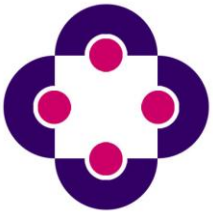


Loughborough University
Centre for Research into Eating Disorders

Loughborough **E**ating-disorders **A**ctivity **P**rogramme

“LEAP”

Group Cognitive-Behavioural Therapy for Compulsive Exercise in the Eating Disorders:

Therapist Manual

Lorin Taranis, Stephen Touyz, Michelle La Puma, Caroline Meyer

Contents

Introduction

Compulsive exercise typically refers to physical activity that is associated with disordered eating attitudes and behaviours, and describes a condition characterised by an inability or unwillingness to cut down or stop exercising even though it is detrimental to health. The cognitive view of the maintenance of compulsive exercise stresses that there is more to an individual's exercise problem then just over-exercising for weight and shape reasons. Dysfunctional affect regulation, extreme concerns about the perceived negative consequences of stopping or reducing exercise, and rigid/inflexible exercise behaviour are all implicated in perpetuating the vicious cycle of compulsive exercise. Cognitive-behavioural treatment of compulsive exercise regards individual's attitudes toward exercise, beliefs about exercise, and their ability to cope with adverse mood states as central to maintaining the compulsive exercise behaviour.

This manual describes a group cognitive-behavioural approach to the treatment of compulsive exercise in the eating disorders. As this is a cognitive-behavioural treatment program, the treatment is semi-structured and problem-oriented. In addition, it is concerned principally with the present and future rather than the past. The focus of LEAP is on those factors and processes that maintain the exercise behaviour. LEAP is very much an active therapy, with responsibility for behaviour change residing with the patient. The therapist's role is to provide information, guidance, support, and encouragement. As such, the therapeutic relationship is of overriding importance. It is essential that a trusting, collaborative relationship is established between the patients and therapist, and that they share a common goal, that of overcoming an exercise problem where appropriate, and/or of promoting 'healthy' attitudes, beliefs and behaviours toward exercise.

The group program described is designed as a brief intervention for use in a hospital in-patient setting. It is applicable to the broad spectrum of eating disorders including anorexia nervosa, bulimia nervosa, and eating disorders not otherwise specified. The manual is comprised of a detailed practical guide for the therapist and handouts for patients. The therapist's manual firstly details the aims of the treatment program. It then briefly outlines the structure of the treatment program, overall and in terms of the general format of each session, before describing in detail the cognitive-behavioural model of compulsive exercise. Lastly, it contains therapist information and specific instructions for each of the treatment sessions together with the relevant patient handouts.

Therapists require a reasonable working knowledge and understanding of exercise factors likely to be of relevance to the treatment program. These include a basic grasp of the physiological and psychological effects of and contraindications to exercise, as well as some knowledge and understanding of the role of exercise in the aetiology, development and

maintenance of the eating disorders. Importantly, therapists must ensure their knowledge in these matters is sufficient to educate the patients. It is recommended that therapists familiarise themselves with the content of the homework tasks and activities *before* starting the group program.

Aims

The overarching aim is the promotion of 'healthy' (i.e., non-compulsive/non-eating disorder related) attitudes, beliefs, and behaviours toward both structured exercise and physical activity in general. It is important to emphasise that the aim of the treatment program is not to make patients stop exercising, but rather to educate them about what constitutes 'healthy/non-compulsive' exercise and equip them with the knowledge and skills that will enable them to regain control of their exercise behaviour in order to participate in age, goal and health-status appropriate exercise. Details of specific aims are given in table 1.

Table 1. Program Aims

- To educate the patient about the cognitive view on the maintenance of compulsive exercise
- To promote insight into the factors affecting (maintaining) the patient's attitudes, beliefs and behaviours toward exercise
- To educate the patient about what constitutes 'healthy' exercise
- To introduce the patient to the cognitive skills and strategies necessary to challenge maladaptive attitudes, beliefs and behaviours toward exercise
- To introduce the patient to alternative (adaptive) emotion coping strategies
- To educate the patient about relapse prevention

Structure

The structure of this treatment program is unique as it is designed specifically for implementation in a hospital in-patient setting. The program consists of an initial orientation session and 7 one-hour treatment sessions over a period of four weeks (two sessions per week), and is designed to continuously cycle. Each of the sessions are seen as cumulative and intended to build upon each other. However, with the exception of the orientation session which is the same for all patients, the remaining sessions do not have to start or end in any specific order. This enables patients to join the group at any stage. Also, with the exception of the first session, each session is preceded by a preparatory homework task that serves as an introduction to the session topic.

Sessions are designed around four core themes of education, guided discovery, cognitive skills, and relapse prevention. Although the material to be covered in each of the sessions is prescribed, flexibility in the program is maintained by allowing the therapist to

choose whether or not to focus on specific areas covered by the session. To facilitate this, the therapist may discuss with the group which area they would like to prioritise, or the therapist may make the decision based on the issues raised during review of the preceding preparatory homework task.

Session Structure

The within session structure is based upon that suggested by Wilson, Fairburn and Agras (1997). A more detailed session structure specific to each session is described in the therapist information:

1. Therapist led review of homework and self-monitoring (if applicable). Therapist answers patient questions and summarises the main points of the homework. Also reviews self-monitoring sheets when applicable and provides feedback and guidance on continued use.

2. Group activity. This may be a taught cognitive skills component such as problem-solving, or cognitive restructuring, or it may be a guided discovery activity such as socratic questioning. The group activity ends with the therapist summarising the main points of the session and answering any questions.

3. Introduction and setting of homework task in preparation for the next session.

The Cognitive-Behavioural Model of Compulsive Exercise

The cognitive-behavioural theory of the maintenance of compulsive exercise represents an extension to the 'transdiagnostic' theory of the maintenance of eating disorders (Fairburn, Cooper & Shafran, 2003). The new theory posits compulsive exercise as a primary maintenance factor of eating disorders in its own right. This is illustrated in Figure 1. In line with the conception of the original theory it is proposed that compulsive exercise is an additional maintenance factor that may present in *some patients*, and when this occurs it is an obstacle to change.

The cognitive-behavioural theory of the maintenance of compulsive exercise is primarily concerned with the factors and processes that maintain the maladaptive behaviour. According to the theory, there is more to an individual's exercise problem than just over-exercising for weight and shape reasons. Whilst the eating disorder does indeed exert a significant maintaining effect on compulsive exercise it is proposed that there are key factors and processes serving to maintain the compulsive exercise that need to be addressed in their own right if the exercise problem is to be successfully overcome. These are illustrated in Figure 1.

It is important that these maintaining mechanisms are considered in the specific context of compulsive exercise. This is because despite some overlap with the maintaining mechanisms detailed in the 'transdiagnostic' theory of the maintenance of the eating disorders (Fairburn et al., 2003) there are subtle but important differences that are vital to the success of the treatment program. Specifically, it is proposed that compulsive exercise is maintained by one or more of three maintaining mechanisms in addition to the eating disorder itself. The first of these maintaining mechanisms concerns a psychological 'dependence' on exercise as a means of coping with mood states ("dysfunctional regulation of affect"); the second is the extreme concerns that patients have about the negative consequences they believe will result from any alteration in their exercise behaviour ("compulsivity"); and the third concerns the influence of severe perfectionism, especially when manifested as behavioural rigidity ("perfectionism" and "rigidity"). It is important to note that this theory represents a detailed description of the maintaining factors specific to compulsive exercise and is designed to supplement the extended 'transdiagnostic' theory of the maintenance of eating disorders. Each of the maintaining factors will now be described in more detail.

