back into the heels, allow your body to find its balanced position in the middle.

Shift weight into the left leg so the right leg is free.

Or for an extra challenge, raise your right leg.

When ready, return to normal standing and then repeat on the left side.

Notice any sensations?

Return to normal standing position.

Synchronise your arms with the breath – raise both arms until they are straight in front of your chest at a 90-degree angle and then slowly lower. Raise them on the in breath and lower on the out breath.

Find the rhythm of your breath.

Repeat 5-10 times.

Very gently return to stillness. You can return to your seat if desired. Sit in stillness for a moment."

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Practise 2: Discussion about home practise (Pleasant experiences).

Practise 3: 3 Part / Minute Breathing Space Practise

“Acts as a powerful reset- great for starting out! What can we actually do to change our experiences?”

“Feet flat on the floor – sitting in the moment

Notice any thoughts, feelings or emotions – don’t try to push them away, just notice them. Have an awareness of how we are now.

Notice the body, any physical sensations?

Gather attention / awareness to either the breath or the feet on the floor. Notice if your mind has wandered either to the past or something else and just appreciate it. Sit in silence for a while and just focus on the breath or your feet on the floor.

Broadening awareness again and checking how you are feeling now – how is the body? Notice any emotions or feelings? Any thoughts going around? Any physical sensations?

Bring awareness back to the room, the chair, the people you are with…”

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set

home practise to focus on some unpleasant experiences during the week to discuss next week.

Week 4

Practise 1: Patterns of reactivity to stress:

“What happens physically during stress?” Participant answers were written on the whiteboard and discussed.

Practise 2: Sitting Practise

Participants were encouraged to either rest back or sit straight up to allow the spine to support itself. (Some people need support from the back of the chair). Participants were allowed to slightly move around during the practise if a rigid posture becomes uncomfortable.

“When we move, we have to be mindful. When your head itches, you should become aware of it instead of reflexively scratching. Checking in and see how much effort you are making, relax it. The point is to be relaxed, not tense and straining.”

Sitting practise – Stages:

Stage 1: Focus on breath, bring awareness to feet if you are uncomfortable.

Stage 2: Bring awareness to the body – the whole body. It may be a broad sense on the whole or a particular pain / ache.

Stage 3: Bring awareness to the sounds. Treat sounds like other objects. (Close and far away, notice tendency to judge it). Always retreat to other focal points if necessary.

Stage 4: Bring awareness to thoughts. Thoughts aren't often thought of as objects of awareness. Notice how thoughts arrive and go, we can just observe them. (Think of the mind as a sky, thoughts are like clouds – take a step back and notice them, don't be stuck within them.) Thoughts can become strong, that is normal. Step back and notice them, don't engage them.

Stage 5: Bring awareness to various things – practise of presence.

Stage 6: Broaden your awareness to everything, with no particular focus, be open to all, whatever comes, comes.

There is nothing to focus on in particular. The course leader finds it can be hard to remain in the present, the mind gets involved, so here in particular, retreat to a certain focus if you feel yourself drifting.

It is very much zen tradition to act like a mirror. Do not change what you see, do not get involved, just witness and reflect. Always bring yourself back when you become aware of slipping.

Actual practise:

"Take a moment to find a sense of body on the chair, close your eyes. Take a couple of deep breaths, to consciously leave things at the door. Dignified, upright posture, but not stiff. Use the chair and ground to support you. Allow quietness to settle in."

Chimes sound to signify start of practise

“Bring awareness to gentle movement in the body, like breathing. Feel the sensations at the front and back of the body. Get a sense of the flow of the breath. Breath enters – body responds – returning of the breath. No need to breathe in a particular way, just notice how this is in your body. Find the place in the body where the breath is most strong, the abdomen, nostrils, a specific place. Just experience the air in that particular place.

If you are stuck in particular thoughts or stories, gently bring awareness back to the breath.

If thoughts arrive, notice what happened, open your awareness, allow the thought to go on its way. Focus on the point you chose to be the focus of the breath.

Gently keep going back to the breath. Soften attention on the breath, broaden to the whole body. Still be aware of the breath in the body but no longer on the specific focal point.

Do a brief body scan.

Feet, ankles, knees, thighs, back, chest, upper arms, shoulders, neck, head.

Be in touch with the experience in the whole body, noticing things in all of the body as they arise and fade away. If attention has faded, notice it and bring it back to the body. If a strong sensation arises (aches / pains) it is your choice whether you choose to maintain awareness of the body as a part or whole, or more towards the sensation. Pay attention to it, the nature and how it changes, as long as it feels right to be curious for you.

Choose to move slightly if there is discomfort or choose to focus on the breath. Try to otherwise be aware of the whole body, how experiences arise and fade in our awareness.

Allow awareness of the body to fade, bring awareness to sound. Notice how that shift feels, allowing sounds to be the focal point of our perceptions of awareness.

Focus on the sounds in the room close by. Focus on the sounds outside the room, nearby. Focus on sounds outside the building, most distant sounds. Experience the experimenting with sounds, how they change and pass away. If stories or judgements arise, come back to just experiencing the sounds. If distracted, notice it, open awareness and bring it back to the sound.

Shift awareness to thoughts that arise in the mind. Step back noticing thoughts arriving like clouds in the sky, falling away, followed by another thought. Notice you are not your thoughts; they can be experienced from the outside – like sounds of body sensations. We can just notice them; we can allow them to just move past.

If you notice you are stuck in particular thoughts, notice them, open awareness, return to observing thoughts as they happen and fall away. You can always come back to the breath or feet, return to observing thoughts when you are ready.

Loosen thoughts on observing thoughts. Sense of broad open awareness, awareness holding all of our experience, sense of attentiveness and presence to whatever is arising in our body and mind. Notice if the mind is concentrated on a particular sensation, notice it with kindness and confidence, open up to whatever is present here. Repeat if found caught in a particular thought, notice it, become aware of our whole experience, not pushing anything away, not grasping at anything. Gently let go of any

efforts and back to the sense of the body on the chair and feet on the ground. It is useful to take a couple of deep breaths.

Take a moment to notice self, see if the body wants to make a particular movement e.g., stretching.

Be aware of the room and the people around you."

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Practise 3: Group discussion on home practise (Unpleasant experiences).

Practise 4: 3 part breathing space: (Regarding the unpleasant thought homework).

"Let's spend a few minutes on how we are. Checking in.

Bring awareness to the breath. Broaden awareness to how I am now.

(This will take 5 minutes now but in real life it can be as long or short as needed.)

If I am experiencing this in real life, what is the experience of this thing (unpleasant thought) during the practise?

See if things can be shifted around by bringing awareness. We are not trying to fix things, but by becoming aware, we can bring change.