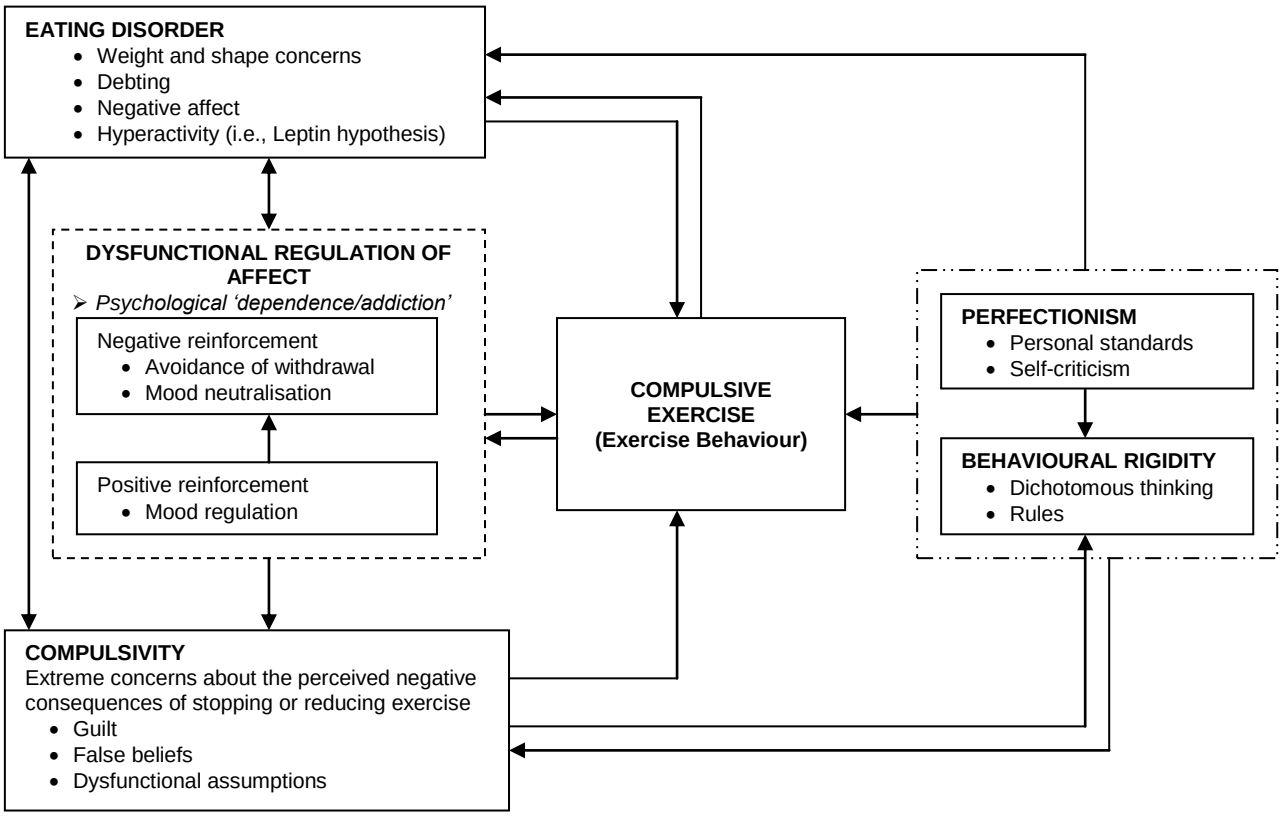


Figure 1. A schematic representation of the cognitive-behavioural theory of the maintenance of compulsive exercise.

Dysfunctional regulation of affect

It was recognised in the original 'transdiagnostic' theory of eating disorders (Fairburn et al., 2003) that certain eating disorder patients have an inability to cope appropriately with adverse affective states (i.e., mood intolerance). Instead of accepting changes in affect and dealing with them appropriately, these patients engage in "dysfunctional mood modulatory behaviour," such as binge eating, purging, self-harm and compulsive exercise (Fairburn et al., 2003). The dysfunctional regulation of affect described in the cognitive-behavioural theory of the maintenance of compulsive exercise is essentially an extension of this mood intolerance but with two important differences. Firstly, it is recognised that exercise is not always a dysfunctional behaviour in terms of affect regulation. In fact, exercise may be an adaptive way of regulating affect, with considerable empirical support for its anxiolytic and anti-depressive properties. This differentiates exercise from the other dysfunctional affect regulatory behaviours in that it may also positively reinforce the exercise behaviour. Secondly, there is empirical support for the notion that compulsive exercisers experience affective withdrawal symptoms when they are unable to exercise (e.g. anxiety, depression, guilt, irritability, frustration, anger), and that the avoidance of these adverse symptoms is a

primary maintaining mechanism for the exercise behaviour (i.e., negative reinforcement). Although there is little to no empirical support for compulsive exercise actually being a type of physiological dependence/addiction, patients have been shown to endorse symptoms consistent with a dependence/addiction to exercise. Similarly, many patients report experiencing their exercise behaviour in precisely these terms. It is therefore often useful to conceptualise compulsive exercise as a type of 'psychological dependence' and use terminology such as "dependence" and "addiction" that patients understand and can relate to.

It is also important to recognise that exercise is perhaps unique among the affect regulatory behaviours in influencing affect at physiological level. This may in turn further reinforce the vicious cycle of exercise becoming a habitual form of affect regulation. This is illustrated in Figure 2.

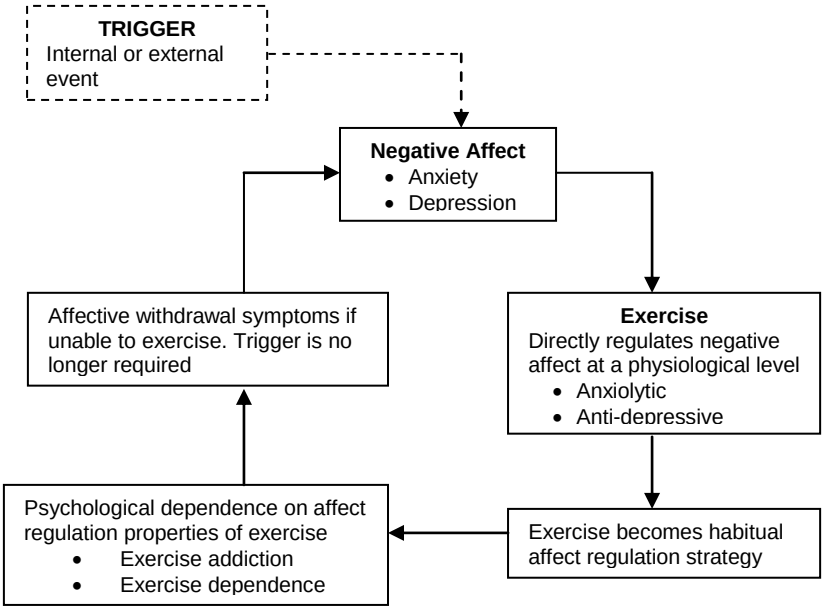


Figure 2. Physiological processes: the affect cycle.

Compulsivity

Compulsive exercise has long been conceptualised as a compulsive behaviour, as it is strongly associated with anxiety, guilt and avoidance. Here compulsivity is more specifically used to describe the extreme concerns (often fear) that patients have regarding what they perceive as the likely negative consequences of stopping or reducing their exercise behaviour (i.e., they will gain weight, lose shape, become unattractive, or be unable to cope). It is this fear, that may be perceived as a threat that is exaggerated and/or inappropriate, which then drives (compels) them to continue exercising (safety behaviour) often against their will and better judgement. At the heart of the psychopathology of compulsivity lies an irrational yet pervasive fear that is grounded in false beliefs and dysfunctional assumptions (e.g. "muscle that is not used turns to fat" and/or "if I do not exercise I am a failure"). This fear is itself maintained by virtue of never being appropriately challenged as illustrated in Figure 3. It is important to note that many of the fears will be focused around weight and shape issues, and/or emotional withdrawal symptoms.

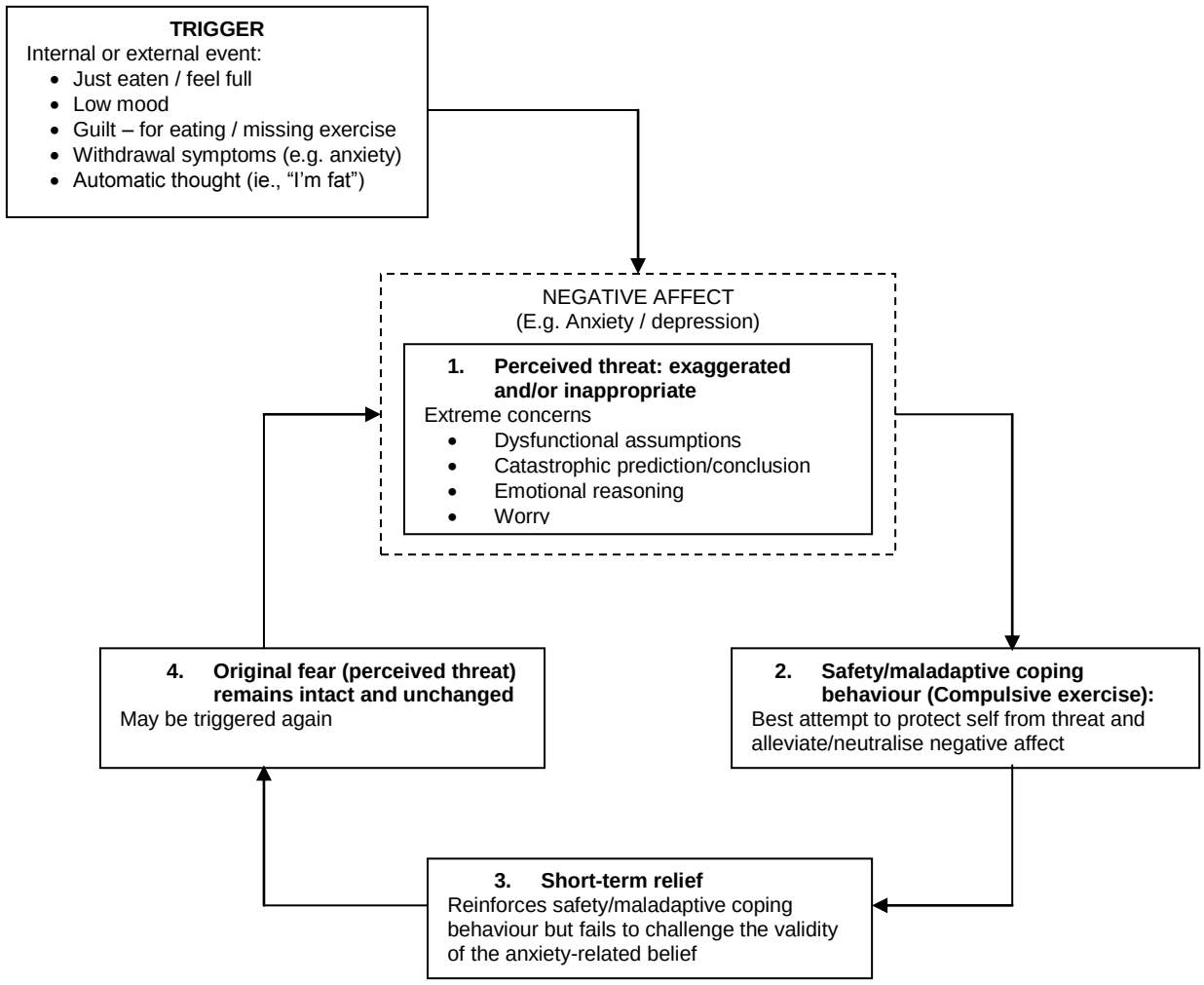


Figure 3. The compulsivity maintenance cycle of compulsive exercise

Perfectionism and behavioural rigidity

The 'transdiagnostic' theory of eating disorders (Fairburn et al., 2003) proposed an interaction between perfectionism and eating disorders whereby the patient's perfectionist standards are applied to the attempts to control eating, shape and weight, as well as to other aspects of their life (e.g. their performance at work or sport). Not surprisingly, the cognitive-behavioural theory of the maintenance of compulsive exercise assumes a similar application of perfectionism to the area of exercise. There is considerable empirical support for an association between perfectionism and compulsive exercise, and recent findings have highlighted the importance of both high standards and self-criticism in the maintenance of compulsive exercise. However, of particular importance in the maintenance of compulsive exercise is the role of behavioural rigidity, especially in terms of dichotomous thinking operationalised as specific 'rules' that the patient endeavours to follow. These rules may also take the form of goals that are similarly rigid, extreme and inflexible. Many compulsive exercisers follow rigidly structured and/or repetitive exercise routines and any deviation or failure to meet a specific goal leads to self-criticism which further reinforces the perfectionist strivings and behavioural rigidity.

Loughborough Eating Disorders Activity Programme (LEAP)

Group Cognitive-Behavioural Therapy for Compulsive Exercise in the Eating Disorders:

Treatment Manual

- ✓ Therapist information
- ✓ Session instructions
- ✓ Patient handouts

Treatment Manual: Stage 1

Session 1:

Stage 1 (Session 1: Orientation)

Introduction

It is possible that not all participants in the group will be compulsive exercisers (or even exercisers), so it is important to emphasise that the main aim of the group is to educate about and promote 'healthy' exercise attitudes, beliefs and behaviours. If a patient is not an exerciser they should use the sessions to learn about what constitutes 'healthy' exercise as opposed to 'un-healthy' exercise (of particular importance is the impact of incidental exercise). Non-exercisers may also use the profiling tasks to explore what type of exerciser they would be if they chose to exercise, as well as to explore their current attitudes and beliefs about exercise. It is also extremely important to emphasise that the aim of the group is not to make patients stop exercising, but rather to support a return to 'healthy' exercise.

Stage 1 (Session 1): Orientation

Note: The prescription of a pattern of healthy exercise is clearly also important in the treatment of compulsive exercise. This should already have been put in place through mandatory in-patient exercise cessation, or via established inpatient exercise protocols.

Orienting New Patients

Session 1 is not designed to be a stand-alone session and will only be run as such when the group first starts. After this, new patients will join the group during one of the 7 ongoing treatment sessions. However, rather than fully participating in the session (as they will not have completed the preparatory homework) new patients should be encouraged to read the orientation handouts and complete their Exercise Profile. It is important to emphasise that the orientation information and Exercise Profile are the foundation upon which the rest of the sessions are based (a completed exercise profile is required for all subsequent sessions).

At the start of the session new patients should be provided with handouts 1 and 2 (Orientation Information; and CBT Model of the Maintenance of Compulsive Exercise) and activity 1 (My Exercise Profile). Patients should be instructed to read handout 1 before completing their Exercise profile. They should then read handout 2. The therapist should leave 5-10 minutes at the end of the session to answer any questions the patient(s) may have and to ensure that; (a) the definition of exercise is understood to include <u>all</u> physical activity that *in any way* influences weight, shape, body tone, or mood; and (b) the CBT model of the maintenance of compulsive exercise is at least basically grasped (highlight that the CBT model will be addressed in every session and that there will be ample opportunities to

ask further questions during each session). It should be emphasised that the treatment module will be enjoyable and fun as well as therapeutic, irrespective of whether the patient(s) has an exercise problem or not, and that the goal of the treatment is provide the information required for the patient to make their own 'informed choice' regarding exercise.

The Cognitive-Behavioural Model of Compulsive Exercise: As presented to patients

It is important to note that a simplified model of the maintenance of compulsive exercise is presented to patients (Figure 4). The main differences between the simpler representation and that described earlier are that it contains less detail, uses simpler language that is more relevant to patients, and is specific to the treatment program in terms of being used to explain session material. In respect of this last point, perfectionism is included as part of the eating disorder. The justification for this being that (a) perfectionism is already addressed as part of the transdiagnostic cognitive-behavioural treatment for eating disorders (Fairburn et al., 2003), and (b) only the behavioural rigidity aspect of perfectionism is specifically addressed as part of this treatment module.