When thinking of difficulty, don't think of the most difficult thing. Be careful and take care of yourself. Come back to the present whenever needed. Stay safe in practise.

Close your eyes, feet on the ground, breathe, become aware of the 'here'.

Think of the difficult thing or situation, one with anxiety and discomfort. Allow yourself to sense the feelings of that situation, to allow those feelings to into our experience.

How are we now?

Having allowed the difficulty in, be open to what is there. Feelings, emotions, thoughts, physical sensations.

How am I right now?

Acknowledging the difficulty that is around. Bring the gentleness that you cultivate in other practises into this difficulty.

Bring attention to the breath, make it the anchor for the experience. Be aware of the sense of the flow of the breath in the body. Notice the point of the breath turn from the in breath to the out breath, in breath out breath.

Broaden awareness.

How am I now?

Not pushing anything away or trying to make everything okay, we are just noticing, our thoughts and emotions, in body, all manifestations thereof. Feel a sense of kindness and appreciation.

Bring awareness back into the room, the body in the chair, feet on the floor, the people around you. Open your eyes when you are ready."

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to focus on how they notice stress during the week to discuss next week.

Week 5

Practise 1: Sitting practise

(Similar format to previous week but with lighter guidance)

“Developing a sense of presence in the room, see if there is anything going on.”

Chimes sound to signify start of practise

“Sensing your feet on the floor, the weight of your body being supported by the chair.

Take a couple of deeper breaths to really experience this.

Notice the flow of breath, notice the nostrils where the air enters and leaves the body.

If any thoughts are arising, notice them and bring it back to the breath. Maybe try counting.

Notice how much effort you are putting into the practise – try to let go if you are trying too hard.

Moving on to the next part of the practise, remember you can always bring it back to the breath.

Now broaden the awareness to the whole body. Do a brief body scan. Feet, ankles, knees, thighs, back, chest, upper arms, shoulders, neck, head.

If something difficult arises, any thought or sensation, bring it back to the breath or body. Or you can explore these thoughts.

Broadening awareness again, thoughts arising, falling, changing.

Letting go of the focus of the body, taking a minute.

Shifting awareness to pay attention to sounds, allowing them to be in our experience as best we can. Some could be pleasant; others may be unpleasant. We are just noticing them, not trying to fix or change it.

Do we notice other people? What is happening in the room? Do we notice one sound?

Broaden your awareness to sounds outside the room, the traffic, the birds, the trees.

If you find you have been distracted, caught in a sound or thought, bring it back.

Move on to awareness of thoughts, noticing when thoughts arise. What happens to them?

If you get stuck on a particular thought, notice it. Remember any time you can come back to the breath. If you find yourself disorientated or not knowing what to do, then bring yourself back to the practise when you are ready.

Thoughts moving through our experience like clouds in the sky. Watching them move through, not trying to change them.

Letting that focus on your thoughts go and broadening your awareness to open up to thoughts, sounds etc.

Notice how we are pulled from one experience to another, if you get distracted by one thing then open awareness to all experiences.

If you’re pulled into one experience or distracted, notice it and open your awareness.

Notice thoughts arise, fall and change.

Now very gently let go of any effort to do anything in particular.

Take time to check how you are after the practise. Sensing your feet on the floor, the support of the chair, bringing to mind the room we are in, the sounds, getting our bearings, the people we are with."

Chimes sound to signify end of practise

"Maybe take a couple breaths, maybe wiggle toes or a larger movement like a twist or a stretch."

Practise 2: Group discussion on home practise (Identifying stress).

Participants shared how they notice they are becoming stressed.

Practise 3: Walking mindfulness practise

"The purpose of this is to illustrate how to bring attention into the process of walking, which you do in everyday life."

Safety: Remind participants that they need to have their eyes open for this practise.

Actual practise:

"With your eyes open, walk in any direction, in no particular pattern.

Guide attention into soles of the feet.

Don't walk in any particular direction, take a few breaths to ground the body.

Bring awareness into soles of the feet.

Bring gaze to a few paces in front of us on the floor.

Notice what it is like when you raise one foot off the floor and place the other.

Bringing awareness into soles of the feet.

If the mind wanders away, bring awareness back to the feet.

Really feel the contact and the pressure of your feet on the floor.

When distractions or thoughts arise, notice them and bring them into the soles of your feet.

In your own time, just coming back to your feet."

Practise 4: Seated practise (Immediately follows Practise 3).

"Finding your way into a comfortable posture. Checking in with the body now we are still."

Chimes sound to signify start of practise

"Developing a sense of presence in the room, see if there is anything going on.

Sensing your feet on the floor, the weight of your body being supported by the chair.

Take a couple of deeper breaths to really experience this.

Notice the flow of breath, notice the nostrils where the air enters and leaves the body.

If any thoughts are arising, notice them and bring it back to the breath. Maybe try counting.

Notice how much effort you are putting into the practise – try to let go if you are trying too hard.

Moving on to the next part of the practise, remember you can always bring it back to the breath.

Now broaden the awareness to the whole body. (Run through the body parts like in the body scan).

If something difficult arises, any thought or sensation, bring it back to the breath or body. Or you can explore these thoughts.

Broadening awareness again, thoughts arising, falling, changing.

Letting go of the focus of the body, taking a minute.

Shifting awareness to pay attention to sounds, allowing them to be in our experience as best we can. Some could be pleasant; others may be unpleasant. We are just noticing them, not trying to fix or change it.

Do we notice other people? What is happening in the room? Do we notice one sound?

Broaden your awareness to sounds outside the room, the traffic, the birds, the trees.

If you find you have been distracted, caught in a sound or thought, bring it back.

Move on to awareness of thoughts, noticing when thoughts arise. What happens to them?

If you get stuck on a particular thought, notice it. Remember any time you can come back to the breath. If you find yourself disorientated or not knowing what to do, then bring yourself back to the practise when you are ready.

Thoughts moving through our experience like clouds in the sky. Watching them move through, not trying to change them.

Letting that focus on your thoughts go and broadening your awareness to open up to thoughts, sounds etc.

Notice how we are pulled from one experience to another, if you get distracted by one thing then open awareness to all experiences.

If you're pulled into one experience or distracted, notice it and open your awareness.

Notice thoughts arise, fall and change.

Now very gently let go of any effort to do anything in particular.

Take time to check how you are after the practise. Sensing your feet on the floor, the support of the chair, bringing to mind the room we are in, the sounds, getting our bearings, the people we are with."

Chimes sound to signify end of practise

"Maybe take a couple breaths, maybe wiggle toes or a larger movement like a twist or a stretch."

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to focus on stressful communication during the week to discuss next week.

Week 6

Practise 1: Short practise to arrive.

“Close your eyes.

Bring awareness to your body, the feet on the floor, the body weight in the chair.