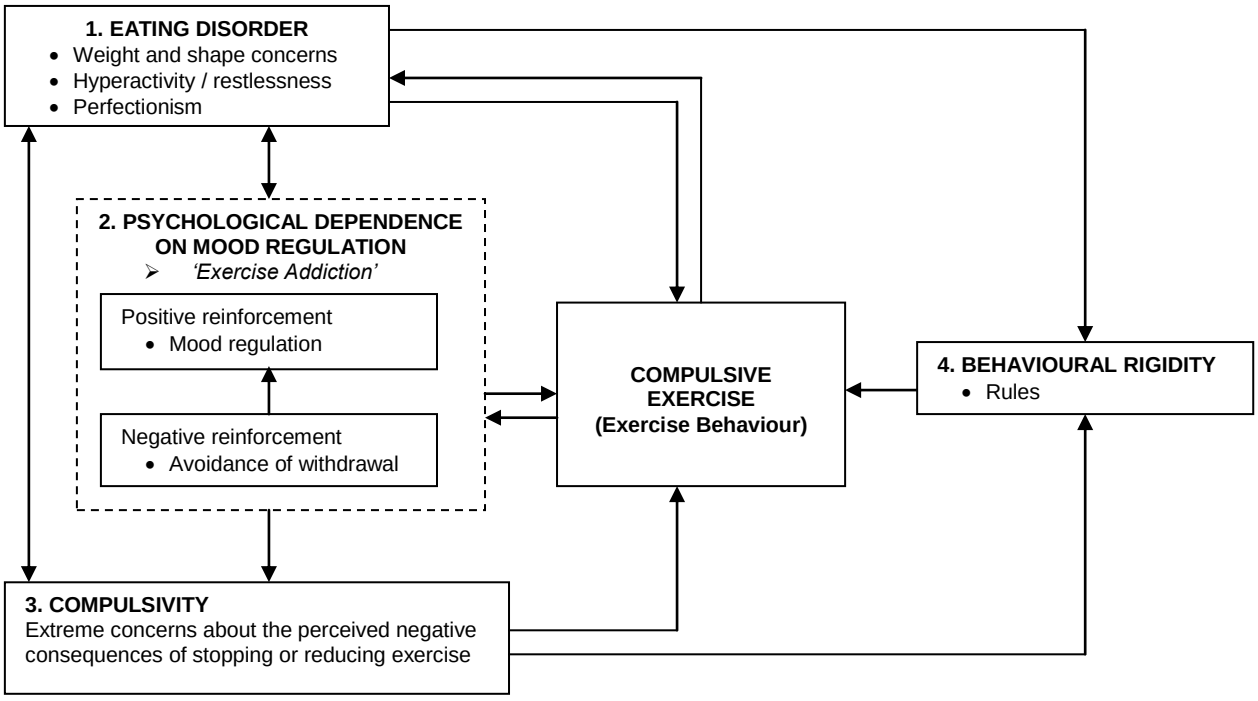


Figure 4. A simplified model of the cognitive-behavioural theory of the maintenance of compulsive exercise.

Monitoring

Monitoring sheets are provided for use with those patients who have a significant exercise problem. These should be included with the orientation information and should be reviewed at the beginning of each session. It is at the therapist's discretion whether or not to use the monitoring sheets. Though monitoring is a powerful behavioural technique it may be that in-patients feel overwhelmed with the volume of work demanded by the group treatment and as such the therapist may choose not to include monitoring. Where monitoring is used the therapist should emphasise how each sessions material may be incorporated into the monitoring sheets.

Set first Homework

At the end of the first session the patient(s) should be given their first homework assignment. This will be the homework necessary to prepare for the next session. The patient(s) should be advised that the homework is meant to be done individually and shouldn't take any longer than 20 – 40 minutes.

It should be emphasised that the completion of homework is central to the efficacy of the treatment and that the patient(s) should do their utmost to complete them.

Monitoring Sheet

Name: Date:

…….. ……

Monitoring Exercise

Introduction

Monitoring is a way of recording the things that have an influence on your behaviour and it can provide a detailed picture why you behave a certain way. It is a bit like keeping a daily diary except it focuses on just one thing, which in this case is exercise. The reason you use a monitoring sheet is that it can help you to examine and understand the role your thoughts and feelings play in making you behave a certain way, such as exercise. It also makes you more aware of what you are doing and why you are doing it. Monitoring is a very powerful way of helping you to change behaviour that previously seemed automatic or even out of your control.

Day:……				
Time	Context	Desire to exercise 0 – 100	Thoughts	Feelings

Handout 1.

Orientation Information for 'Understanding Physical Activity': Group Cognitive-Behavioural Therapy (CBT) for Compulsive Exercise

What do we mean by Exercise?

Exercise is taken to mean any physical activities that function as a means to influence your weight, shape, body tone, or mood either directly or indirectly. This could include activities as diverse as housework (e.g. cleaning or ironing), walking/running, or fidgeting (restlessness).

What do we mean by Compulsive?

Compulsive does not just refer to quantity. Any activity that is motivated by or serves to reinforce (maintain) disordered eating attitudes or beliefs, is considered compulsive irrespective of how much or how often it is done. Similarly, any activity that is in any way detrimental to either physical or psychological health is also considered compulsive irrespective of how much or how often it is done. Lastly, any activity that cannot be easily stopped or altered is considered compulsive irrespective of how much or how often it is done.

What is Compulsive Exercise?

Compulsive exercise typically refers to any physical activity that is associated with disordered eating attitudes, beliefs and behaviours, and describes a condition characterised by an inability or unwillingness to cut down or stop exercising even though it is detrimental to health.

Treatment Format

Treatment will comprise of group sessions twice a week for the duration of your in-patient admission. Each session contains a taught element and a structured or self-directed activity, and will last for 1 hour. You will also be given a homework assignment after each treatment session that will prepare you for the next session.

Treatment Content

On starting the LEAP treatment program you will be given a handout explaining the rational underlying Cognitive-Behavioural Therapy and an activity sheet that will enable you to put together an exercise profile specific to yourself. Then using a series of structured activities, interactive taught components and homework assignments you will be taught strategies that enable you to challenge and modify relevant attitudes, beliefs and behaviours as well as cope more effectively with the factors that tend to result in compulsive exercise. You will also be taught what constitutes 'non-compulsive' exercise and will be shown how to continue utilising your new skills and knowledge in order to resume healthy and appropriate exercise on leaving the in-patient unit.

The Likely Outcome

Following the LEAP programme, many patients will experience a reduction in their compulsive exercise behaviours. However, it is common for difficulties with exercise still to be present at the end of the treatment and attempts should be made to maintain and continue improvements over the following months.

Informed Choice

This treatment is designed to provide you with the necessary information for you to make an 'informed choice' regarding your exercise behaviour. It is not the intention of this treatment to either make you exercise or to stop you from exercising, but rather to help you make your own choices by showing you how physical activity functions in relation to an eating disorder. The group sessions have been designed to enable you to debate and discuss the latest scientific evidence regarding physical activity in the eating disorders, both with your therapist and each other. It is hoped that you will find the sessions interesting, challenging and fun, and will leave the group with a much greater understanding of the role physical activity can play in the eating disorders.

Aims and Objectives of Treatment

The primary objective of this treatment module is for you to regain control over your exercise and to 're-learn' healthy/non-compulsive attitudes, beliefs and behaviours toward exercise and physical activity in general. This will be achieved via 7 aims:

- To educate you about the cognitive-behavioural view of the factors that maintain compulsive exercise (i.e. those things that *keep* you exercising).
- To identify the factors maintaining the 'compulsive' quality of *your* exercise
- To educate you about the links between compulsive exercise and eating disorders, and the role of compulsive exercise in the maintenance of your eating disorder.
- To educate you about what constitutes 'healthy/non-compulsive' exercise thereby challenging maladaptive attitudes and beliefs about exercise.
- To teach you the cognitive skills/strategies necessary to challenge maladaptive thoughts and 'urges' about exercise.
- To teach you alternative coping strategies for mood/emotion regulation such as problem focused as opposed to avoidant coping strategies and relaxation techniques.
- To teach you planning skills for relapse prevention.

Group Treatment Session Structure

- First 5-10 Minutes – therapist will orient new patients while existing patients organise themselves for the start of review (e.g. get completed homework and any related questions ready).
- Middle 20 minutes – therapist will direct a review of the session homework assignment and activity monitoring sheets, and will answer any related questions.
- Final 30 minutes – therapist will direct a group activity and teach an education or skills component before setting the homework for the next session.

Key Concepts

What is Physical Activity?

Physical activity simply refers to any bodily movement that exerts the muscles of the body. All bodily movement is therefore a form of physical activity whether it is doing the washing-up, walking to the shops, going to the gym, or playing a sport.

What is Exercise?

Strictly defined, exercise refers to any physical activity that is specifically planned or structured. It involves repetitive bodily movement undertaken with the *primary* aim of influencing one or more of the components of physical fitness that include: cardio-respiratory endurance (aerobic fitness), muscular strength, muscular endurance (anaerobic fitness), flexibility, and body composition (i.e. weight, shape, or body tone). Examples include sport-specific training, fitness classes, and exercise for weight-loss.

What is Incidental Exercise?

Incidental exercise simply means any physical activity that although it is neither planned nor structured (as per the strict exercise definition) it still has the *secondary* effect of influencing one or more of the components of physical fitness given for exercise. Examples can include vigorous housework or gardening, walking to and from the shops, fidgeting, and being generally active (hyperactivity).

Physical Activity and Health

All physical activity, whether it is exercise (in the strict sense) or not, has the ability to confer positive health benefits. Similarly, all physical activity whether it is structured exercise or incidental exercise can when compulsive have a negative effect on health, and it is this last point that requires expanding in the context of an eating disorder.

How This Applies to You

You should now be beginning to see both how and why the LEAP treatment program will be relevant to you irrespective of whether you are an ‘exerciser’ (in the strict sense) or not.

Even if you do not actively engage in any sort of structured or planned exercise, nor are aware of any influence of incidental exercise on you, you should be able to see that all the physical activities you undertake will exert some degree of influence over you physiologically and/or psychologically.