You may find it useful to take a couple of deep breaths.

Allow shoulders to fall away from your ears. Feel the spine relax.

Take the time to arrive and be pleasant. Let us come into the mindfulness session where we will talk to each other, share together.

And then when you are ready, open your eyes.”

Practise 2: Group discussion on home practise (Stressful communication).

The course leader left the room whilst the participants are discussing between themselves before returning for the main discussion. The researcher stayed in the room.

Practise 3: Full Practise: (Body, Breath, Sounds, Thoughts, Presence).

“Finding yourself in a comfortable position, maybe take a couple of deeper breaths. Sense your feet on the floor, if there are any sensations, feel your weight in the chair. Having a sense of the dignified, upright posture.”

Chimes sound to signify start of practise

“Sense the whole body sat in the chair, be attentive to whatever is arising in your body. Any sensations? Maybe on the surface of the skin?

If any thoughts are arising, notice them and try to bring awareness back into sensing the whole body.

How your practise is how your practise is today, you don't have to feel a certain way.

If your attention has been drawn elsewhere, notice it, bring curiosity into the body.

Gently letting go of that attention to the body and refocus on the breath.

Noticing the flow of breath, see how the breath turns when the in breath becomes the out breath and the out breath becomes the in breath.

If you wish, you can narrow your focus to where you feel the breath most strongly. It could be the abdomen, how it rises and falls. Or the nostrils.

Maybe notice you are putting in a lot of effort, try to let go and approach this with kindness.

Gently come back to the breath.

If sleepiness arises, we have the option to open our eyes and have a soft gaze at the floor.

Now moving your awareness to sounds. What sounds can you hear in the room? What sounds can you hear outside the room?

Noticing any tendency to judge sounds, maybe make one sound louder or quieter.

Remembering we can always come back to the breath or our feet on the floor at any time.

Maybe our attention gets stuck on one sound, if you can, broaden your awareness. Always know we can return to the breath or our feet on the floor.

Notice any thoughts arising.

Shifting your awareness now to thoughts rising and falling like clouds in a blue sky.

Noticing it is possible to have a thought in your mind and not get stuck on it, just let it pass you by.

If you find yourself caught up in a particular thought or story then open up your mind again like that blue sky.

Allowing focus on thoughts to drop away and bringing your awareness to the whole of your experience, bringing your awareness to everything in your experience.

Not requiring any particular result or outcome, just becoming present to what's there.

If you become drawn into a particular thought or sensation, open your awareness to your whole experience.

Very gently let go of any effort and having a sense of how you are now. Checking in with yourself.

Bring your awareness back into the body, the sense of the weight in the chair, being aware of the room we are in, the spaciousness, the light and the people we are with."

Chimes sound to signify end of practise

"Take a couple deeper breaths and take any stretches or wiggles necessary."

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to find at least 1 activity they could do mindfully during the week to discuss next week.

Week 7

Practise 1: Short ‘arriving’ practise.

“Notice where your attention is, where you are being pulled, which direction?

See if you can, with kindness, pull those thoughts together.

If those distractions keep coming in. Just notice that they’re there, don’t judge them.

Notice your feet on the floor, the contact of your body on the chair, the uprightness of your spine.

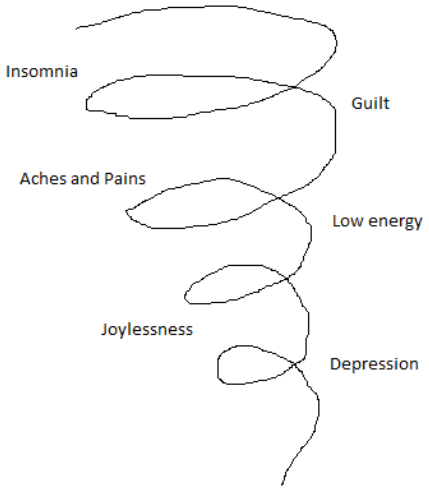
Maybe taking a couple deeper breaths, notice the quality of your breath. Is it tight? Is it quick?

Becoming present.

When you’re ready, come back to the room. The people we are with, how you are feeling now.

Open your eyes.”

Practise 2: Exhaustion funnel



The course leader drew this diagram on the whiteboard and explained it.

“These can all lead to a burnout situation. Nothing coming in, everything coming out. This usually happens to the most committed and kind individuals.”

Participants were handed pieces of paper on clipboards and pens.

“Take a couple of minutes to write down good or nourishing things on one side and bad or draining things on the other side.” (5 minutes).

Participants discussed their answers with each other and then together with the course leader.

Practise 3: Sitting practise and body scan.

Developing a sense of presence in the room. Sensing your feet on the floor, the weight of your body being supported by the chair, sense your spine in the upright position.

Chimes sound to signify start of practise

“Cultivating a kindly experience in how you’re feeling now.

Bring awareness to the body. Sometimes it is helpful to do a body scan. Take attention down the body, into the left leg, all the way down to the left toes. It may help to wiggle the toes. Draw attention to the left foot, the sole, the top, the inside, the heel. Notice sensations and temperatures. The left ankle, the left calf, the left knee, the top, the back… is one part warmer or colder? Shifting attention now to the left thigh, the front, the back, to the left side of the hip. Notice feelings in the whole left leg,

Shift attention to the right side of the body. Draw attention down to the right toes, the right foot, the top, the sole, the touch of clothing/mat/air. The right ankle and heel, the

right calf – Can you feel contact? Any aches? Shifting attention now to the right knee, the front, the back. If the mind has wandered, bring it back. The right thigh, the front, the back. Now to the right side of the hip. Be curious about what is happening in your own body. Notice the whole right leg.

Next, draw attention to your pelvis, the lower back, the abdomen, the whole lower part. Can you feel digestion or your organs? Can you feel the touch of your clothes on your body as you breathe? Now following up the back (mid-back), the front of the ribcage. What do you notice here? Notice your upper back/chest. Notice your breathing. If the mind has wandered, or judgements arisen, try to bring it back, pay attention to experiences as they arise.

Shift attention to both shoulders, it is possible to hold both in awareness. If you have been caught in a story, notice it and bring it back. Now to the left and right upper arms, the triceps, the biceps. Perhaps one sensation arises as another goes? Is it constant? You do not have to understand or judge, just notice.

Notice the left and right elbow. Is there contrast with clothing or the air – is one part warmer or cooler? Are they different? Down to the lower left and right arm, the left and right wrists. Left and right hand, the top, the palm. Are there any sensations? Do you notice the temperature? Are they subtle? Notice each of your fingers and thumbs. Be curious. Bring attention to the fingers if your mind has wandered. Draw attention to the whole left and right arms.