For those of you who are not 'exercisers' in the strict sense, it is important that you remember to think of exercise as including all forms of physical activity from tidying your room/house, to walking round the shops, or being restless (fidgeting).

For those of you who are 'exercisers' (e.g. play sport, run or walk regularly etc), it is equally important that you do not forget the significance of all your other 'incidental' activities that are also influencing you physiologically and psychologically that you may not have considered as important in the past.

Importance

Irrespective of your exercise status the LEAP treatment program will enable you to discuss, debate, challenge and modify your attitudes, beliefs and behaviours toward exercise. It will provide you with the most up-to-date scientific evidence, advice and information regarding physical activity and exercise, and will teach you the skills necessary to use your new knowledge to improve both your psychological and physiological health now and in the future.

Key Points

- *All* physical activities that function either *directly or indirectly* as a means to influence your body composition (weight, shape, or body tone), or mood are a form of exercise.

- Incidental exercise can be very important in terms the effect it has on both your body (i.e. physiology) and mood (i.e. psychology).

- The LEAP treatment program is relevant to *all* individuals irrespective of their exercise status.

Handout 2.

The Cognitive-Behavioural Model of the Maintenance of Compulsive Exercise

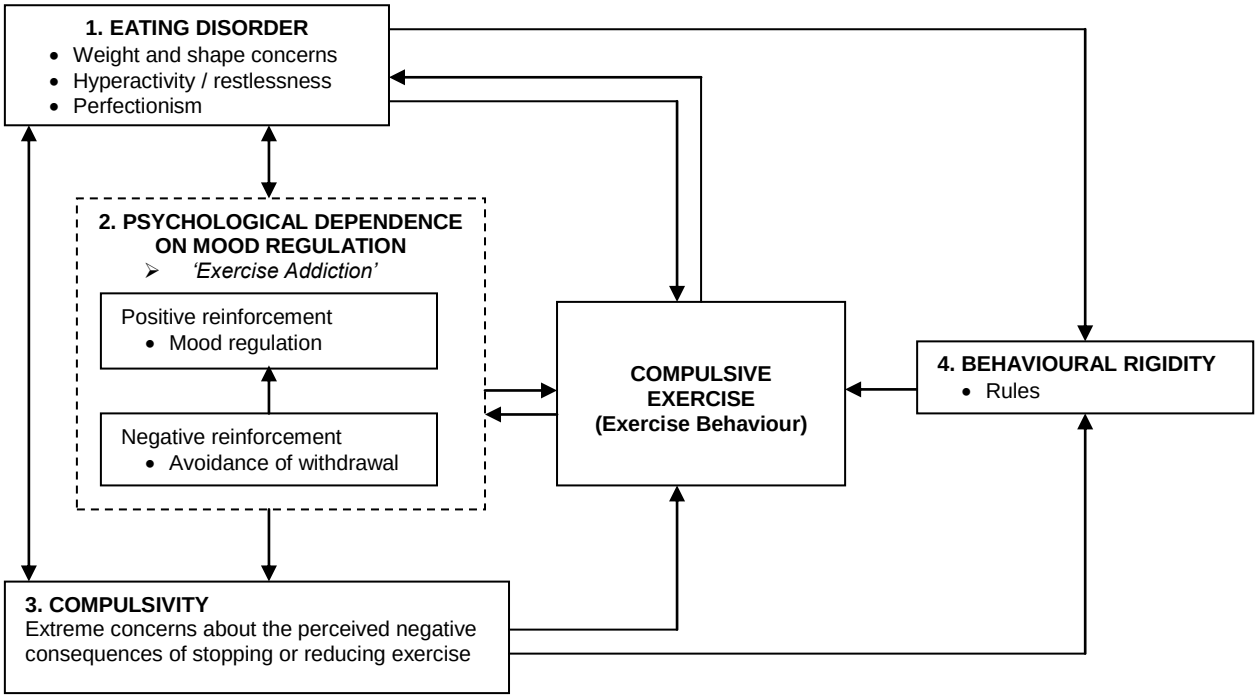


Figure 1. A schematic representation of the cognitive-behavioural theory of the maintenance of compulsive exercise.

The model explained

Each of the boxes illustrated in Figure 1 show a core maintenance factor for compulsive exercise and it is these maintaining factors that are the primary 'targets' for treatment (i.e. things the treatment aims to change). Below you will find an expanded description of each of these maintaining factors that details how they are related to each of your Exercise Profile scales, as well as how they are related to and influence each other. It is extremely important that you understand this model as it is the basis upon which the treatment rests. If you have any questions, do not hesitate to ask your therapist.

1. Eating Disorder

The eating disorder is included in the model in order to show how it is linked with the other factors that may be maintaining your exercise behaviour. The eating disorder will not be directly addressed in this group although some aspects of it will be touched upon. The three aspects that will be mentioned are: 1) weight and shape concerns and how they relate

to compulsive exercise (especially compulsivity); 2) how and why hyperactivity/restlessness, which often manifests as an 'urge' to exercise, influences exercise behaviour; and 3) how perfectionism (that is setting yourself high standards) influences behavioural rigidity and the setting of exercise rules.

2. Psychological Dependence upon Mood Regulation

A 'psychological dependence' is used to refer to a strong desire (often experienced as an 'addiction') to continue behaving in a certain way, such as continuing to exercise. Many compulsive exercisers describe themselves as being 'addicted' to exercise. That is, they find it very hard (often impossible) to stop exercising. This may be because they love the way exercise makes them feel, or as is more often the case because they feel they 'need' to keep exercising in order to avoid feeling bad. The term 'mood regulation' simply refers to this ability of exercise to change the way you feel. It is well known that for some people exercise can have a powerful effect on their moods. People often report that exercise improves their mood (i.e. makes them feel better/happier) and that it can be used to avoid feeling bad.

A psychological dependence upon mood regulation specifically describes the feeling of 'having' or 'needing' to exercise in order to cope with (regulate/change) your moods. Typically, it is characterised by feeling bad (i.e., anxious, upset, irritable etc) when you are unable to exercise and 'needing' to exercise in order to feel okay again. Such a dependence although mostly psychological may also be physiologically influenced (resulting from biochemical changes in the brain), and is often a mixture of both psychological and physiological effects.

It is also worth noting that compulsive exercise rarely starts out as a result of a dependence on its mood changing effects. Instead a dependence develops slowly over time as a result of you becoming more and more used to the influence your exercise behaviour has on your mood. Many people are not even aware that they may be dependent on exercise as a means of changing how they feel, they simply know that exercise either makes them feel better, or that they feel bad if they do not exercise. You can get an idea of how important this particular maintaining factor is for your exercise behaviour by looking at your score on scales 1 and 2 or your Exercise Profile. The higher your scores are, the more significant this factor is in maintaining your exercise behaviour.

Compulsivity

Compulsivity is specifically used to describe the extreme concerns (often fear) that many compulsive exercisers have about what they believe might happen to them as a result (consequence) of stopping or reducing their exercise behaviour. These fears are often related to weight and shape issues such as gaining weight, becoming fat, or losing shape, but they may also be related to the experience of emotional withdrawal symptoms (i.e.

anxiety, depression, or irritability). It is the avoidance of these negative consequences (i.e. the fear) that maintains (drives) the exercise behaviour and also influences the formation of rules and the following of routines that can then lead to behavioural rigidity. Also central to compulsivity is the belief that you are responsible for avoiding these negative consequences. As such, missed exercise sessions often result in strong feelings of guilt and/or of having let yourself down. Compulsivity also results in continuing to exercise despite illness or injury and may lead to exercise interfering with other areas of your life (i.e., education, work and social commitments). It is important to realise that compulsivity is largely a result of holding false beliefs about exercise and the likely consequences of stopping or cutting down.

Although scale 4 of your Exercise Profile assesses your compulsivity it is also possible to get an indication of the beliefs you hold about the negative consequences of stopping or reducing your exercise behaviour by looking at your answers to some of the questions that make up scales 4, 5 and 6 (i.e. look at your answers to the questions that ask if something worries you). Scale 2 is also relevant in terms of the negative mood consequences you believe you may experience.

3) Behavioural Rigidity

Specifically referring to scale 3 of your Exercise Profile, this maintenance factor is concerned with how rigid (inflexible) and repetitive your exercise behaviour has become. Behavioural rigidity typically describes the following of a specific exercise routine or order of events and is characterised by feelings of anxiety, irritability or anger when the routine is in anyway disrupted or broken. Behavioural rigidity is often a way of trying to manage negative emotions (such as anxiety) that stem from a strong need for things to be done correctly, and done well. This need for things to be done well is often referred to as perfectionism.