Shift awareness to the neck. Are there any sensations? Movement? Become aware of the space between the neck and shoulders. Now to the neck itself, the front, the back, the sides.

Up to the back of the head, what sensations do you feel? The top of the head, down over the face, the forehead, the eyes and the muscles around the eyes, the cheeks, the nose. Can you feel the breath? The lips, the mouth, the tongue, the jaw, the chin, the whole face.

Resting with awareness to the whole body, notice any sensations.

Gently bringing awareness back to the body, if sleepiness is around, you can always open your eyes for a time.

Gently coming back to the body and the sensations in the body.

If any thoughts have come up, wherever the mind has gone, gently bring it back to the body.

Shifting your awareness now to the breath. It might be useful to take a deep breath, notice the flow of air through your nostrils, how the abdomen rises and falls, the air escaping through the nostrils again.

When you're ready, bring attention to the part of the body where you feel the breath most strongly. It might be the chest, feeling your clothes contact as the chest rises and falls. It might be the nostrils, feeling the air rush in and out.

You don't need to try too hard or force anything. We just need to notice where we are and bring our attention back to the breath.

Gently bringing your awareness back to the breath.

Moving your awareness to sounds, leaving the breath. Identifying sounds in the room itself.

Notice if you label or judge sounds.

If the mind wanders or it becomes uncomfortable, you can always go back to the breath or the feet.

Now draw your attention to sounds outside the room, and outside the building. Pay attention to the sounds as they rise and fall away.

If you have got caught up in a thought or story, notice it, and then bring it back to sounds.

If sleepiness comes up, we can always open our eyes.

Now dropping the awareness of sounds and bringing attention to thoughts. Consider a blue sky, a blue sky of the mind and thoughts passing like clouds. Allow them to pass on their way.

If you get stuck on a thought or if it is turning into a story, notice and try to imagine the blue sky of the mind and move through them. Noticing if we have got stuck in a particular thought, notice It happened and try to open the awareness out.

And now we leave our thoughts and become present to all of our experience, whatever experience might be arising.

Meeting whatever arises with kindly attention, even if it’s something potentially painful. See if we can be attentive to it. Maybe spend some time with it before coming back to the experience.

If your awareness has got stuck on one particular thing, open out your awareness.

Gently letting go of any effort during the practise.

Feel the sense of your body in the chair, the feet on the floor, the contact with the chair, your hands in your lap.

Becoming aware of the room we are in, the sounds around us, the people we are with."

Chimes sound to signify end of practise

"It might be useful to take a couple of deeper breaths, wiggle your toes or have a stretch."

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were not set home practise but were asked to continue practising things they have learned over the course of these sessions.

Week 8

Practise 1: Sitting practise and body scan (Same as Week 7, see Practise 3 for script).

Practise 2: Group discussion

Participants were asked to have a chat and feedback what the course has brought or done for them.

Practise 3: 3 Part Breathing Space

"Allow the echoes of conversation to fall away like ripples on a pond.

Feet flat on the floor – sitting in the moment.

Notice any thoughts, feelings or emotions – don't try to push them away, just notice them. Have an awareness of how we are now.

Notice the body, any physical sensations?

Gather attention/awareness to either the breath or the feet on the floor. Notice if your mind has wandered either to the past or something else and just appreciate it. Sit in silence for a while and just focus on the breath or your feet on the floor.

Broadening awareness again and checking how you are feeling now – how is the body? Notice any emotions or feelings? Any thoughts going around? Any physical sensations?

Bring awareness back to the room, the chair, the people you are with… when you are ready, open your eyes."

Practise 4: Letter writing.

The course leader asked participants to write a letter to themselves, and if they chose to, write their address on the envelope and the course leader would post it back to them in a few months randomly.

Mindfulness 2 - Session structure and practise scripts:

Week 1

Introduction:

A short introduction was conducted for the participants to start to get to know each other. This was followed directly by a group discussion on what the participants are hoping to get from these sessions and what they are sceptical about.

A whiteboard was used to write participant suggestions.

Main Session Focus:

What is mindfulness?

Learning and Responding

Learning to choose

Autopilot

Main Activity:

The course leader gave each participant a raisin and explained that the participants are aliens who have never seen a raisin before, and they want to experience it. The participants were asked to focus on:

“What is its shape? What does it feel like? Can you see the light reflecting off of it? Chances are you have not looked at a raisin in this way before.”

“Once you are ready, pop the raisin in your mouth and when you cannot hold it any more then take 1 bite and wait until you cannot stop yourself from chewing. Before you swallow, think about the feeling.”

“The point of this exercise was to demonstrate that we spend about 46% of our lives on autopilot if we do not have techniques to stop it. Autopilot is very stressful, as it does not allow us to complete things properly; we are not getting full meaning.”

“Autopilot preserves part of the brain, but when we live on it as a permanent state of getting through life, it makes us very unhappy. Getting into our sensory experience allows us to anchor ourselves in the present moment – on autopilot we do not actually know what our minds are up to. Mindfulness gives us a break from overthinking.”

The course leader played a Youtube video about autopilot.

Link: https://www.youtube.com/watch?v=mNojLd_Jbh8

“Mindfulness is the opposite of autopilot and moves on to talking about the burden of stress.”

As an example, the course leader asked a participant to hold their arms out and say a problem on the forefront of their mind. For each issue they identified the course leader placed a pillow in their arms as a visual metaphor to show how stressors stack up and overthinking manifests.

The course leader played another Youtube video about What is Mindfulness.

Link: https://www.youtube.com/watch?v=OaRDbLWeSXE

Activity 2: Body Scan

“Surrendering the weight of the body, and just welcoming the thoughts just being here now.”

Chimes to signify the beginning of practise

“Let us start with the head, feeling the weight of the head on the floor, feeling the weight of the head on the floor, feeling the sensation we find on the forehead, between the eyebrows, into the eyelids and the eyes themselves.

Not thinking it, we are feeling it. Not forcing anything else to happen.

Feeling the breath move in and out of your body, notice the sensations. Feel the chest rising and falling with your breath.

Take attention down the body, into the left leg, all the way down to the left toes. It may help to wiggle the toes. Draw attention to the left foot, the sole, the top, the inside, the heel. Notice sensations and temperatures. The left ankle, the left calf – notice how it makes contact with the floor. The left knee, the top, the back… is one part warmer or colder? Shifting attention now to the left thigh, the front, the back.

Where is my attention now? Is the mind busy? If it is, try and bring the awareness back to the left thigh. Now to the left side of the hip. Notice feelings in the whole left leg,

Shift attention to the right side of the body. Draw attention down to the right toes, the right foot, the top, the sole, the touch of clothing/mat/air. The right ankle and heel, the right calf – Can you feel contact? Any aches? Shifting attention now to the right knee, the front, the back. If the mind has wandered, bring it back. The right thigh, the front, the back. Now to the right side of the hip. Be curious about what is happening in your own body. Notice the whole right leg.

Next, draw attention to your pelvis, the lower back, the abdomen, the whole lower part. Can you feel digestion or your organs? Can you feel the touch of your clothes on your body as you breathe? Now following up the back (mid-back), the front of the ribcage. What do you notice here? Notice your upper back/chest. Notice breathing, clothing and mat support. If the mind has wandered, or judgements arisen, try to bring it back, pay attention to experiences as they arise.

Shift attention to both shoulders, it is possible to hold both in awareness. If you have been caught in a story, notice it and bring it back. Now to the left and right upper arms, the triceps, the biceps. Perhaps one sensation arises as another goes? Is it constant? You do not have to understand or judge, just notice.

If you notice your mind has wandered, notice it, this is perfectly normal, noticing it and bringing it back is a success. This body, this breath, this moment.

Notice the left and right elbow. Is there contrast with clothing or the air – is one part warmer or cooler? Are they different? Down to the lower left and right arm, the left and right wrists. Left and right hand, the top, the palm. Are there any sensations? Do you notice the temperature? Are they subtle? Notice each of your fingers and thumbs. Be curious. Bring attention to the fingers if your mind has wandered. Draw attention to the whole left and right arms.

Shift awareness to the neck. Are there any sensations? Movement? Become aware of the space between the neck and shoulders. Now to the neck itself, the front, the back, the sides.

Up to the back of the head – Feel the contact with the floor or cushion, what sensations do you feel? The top of the head, down over the face, the forehead, the eyes and the

muscles around the eyes, the cheeks, the nose. Can you feel the breath? The lips, the mouth, the tongue, the jaw, the chin, the whole face.

To finish, attend to the whole body quickly. (Lasts less than one minute).

Bring the mind back to the room, the people you are with. Focus on breathing for a moment, wiggle your fingers and toes."

Chimes to signify end of practise

"Over time it comes with kindness."

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to try the body scan during the week to discuss next week.

Week 2

Practise 1: Short Body Scan

Chimes to signify start of practise

"Noticing the sounds that are around, getting an overall sense of your body.

Noticing your body now you are lying, not sitting, notice whether it feels comfortable, pleasant or unpleasant.

We will start with the top of the head and notice whether there are any sensations there. Just lightly explore them.

Tense? Tightness? Tingling? Nothing at all?

Moving down the face, over the forehead, the eyelids and the eyes.

Notice if the mind wanders, this is normal, just try to bring it back.

We are not looking to analyse any of the thoughts that come up or judge them.

Just like a sigh, just let it go.

Down the nose to the mouth, the lips, the chin.

Now the neck and shoulders… we often hold a lot of tension here. What do you notice?

If there is tension, breathe through it, if it remains then let it be.

Continuing down the arms, is it possible to surrender the weight of your arms to gravity?

Back up to the back, notice that gravity is supporting you, no need to hold on.

Moving round to the front of the body, to the chest. Notice your breath rise and fall.

See what happens when you focus your attention on the body parts. We are looking for feelings and sensations.

Feeling your legs supported by the floor, notice your thighs, the long bones, down to the knees.

Notice any sensations. Caring for your body, each part does something for you every day.

Focus on the feet, the soles on the floor, the tops of your feet.

Bringing the awareness back to the whole body.

Noticing in more detail the sounds you can hear."

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Coming to our senses:

The course leader asked participants what they think doing and being mean. Once feedback had been given the course leader put on a YouTube video. Link: https://www.youtube.com/watch?v=a0LyaMxJMxA

Participants were asked to discuss in pairs what activities they consider to be doing and being. The answers were written on a whiteboard and discussed with the whole group.

Practise 2: Mindfulness of Breathing

The course leader gave participants a pillow each and asked them to think about posture using the pillow for support.

Participants were asked to close their eyes and relax.

Chimes to signify start of practise

“Exploring the sensation of the breath as it moves between the ribs, noticing what it is like to just be with the breath.

If your mind wanders, gently notice it and try to bring it back, patiently, lovingly. No need to judge it or criticise it, just let it wander and return.

In the back of the body, can you notice any changes in pressure?

Can this just be enough? This breath?

Now is always gone.

Moving round again to the front of the body, feeling the movement in the chest.

Can you feel it expanding and contracting?

Moving to the abdomen, how does it feel to focus on the breath?

How about the nostrils? Feeling the air rush in on the in breath and out on the out breath.

Widening your awareness to the edges of the whole body. Whole body breathing…"

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to try the mindfulness of breathing practise at home.

Week 3

Practise 1: Mindful Movement

"The purpose of this is to recognise the fluid experience of all that we know, our thoughts, our feelings and our sensations."

The course leader asked participants to stand. They are given the option to remove their shoes.

"Stand with your feet shoulder width apart and knees relaxed.

We will start by rolling our shoulders, just curling them around.

Once you have got the feel of the arms moving, follow your breath.

Really notice where the breath goes.

You can do bigger or smaller movements; the exercise is yours.

Now we are going to circle our hips. Get into a nice rhythm and then we will start circling the other way

Feel on your feet where you naturally move. Do you tilt forwards? Backwards? Play with it a little.

Now imagine you are holding a really light beach ball, it is in your hands, now imagine pushing it down slowly. How does it feel? Repeat it a few times.

You may want to hold it up further, raising your arms above your head, you can explore that.

Now we will explore opposite hand to opposite leg, Imagine you are pulling on a string. Do you lift your knee all the way up?

Remember your breath is leading the way.

Make this your last one, notice if there is any tension, how you feel.

Now we will rotate the body from side to side. It can be as quick as you want.

Repeat this a few times.

Now we will raise our arms to the side and repeat.

Really surrender yourself to the breath."

The practise is slowly ended, and the course leader asked participants to close their eyes and reflect.

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Practise 2: Group discussion regarding home practise

Practise 3: 3-part / minute breathing space

“Feel your feet on the floor, feel your bottom on the chair, feel your back connected to the chair.

Just checking in, how are we feeling now?

Not getting hooked on anything, just noticing.

Now scan your body, is there any tension? If there is, see if you can show it any kindness.

Then bring awareness to the breath in the chest, how your chest rises and falls. Then into the ribs, down to the tummy, see if you can notice the rise and fall of the breath in the tummy.

Now we would like to expand our awareness to the sounds, or lack of sounds and the people in the room.

Be willing and ready to step into the next moment of your day.”

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Relationships with our thoughts

“Now we are going to move on to our thoughts, what are our habits with our thoughts? What are the differences between thoughts and thinking? Thoughts are not our choice but choosing to engage with them can turn into thinking.