The diagram in Figure 1 also shows a link between extreme concerns about the negative consequences of stopping or reducing exercise and behavioural rigidity. This refers to the fact that rigid/inflexible exercise behaviour is often the result of following a strict order of exercises and/or exercise rules that are a way of managing the anxiety caused by the extreme concerns you may have about the negative consequences of stopping or reducing your exercise behaviour. That is, in order to not experience any of the negative consequences that you wish to avoid, you adopt a strict exercise routine with specific exercise rules that you follow to ensure that nothing bad happens. Examples of exercise rules include; you must walk or run the same route and cross the road in the same places each day, you must always do the correct number of exercises in the correct order, if an exercise is interrupted you must start again and do it properly, and you must exercise in order to earn the right to eat.

Summary

Compulsive exercise typically refers to exercise that is associated with disordered eating attitudes and behaviours (i.e., weight and shape concerns), and describes a condition characterised by an inability or unwillingness to cut down or stop exercising even though it is detrimental to your health. The cognitive view of the maintenance of compulsive exercise stresses that there is more to an individual's exercise problem then just over-exercising for weight and shape reasons. A dependence on the mood changing effects of exercise, extreme concerns about the perceived negative consequences of stopping or reducing exercise, and rigid/inflexible exercise behaviour are all thought to play an important role in maintaining compulsive exercise behaviour. The CBT treatment of compulsive exercise places importance on individual's attitudes toward exercise, beliefs about exercise, and their dysfunctional use of exercise as a means of regulating their mood as central to maintaining the behaviour.

Activity 1.

Name: Date:

…….. ……

My Exercise Profile

This activity is designed to enable you to formulate an accurate representation of the type of exerciser you are (or would be if you do not currently exercise). It asks key questions in an attempt to help you identify not only your reasons for exercising but also the function(s) exercise serves for you.

Instructions: On the following pages are a series of questions organised into six scales. Read each question carefully and answer it as honestly as you can. Do not just put the first thing that comes into your head, but rather spend a little time and think about each question carefully and honestly in relation to you. Once you have answered the questions, follow the scoring instructions to calculate your mean (average) score for the scale before progressing to the next one.

Scale 1

	No, never	Yes, a bit happier	Yes, much, much happier
If you are feeling low or depressed before you exercise, do you feel any happier (i.e., less depressed or low) after you exercise?	0	1	2

	No, never	Yes, a bit less stressed, more relaxed	Yes, totally de-stressed, very relaxed
If you are feeling stressed or tense before you exercise, do you feel any less stressed or tense (i.e. more relaxed) after you exercise?	0	1	2

	No, never	Yes, a bit less anxious	Yes, totally anxiety free
If you are feeling anxious before you exercise, do you feel any less anxious after you exercise?	0	1	2

	No, never	Yes, a little	Yes, totally
If you have a lot on your mind before you exercise, do you find that the exercise helps you forget your worries/ concerns?	0	1	2

	No effect at all	A reasonable effect	A very large effect
Generally, how much of an effect would you say that exercise has on improving your mood (i.e. the way you feel)?	0	1	2

Scoring: Add up (total) each column and add together, then divide the total by 5

Column Totals:			
Grand Total (column totals added together):			
Grand Total divided by 5 (<u>Mean Score</u>):		Round to one decimal place	

Scale 2

	No, never	Yes, a little anxious	Yes, very anxious
If you are unable to exercise, does it make you feel anxious because you cannot exercise?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
If you are unable to exercise, do you ever feel frustrated and/or angry because you cannot exercise?	0	1	2

	No, never	Yes, a little bit	Yes, very much so
If you are unable to exercise, does it make you feel upset, low, or depressed because you cannot exercise?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
If you are unable to exercise, do you ever feel agitated and/or irritable because you cannot exercise?	0	1	2

	No, never	Yes, a little bit	Yes, very much so
Do you feel you need to exercise in order to avoid feeling any or all of the above (i.e., anxious, frustrated, upset, or irritable)?	0	1	2

Scoring: Add up (total) each column and add together, then divide the total 5

Column Totals:			
Grand Total (column totals added together):			
Grand Total divided by 5 (<u>Mean Score</u>):			Round to one decimal place

Scale 3

	No, not at all	Sometimes/ occasionally	Usually or always
Do you try and follow definite rules regarding your exercise, for example, a specific number of exercises, or a specific order in which the exercises must be completed?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
Do you follow a set routine for your exercise sessions, such as always walk/run the same route, do the same exercises in the same order, spend the same amount of time and so on?	0	1	2

	No, not at all	Yes, a little	Yes, very
Would you describe your weekly pattern of exercise as repetitive?	0	1	2

	No, not at all	Sometimes/ occasionally	Usually or always
Do you set yourself exercise goals or targets that you feel you must reach?	0	1	2

	No, not at all	Yes, a little	Yes, very
Does it upset, annoy or irritate you when your exercise routine is interrupted or you are unable to follow a rule or meet your goals?	0	1	2

Scoring: Add up (total) each column and add together, then divide the total by 5

Column Totals:			
Grand Total (column totals added together):			
Grand Total divided by 5 (<u>Mean Score</u>):		Round to one decimal place	

Scale 4

	No, never	Yes, a little guilty	Yes, very guilty
If you are unable to exercise, or you miss an exercise session, do you ever feel guilty?	0	1	2

	No, never	Yes, a little bit	Yes, a lot
Does it worry you if you are unable to exercise, or when you miss an exercise session?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
If you miss an exercise session, do you try and make up for it next time you exercise (e.g. by doing more, or putting more effort in)?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
Do you ever feel like you've let yourself down if you miss an exercise session?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
Do you ever make yourself exercise even when you are tired, or don't feel like doing it?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
If you are injured or ill, do you still continue to exercise?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
Does your exercise ever interfere with your social life, work, or study commitments?	0	1	2

Scoring: Add up (total) each column and add together, then divide the total by 7

Column Totals:			
Grand Total (column totals added together):			
Grand Total divided by 7 (<u>Mean Score</u>):			Round to one decimal place

Scale 5

	No, never	Sometimes/ occasionally	Usually or always
If you are unable to exercise, do you ever worry that you will gain weight, or get fat?	0	1	2

	No, never	Sometimes/ occasionally	Usually or always
If you feel that you have eaten too much, do you ever do more exercise to burn it off/make up for it?	0	1	2

	No, not at all	A little	Yes, absolutely
Do you exercise primarily to lose, rather than maintain your weight?	0	1	2

	No, not at all	A little	Yes, absolutely
Do you exercise primarily to improve, rather than maintain your appearance and/or shape?	0	1	2

Scoring: Add up (total) each column and add together, then divide the total by 4

Column Totals:			
Grand Total (column totals added together):			
Grand Total divided by 4 (<u>Mean Score</u>):		Round to one decimal place	

Scale 6

	No, not at all	A little	Yes, absolutely
Do you continue to exercise despite finding it a chore?	0	1	2

	Not true at all	A little true	Totally true
How true of you is it to say, "I do not really enjoy exercising"?	0	1	2