We often select our own thoughts to fit a story or belief system. E.g., If we have low self-worth see someone give a look or get an email which wasn’t as expected and see these negatively even if they are not. It is about recognising we have a choice in where our thoughts go. We will learn to notice and let go.”

Practise 4: Role-playing thought exercise

The course leader asked the group for a volunteer to partake in a roleplay situation with them.

The course leader acted as a mediator and the participant acted as the thought.

Stage 1: Get rid of thought

Participant abruptly walked up to Soo and said: “Call your sister! Call your sister! Call your sister!”

Course leader: “Go away!”

Participant: “Call your sister! Call your sister! Call your sister!”

Course leader: “GO AWAY!”

At this point the participant returned to their seat.

Stage 2: Completely hooked (This is to signify being trapped in the thought).

The participant abruptly walked up to the course leader again and said: “Call your sister!”

The course leader jumped up, took their arm and says: “I will call my sister, she will be worried.”

Stage 3: Deleting a thought

Participant circled behind the course leader and said: “I’m so tired.”

Course leader: “Thank you thought, goodbye thought.”

Participant: “I forgot to record my favourite programme.”

Course leader: “Thank you thought, goodbye thought.”

Participant: “I need to check my emails.”

Course leader: “Thank you thought, goodbye thought.”

Participant: “I don’t have the time to fill up with petrol before my next outing.”

Course leader: “Thank you thought, goodbye thought.”

After watching the role play, participants were asked for their feedback and for any experiences that they would like to share with the group.

Practise 5: Mindfulness of breathing and letting go practise

“We will now give you a practise to give you an alternative to the ‘delete’.”

Chimes to signify start of practise

“Feeling yourself in the chair, the gravity of you there.

Allowing your awareness to sink from your head, down to the shoulders, down to the rest of your body.

Connecting with the breath in your lungs in the chest, gently following the flow of your breath, the depth of your breath…

As we are staying connected to the breath, see if it is possible for thoughts to arrive, if they do, notice them. See if you can let them go. Thank you thought, goodbye thought.

Staying anchored to the breath, the focus is the breath. The skill is noticing and letting go.

Know that there is no right or wrong, just noticing.

Trust that anything that comes up can be dealt with later.

We are meditating in the present.

Allowing the body to feel safety in this moment.

Surrendering over and over to gravity. Letting the body be held to the Earth.

No sense of urgency to move away. Life is only ever in this moment.

There is always another opportunity to explore it differently.

What are we left with if we are able to let go of these thoughts, the stillness behind the noise?

See if it's possible to bring kindness, if you can't then let them go.

Then letting all effort go, bringing all awareness to sounds, the space around you, the people you are with."

Chimes to signify end of the practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to try the letting go practise at home.

The course leader asked each participant for a word to describe how they are feeling presently. The course leader wrote them all on the whiteboard.

Week 4

Practise 1: 3 part breathing space

Chimes to signify start of practise

"Feel your feet on the floor, feel your bottom on the chair, feel your back connected to the chair.

Just checking in, how are we feeling now?

Not getting hooked on anything, just noticing.

Now scan your body, is there any tension? If there is, see if you can show it any kindness.

Then bring awareness to the breath in the chest, how your chest rises and falls. Then into the ribs, down to the tummy, see if you can notice the rise and fall of the breath in the tummy.

Now we would like to expand our awareness to the sounds, or lack of sounds and the people in the room.

Be willing and ready to step into the next moment of your day."

Chimes to signify end of practise

Practise 2: Group discussion about home practise

The course leader split participants into 2 groups and asked them to discuss the practises from these sessions and home practise.

Charged thoughts

The course leader introduced the topic and played 2 Youtube videos:

Observing a train of thoughts:

https://uk.video.search.yahoo.com/search/video?fr=mcafee&p=video+of+mindfulness+of+charged+thoughts+youtube#id=1&vid=d793c8db8422adb8950fdbd52572ded4&action=click

I am not my thoughts:

https://uk.video.search.yahoo.com/search/video?fr=mcafee&p=video+of+mindfulness+of+charged+thoughts+youtube#id=7&vid=f1a7c4157e2e42cbb9097911b11e0088&action=click

Practise 3: Charged thoughts practise

“We are going to go beneath charged thoughts by doing a practise. We are going to turn towards the thoughts, getting closer to it but not looking to analyse it. We need a thought that on a scale of 1-10 is a difficulty level of between 3 – 6.”

“Allowing ourselves to fully feel the emotions in our body. Developing the resilience to be with the thoughts and let them pass us by like waves.”

Chimes to signify start of practise

“Feel yourself in the chair, let gravity support you and hold you to the Earth.

Notice any tensions, sensations…

Beginning to become aware of the thoughts that may arise, there might not be any so just notice the space. If a thought pops, notice it and allow it to pass.

When thoughts arise, see if you can let them pass by.

Are there any thoughts that are recurring? No matter how many times you thank it and let it pass by?

Maybe that recurring thought is linked to an event? Did something happen recently? Is there an event that has thoughts attached to it?

Just see if you can track in the body where the thought resonates. Might be upset, might be anger.

Just give yourself permission to feel it, maybe its strength will lessen, try to let it pass by.

Accepting that it might be a little different. Allowing distractions to come and go.

It may help to breathe deeply into the area, is there tension? Vibrations? Does that change anything? Was it as fixed as you thought it was?

Not forgetting that you are here for you, to thank that experience, to move into a new experience.

Hearing the sounds, feet on the floor, the people that we are with."

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to try the charged thoughts practise at home.

Week 5

Practise 1: Body Scan

Chimes to signify start of practise

"Let us start with the head. Feeling the weight of the head on the floor, feeling the sensation we find on the forehead, between the eyebrows, into the eyelids and the eyes themselves. Notice whether there are any sensations there. Just lightly explore them.

Tense? Tightness? Tingling? Nothing at all?

Not thinking it, we are feeling it. Not forcing anything else to happen.

This body, this breath, this moment.

Notice if the mind wanders, this is normal, just try to bring it back. We are not looking to analyse any of the thoughts that come up or judge them.

Just like a sigh, just let it go.

Down the nose to the mouth, the lips, the chin.

Moving down the body…

If you notice your mind has wandered, notice it, this is perfectly normal, noticing it and bringing it back is a success.

Now the neck and shoulders… we often hold a lot of tension here. What do you notice?

If there is tension, breathe through it, if it remains then let it be

Continuing down the arms, is it possible to surrender the weight of your arms to gravity?

Back up to the back, notice that gravity is supporting you, no need to hold on.

Moving round to the front of the body, to the chest. Notice your breath rise and fall.

See what happens when you focus your attention on the body parts. We are looking for feelings and sensations.

Feeling your legs supported by the floor, notice your thighs, the long bones, down to the knees.