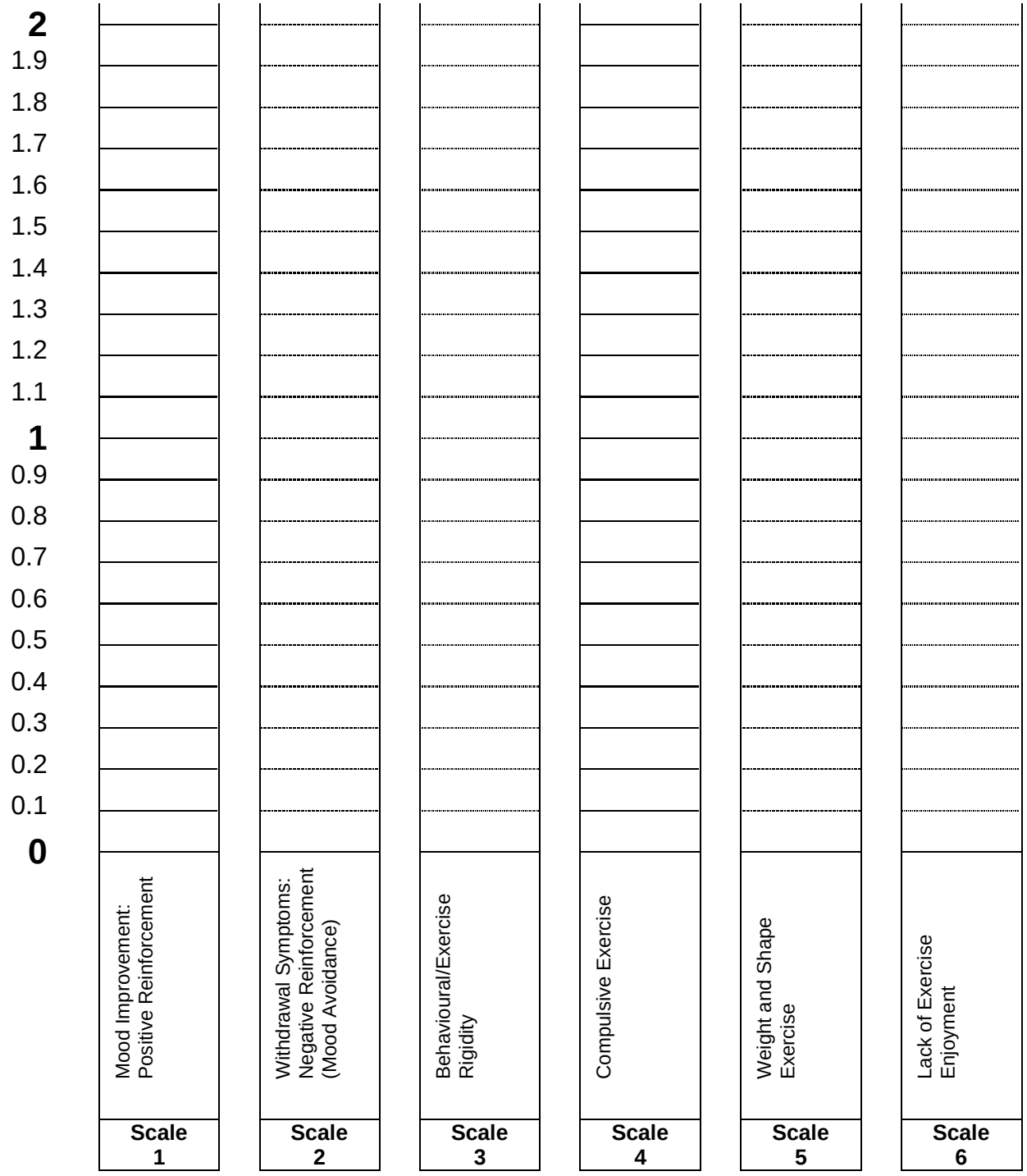
	No, not at all	A little	Yes, absolutely
Do you exercise primarily because you feel you have to, or need to, rather than because you enjoy it and want to?	0	1	2

Scoring: Add up (total) each column and add together, then divide the total by 3

Column Totals:			
Grand Total (column totals added together):			
Grand Total divided by 3 (<u>Mean Score</u>):		Round to one decimal place	

My Exercise Profile Graph

Using the mean score that you have calculated for each of the scales above, draw a line in the appropriate column on the graph below and shade the area below the line. For example, if your mean score for scale 1 was 1.6, draw a line at 1.6 in column 1 of the table and shade the area below the line. Do this for each of the scales before progressing to the next stage.



Interpreting Your Exercise Profile

What does it all mean? Below are a series of descriptions of each of the scales that will enable you to interpret your exercise profile and gain a better understanding of the factors that contribute to maintaining your exercise behaviour, and the function(s) exercise serves for you.

Scale 1: Mood Improvement: Positive Reinforcement.

This scale measures how much of a positive effect exercise has on your mood. A high score on this scale shows that you derive a substantial improvement in your mood as a result of exercising, and therefore find exercise very reinforcing. A high score also indicates that you may be susceptible to becoming psychologically dependent on exercise as a means to improve or regulate your mood (see scale 2), and therefore suggests that you would find it difficult to cut down or stop your exercise behaviour because of the loss of the mood changing effect of exercise. A mid-range score shows that you derive a positive uplift in your mood as a result of exercising, but are unlikely to be psychologically dependent on exercise as a means to improve or regulate your mood. A low score shows that exercise has little to no effect on your mood and indicates that exercise is probably not a very pleasurable activity for you.

Scale 2: Withdrawal Symptoms: Negative Reinforcement (mood avoidance).

This scale measures the effect on your mood of being unable to exercise, and is essentially a measure of your dependence on exercise as a means of avoiding (regulating) negative emotions (an avoidant coping mechanism). A high score on this scale shows that you use exercise as a means of avoiding (regulating) a wide range of negative mood states or emotions (e.g. depression, anxiety, irritability), and indicates a high level of psychological dependence on the mood regulatory effect of exercise. A high score therefore predicts that you find it very difficult to cut down or stop your exercise, because of the negative impact on your mood (withdrawal symptoms). A mid-range score shows that either you are psychologically dependent on exercise as a means of avoiding/regulating certain specific negative mood states (e.g. anxiety *or* depression), or that you have a similar profile to a high-scorer and are 'at risk' of developing a psychological dependence on exercise. A mid-range score therefore suggests that you would find it quite difficult to cut down or stop your exercise behaviour. A low score shows that you do not use exercise as an avoidant coping mechanism and are not psychologically dependent on exercise as a means to regulate your mood, and are therefore able to stop or cut down your exercise behaviour without suffering a negative mood state.

Scale 3: Behavioural Rigidity.

This scale measures how rigid and repetitive your exercise behaviour has become. A high score on this scale shows that your exercise behaviour (routine) has become very rigid and repetitive, and strongly predicts that you will have great difficulty in cutting down, stopping, or even altering your exercise behaviour. A high score is also typically associated with the following of specific 'exercise rules' (e.g. "I must exercise for at least an hour", or "I must cross the road in the same place" etc), and is similarly often associated with high scores on many of the other scales as 'rigidity' is often a consequence of a very low bodyweight. A mid-range score shows that you like organisation and structure but are not bound by it and do not have to follow specific rules. A mid-range score therefore suggests that you would be able to cut down, stop, or alter your exercise behaviour without too much difficulty so long as it is carefully planned. A low score shows that you have a highly flexible approach to exercise, as you do not follow any sort of fixed routine or rules. A low score therefore predicts that you should have little difficulty in cutting down, stopping, or altering your exercise behaviour from a purely 'behavioural' perspective.

Scale 4: Compulsive Exercise.

This scale measures how compulsive you have become about your exercise. A high score on this scale shows that exercise has become grossly over-inflated in terms of its importance, and as such you feel that you 'have' to exercise. A high score therefore suggests that you may hold false beliefs about the importance of exercise for your general well-being and health, and that you would find it very difficult to cut down or stop your exercise behaviour. A high score also suggests that you may be very concerned (afraid) of what may happen to you if you stop or cut down your exercise (i.e., the negative consequences). This scale is one of the strongest indicators of an 'unhealthy' approach to exercise, and as such a high or mid-range score on this scale is very likely associated with high scores on many of the other scales, especially scales 2 and 3. A high score is also often associated with certain maladaptive attitudes to exercise such as using exercise as a means to 'earn' certain rights like eating, relaxing, or going out. A mid-range score suggests a similar profile to a high-scorer only to a lesser degree. A low score indicates that exercise is appropriately viewed in terms of its importance to your general well-being. It is possible that a highly committed exerciser, such as an athlete may have a low to mid-range score, but this will be in the absence of high scores on any of the other scales.

Scale 5: Weight and Shape Exercise.

This scale measures how obsessional you have become about exercise specifically in terms of its influence on your weight and shape. A high score on this scale shows that you exercise primarily for weight and shape reasons and suggests a very strong reciprocally

reinforcing relationship between your exercise and your eating, attitudes, beliefs and behaviours (i.e. the exercise attitudes, beliefs and behaviours are supporting the eating disorder and vice-versa). A high score therefore suggests that your exercise attitudes, beliefs and behaviours are a significant maintenance factor for the eating disorder, and strongly suggests that you may hold false beliefs about what constitutes appropriate and 'healthy' exercise. Even in the absence of an eating disorder, a high score on this scale would indicate an extremely un-healthy approach to exercise, due to the grossly inflated importance attributed to its influence on weight and shape, and would indicate that you would likely find it very difficult to cut down or stop your exercise behaviour. A mid-range score shows that you exercise largely for weight and shape reasons, and in the presence of an eating disorder suggests a moderately strong reciprocally reinforcing relationship between your exercise and your eating, attitudes, beliefs and behaviours. A mid-range score also suggests that you may hold some false beliefs about what constitutes appropriate and 'healthy' exercise. A low score shows that weight and shape is not your primary reason for exercise.