Notice any sensations.

Caring for your body, each part does something for you every day.

Focus on the feet, the soles on the floor, the tops of your feet.

Bringing the awareness back to the whole body. Whole body breathing…"

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Negativity Bias

The course leader played a video: https://www.youtube.com/watch?v=E09077HRurg

“It was about how we always focus on the negative. For example, someone could say 3 nice things and 1 bad thing, but we only remember the bad thing. So simply having positive experiences isn’t quite enough, we need to be mindful to restore balance.”

The course leader talked about treasuring the moment so sent participants to simply go and have a walk outside for 10 minutes.

After participants returned from their walk they were asked for their feedback and any experiences from the practise that they would like to share with the group.

Practise 2: 3 part breathing space

Chimes to signify start of practise

“Feel your feet on the floor,

Feel your bottom on the chair,

Feel your back connected to the chair.

Just checking in, how are we feeling now?

Not getting hooked on anything, just noticing.

Now scan your body, is there any tension? If there is, see if you can show it any kindness.

Then bring awareness to the breath in the chest, how your chest rises and falls. Then into the ribs, down to the tummy, see if you can notice the rise and fall of the breath in the tummy.

Now we would like to expand our awareness to the sounds, or lack of sounds and the people in the room.

Be willing and ready to step into the next moment of your day."

Chimes to signify end of practise

Practise 3: Mindful movement

Participants were asked to stand up and remove their shoes.

"Recognising the fluid experience of all that we know, our thoughts, our feelings, our sensations.

Stand with your feet shoulder width apart, knees relaxed.

We will start by rolling our shoulders, just curling them around.

Once you have got the feel of the arms moving, follow your breath.

Really notice where the breath goes.

You can do bigger or smaller movements; the exercise is yours.

Now we are going to circle our hips. Get into a nice rhythm and then we will start circling the other way.

Feel on your feet where you naturally move. Do you tilt forwards? Backwards? Play with it a little.

Now imagine you are holding a really light beach ball, it is in your hands, now imagine pushing it down slowly. How does it feel? Repeat it a few times.

You may want to hold it up further, raising your arms above your head, you can explore that.

Focus on the breath and notice any sensations you feel in the body.

Now we will explore opposite hand to opposite leg. Imagine you are pulling on a string. Do you lift your knee all the way up?

Remember your breath is leading the way.

Make this your last one, notice if there is any tension, how you feel.

Now we will rotate the body from side to side. It can be as quick as you want.

Repeat this a few times.

Now we will raise our arms to the side and repeat.

Really surrender yourself to the breath."

Participants come to a slow stop and were asked to sit and close their eyes for a few minutes to wind down.

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to try walking mindfully at home.

Week 6

Practise 1: Mindful movement and short sitting practise

“Let yourself go, feel present in the moment.

Swing your torso in circles. (Participants repeat movements until the course leader gives the command to do another movement.)

Notice the impact on the body. Tingling hands maybe?

Circle your hips, place your hands on your hips. Does it feel different?

Lifting the knee of one leg and arm of another. Staying in the movement, how does it make me feel? Stay fully connected.

Do some circles with your shoulders. Nourish yourself with anything that feels pleasant.

Now lift and imaginary ball up and over your head. Let the breath lead.

Notice the feeling of going from standing to sitting.

Awareness of sitting down and how it feels in the body.

Notice the breath in the body, in the lungs.

Investigating – can you feel your lungs opening up, the sides of the body expanding and contracting. Become aware of the breath in the back of the body.

Be open to things arising and passing. Notice the rhythm of the breath. Maybe this is the moment of kindness of practise.”

Chimes to signify end of practise

Practise 2: Group discussion

“What we dwell on, we become. We need to counteract it with positivity. We overestimate threat and underestimate reward.”

“Has anyone noticed anything about negativity bias?”

Participants discussed among themselves and fed back to the group afterwards.

Kindness to self:

Start to notice an ability to be kind to yourself. Self-criticism does not equal or help us to change.

Threat System (Fight or flight)

We often don’t notice we are actually safe. What are some physical signs you can think of?

Achieving System:

We may not realise we have enough to be happy.

Dopamine chemicals provide that ‘feel good’ feeling.

Soothing system:

We may not recognise this system is undeveloped, but it is as important as the other systems.

Inner Critic:

What would happen if we didn't have one?

Impact of Inner Critic (Negative)	**Examples**
Isolating	"I'm not as good as them."
Feel different / Don't fit in	"They don't like me."
Feel unloved	"I can't do anything right."
	"You look dreadful."
Disengages you, robs you of happiness.	"Feeling guilt for not doing something."

Impact of Inner Critic (Positive)	**Examples**
Keeps you safe	"Protecting yourself from others."
Can motivate you	"Like proving yourself wrong."
Make you better / improve	"Making yourself stronger."

Examples of no Inner Critic consequences:

- "Wouldn't wash."
- "Not care about what I look like."
- "No inhibition, say whatever you like."

Self-Critic (Researcher Kristen Neff)

- It constantly tries to keep you safe from ANYONE constantly.
- It is exhausting and a risk to mental health
- Need to ask yourself if it actually helps

“We have the natural ability to comfort others, but it is harder to do it for yourself.”

Self-compassion:

- Robust resilience
- Less fear of failure
- Helps you catch the inner critic, be kind and let it go

3 components of self-compassion:

- Kindness, not judgement
- Common to humanity
- Mindfulness, not overidentification

3 versions of kindness to self:

- Phrases
- Breath
- Imagery (e.g., of a sun, warm kindness)

Practise 3: Group discussion

Participants were asked to split into twos. One listened and one described a time they were kind to someone and how it felt to be kind. The purpose was to get closer to kind moments to let them in and notice kindness more. Participants fed back to the group afterwards with their thoughts.

Practise 4: Short seated meditation

“Feeling your feet on the ground, your back against the chair.

Make contact with experience of talking about kindness, whether you let it in or didn’t. There is nothing wrong with that.

May I accept myself just as I am. May all things go well for me. May I feel peace. May I be happy.”

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set home practise to try the short, seated meditation at home.

Week 7

Practise 1: Seated meditation

The course leader went through the same meditation practise as the end of last week but incorporating a friend.

Chimes to signify start of practise

“Thinking of your friend, something about that felt connection between you and your friend.

Like you, they don’t want to suffer, they want to be loved.

Thinking about what we talked about last week, may you be well, may you be happy.

Trying that out a few times, let the body feel that connection.

Try thinking “may all things go well for you.”

Listening out from inside for that felt connection, the genuine wishing them well.

Some phrases may work better for you than others so try them out, or if none of them work for you, try and come up with your own.

What is that like to offer your friend your care and your love? We often skip these parts of life.

Allowing the feeling of your friend to drift off slowly, and bring it back to the room, the sounds and the people we are with.”

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group.

Exhaustion funnel:

The course leader explained the exhaustion funnel and how it can lead to burnout.

“We go by that life is okay until something happens – we start at the top when the funnel is open. Let us use the example of a family member being unwell. The first thing we do is drop something nourishing, which could be something like swimming or nature etc. We keep dropping things and dropping things until we are left with essential things like shopping, cooking, sleep etc which narrows the funnel.”

Participants were handed pieces of paper on clipboards and pens.

“Take a couple of minutes to write down good or nourishing things on one side and bad or draining things on the other side.” (5 minutes).

Participants discussed their answers with the course leader afterwards.

Practise 2: Sitting practise

Chimes to signify start of practise

“Feel the body in the chair, ah gravity.

Feel the arms drop down, the shoulders drop down.

Feel the place in the body where you feel the most movement, the most sensation from the breath,

The rise and fall, the expansion and contraction of the sides of the body.

Can you feel any subtle movement of the breath in the back of the body? Don’t worry if you can’t.

Finding acceptance in your body. Feeling kind and close and that’s how it is now. Using whatever model works for you… the sun, kind words or feeling the kind breath nurturing the body.

Bringing the mind back if it has wandered off.

Allowing the breath to be the anchor.

For the next stage, we will bring to mind a friend, really allowing the felt sense of them to be present.

Offering up your kindness, your kindness, your care, your connection and just wishing them well.

They too are just like you, they want to be happy, they want things to go well, they don't want to suffer.

Bring to mind a neutral person, someone you may see in a shop, at University. Someone you do not know well at all.

May they be in your field of awareness.

May they be well. May they too be free of suffering, may they too be free of suffering… Feel that felt sense of in the body, let it be noticed.

Bring to mind someone that you feel a slight, very very slight irritation to you, and bring them to your awareness and just wish them well. May they be happy, may they accept themselves as they are. Imperfect, just like you. May they be free from suffering. If this is too hard, then bring it back and try again.

Then broadening the awareness to everyone in this room, feeling the connection to others.

Then broadening further to the University, Essex, England, Wales, Scotland, Ireland, Europe, the world… may all beings be well. How do you connect with that?

Coming back to the physical sense of yourself, the feet on the floor, contact to the chair, the sounds, the people you are with."

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. Participants were set

home practise to reconnect with the body scan. Participants were asked to also try ‘Mindfulness in action’ – respond to situations rather than react and try and notice it.

Week 8

Practise 1: Compassionate Body Scan

Chimes to signify start of practise

“Let us start with the head, feeling the weight of the head on the floor, feeling the sensation we find on the forehead, between the eyebrows, into the eyelids and the eyes themselves. Notice whether there are any sensations there. Just lightly explore them.

Tense? Tightness? Tingling? Nothing at all?

Not thinking it, we are feeling it. Not forcing anything else to happen.

This body, this breath, this moment.

Notice if the mind wanders, this is normal, just try to bring it back. We are not looking to analyse any of the thoughts that come up or judge them.

Just like a sigh, just let it go.

Down the nose to the mouth, the lips, the chin.

Moving down the body…

If you notice your mind has wandered, notice it, this is perfectly normal, noticing it and bringing it back is a success.

Now the neck and shoulders… we often hold a lot of tension here. What do you notice?

If there is tension, breathe through it, if it remains then let it be.

Continuing down the arms, is it possible to surrender the weight of your arms to gravity?

Back up to the back, notice that gravity is supporting you, no need to hold on.

Moving round to the front of the body, to the chest. Notice your breath rise and fall.

See what happens when you focus your attention on the body parts. We are looking for feelings and sensations.

Feeling your legs supported by the floor, notice your thighs, the long bones, down to the knees.

Notice any sensations.

Caring for your body, each part does something for you every day.

Focus on the feet, the soles on the floor, the tops of your feet.

Bringing the awareness back to the whole body. Whole body breathing…"

Chimes to signify end of practise

After the practise, participants are asked for their feedback and for any experiences from the practise that they would like to share with the group.

What have we learned?

"Today we are going to do a refresher of what we have learned and then do some more activities to close."

Participants were asked to list off what they remember covering as part of these sessions.

- Doing and being,
- Primary and Secondary experience,
- Working with thoughts, (I am not my thoughts.)
- 3 emotional regulation systems,
- Negativity Bias,
- Self-critic vs self-compassion

Participants were asked to list off what practises they remember doing as part of these sessions.

- Body Scan,
- Mindful movement,
- Self-compassion,
- Charged thoughts practise,
- Non-charged thoughts practise.

“Thinking is a skill but over and over thinking is a thing that mindfulness can help us deal with. Mindfulness helps us deal with very general everyday thoughts. Now we will move on to the personal transformation.”

Practise 2: Roleplaying exercise

Stage 1: Put one person’s hand on top of the other, the leader will move their hand around while the other hand rests on top, trying to keep the connection.

Stage 2: Same again but one finger on top.

The point is, are you able to lead or follow.

Stage 3: Middle finger to middle finger.

Are we able to surrender? Are we able to lead and follow?

Then we will have a moment when no one leads, and no one follows.

Participants were put into pairs and asked to complete all 3 stages.

Practise 3: Friendship seated meditation

Chimes to signify start of practise

“Allowing that experience to settle. Noticing all of the sensations.

Now beginning to rest your awareness onto the breath, with the same tenderness, responsiveness and kindness as your hand on your partners.

See if you can follow the breath when it changes direction. See if you are following the breath or slightly controlling it, see if you can let go and follow that breath.

Now see if you can focus your attention on one small part of the breath, the nostrils or the mouth.

Like the feeling of your middle finger on your partner’s hand.

See if you can focus more narrowly. If you are focusing on the nostrils, really feel the breath there.

Until now, we have been focusing on the breath, splitting ourselves into two. Think of there being no leading or following of the breath, breathe as one.

Taking your attention to your heart area, maybe putting your hand there, having a sensitive experience.

Bringing your working partner into your mind, remembering the touch of their hand on yours. The sensitive tender touch. We don't need to add anything to that experience.

Just like you, your working partner will have you in their minds.

Now on the out breath you are giving the other person sensitivity and on the in breath you are receiving theirs.

Also just be aware of everyone in the room. You could have worked with anyone in the room it all fell to chance. So, on the in breath, receive everyone's sensitivity and on the out breath give your sensitivity."

Chimes to signify end of practise

After the practise, participants were asked for their feedback and for any experiences from the practise that they would like to share with the group. They then moved on to give feedback about their experiences over the whole course.

Practise 4: Letter writing

The course leader asked participants to write a letter to themselves, and if they chose to, write their address on the envelope and the course leader would post it back to them in a few months randomly.