Scale 6: Lack of Exercise Enjoyment.

This scale measures how un-enjoyable you find exercise. A high score on this scale shows that you do not enjoy exercise at all, and strongly suggests you are exercising for the wrong reasons. A mid-range score shows that although you do not always enjoy exercise, you do not hate it. A high or mid-range score on this scale would therefore suggest that if you have had a high score on any of the other scales, you should make efforts to re-learn what constitutes 'healthy' and enjoyable exercise so that you may continue to exercise in a manner that improves your health and well-being. A low score on this scale shows that on the whole you find exercise an enjoyable activity.

Importance of My Exercise Profile

Your exercise profile will form a central part of the 'healthy activity' treatment module you are attending, as much of what you will be taught will be specifically related to and best understood in terms of certain questions in the scales you have just completed. Your exercise profile graph provides you with a visual representation of your current exercise profile and enables you to identify some of the key factors you may need to address in order to resume 'healthy' and appropriate exercise.

My Exercise Profile Questions

Use the space below to record any questions you may have as a result of completing your exercise profile. Make sure you get the answers you need at your next session by asking the therapist during review.

Name:…….....

Treatment Manual: Stage 2

Sessions 2 – 8:

Stage 2 (Sessions 2 – 8: Education, Skills Training, and Cognitive Therapy)

Session Timing

- First 5-10 Minutes – orient new patients while existing patients organise themselves for the start of review (e.g. get completed homework and any related questions ready).
- Middle 20-30 minutes – review of the previous sessions homework assignment and activity monitoring sheets.
- Final 20-30 minutes – group activity and set homework for next session.

Review

Session 2 and all subsequent sessions open with a review of the homework completed since the last session. The completed homework serves as both an introduction to each session and the primary education component, and should be thoroughly reviewed before beginning the session activity. The primary purpose of review is to generate interest in the session subject area and ensure the patients have understood the homework. This is best achieved by asking patients to feedback what they thought about the homework and how they found it, and by encouraging a group discussion (i.e. critical but reasoned debate). Review should also be used to address any specific questions or misunderstandings the patients may have arising from the homework. If a patient has not completed the homework the therapist must try to understand why this has happened. Under these circumstances the rational for homework and the importance of commitment must be restated.

Of particular importance during review is to ensure that patients understand how the subject area relates to both their Exercise Profile and the CBT Model of the Maintenance of Compulsive Exercise. This may be achieved by drawing the CBT model on the whiteboard and asking patients to identify which of the maintaining factors is being addressed by the homework subject area. Similarly, the therapist can ask patients to identify which of the Exercise Profile scales is related to the session subject area.

Although the time allotted for review is 20 minutes, this is only a guide and may be changed at the therapists discretion provided the therapist feels the work being done is of value. Review should lead naturally into the session activity and the accompanying skills training/cognitive therapy.

Note: As this treatment module continuously cycles there will invariably be patients in the group who have already attended the cognitive restructuring sessions. It is important that during review the therapist reiterates the importance of practicing this skill and if necessary spends a little time with any patients who need help at refining it.

Session Activity, Skills Training, and Cognitive Restructuring

The session specific activities (i.e. worksheets) follow from the homework, but the focus narrows to more specifically address cognitive content such as attitudes, beliefs, and assumptions. The cognitive procedures primarily consist of training in both problem-solving and cognitive restructuring. The aim of the cognitive treatment is to challenge false beliefs and cognitive distortions thereby restoring a healthy attitude toward exercise.

Training in Cognitive Restructuring

Training patients in the principles of cognitive restructuring is a core component of their treatment. It involves identifying false beliefs and negative assumptions and examining them in line with the principles of cognitive restructuring. Patients should be reminded to practice the procedure between sessions especially in relation to any automatic thoughts that arise as a consequence of completing the homework tasks. The four stages of cognitive-restructuring are given below:

1. The false belief, negative assumption, or automatic thought should be identified and written down
2. Arguments and evidence to support the false belief should be examined
3. Arguments and evidence that refute the false belief should be considered
4. The patient should reach a reasoned conclusion based on the evidence. This should then be used to govern behaviour.

How sessions 2 – 8 map onto the CBT model

Detailed below you will find a brief description of how each of the treatment sessions maps onto (relates to) the simplified CBT model of the maintenance of compulsive exercise. It is important to note that although each of the proposed maintaining factors for compulsive exercise is targeted by one or more specific sessions, many sessions contain anything from a small to a large amount of overlap with maintaining factors other than the one they were designed to target. In this way the treatment program has a cumulative effect despite the sessions following no particular order of presentation.

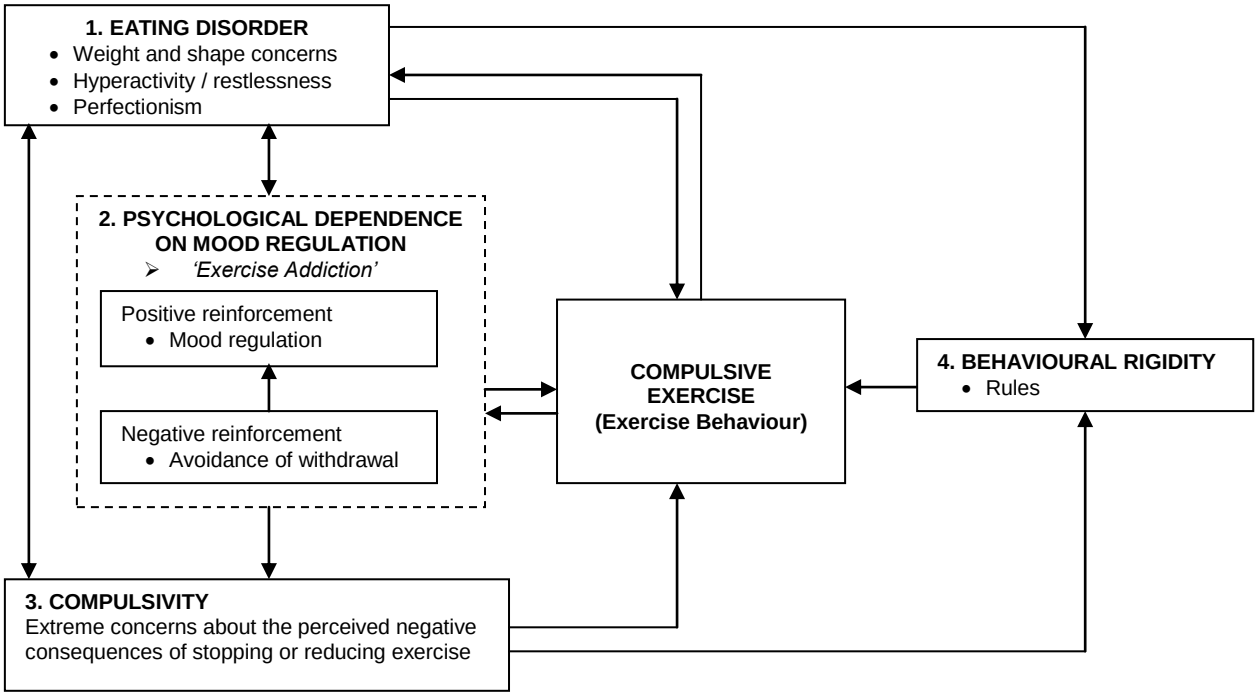


Figure 6. The simplified cognitive-behavioural model of the maintenance of compulsive exercise.

1. Eating Disorder:

Specific Sessions

- Compulsive Exercise and the Eating Disorders
- Activity Anorexia

Overlapping Sessions

- Initiating and Maintaining Factors
- Myths and Facts

2. Psychological Dependence on Mood Regulation:

Specific Session

- Psychological Dependence on Mood Regulation and 'Exercise Addiction'

Overlapping Sessions

- Initiating and Maintaining Factors
- Behavioural Rigidity
- Healthy and Unhealthy Exercise
- Activity Anorexia

3. Compulsivity:

Specific Sessions

- Myths and Facts
- Healthy and Unhealthy Exercise

Overlapping Sessions

- Initiating and Maintaining Factors
- Behavioural Rigidity
- Compulsive Exercise and the Eating Disorders
- Psychological Dependence on Mood Regulation and 'Exercise Addiction'

4. Behavioural Rigidity:

Specific Session

- Behavioural Rigidity

Overlapping Sessions

- Compulsive Exercise and the Eating Disorders
- Healthy and Unhealthy Exercise

Myths and Facts:

Myths and Facts

Homework

Introduce this homework as being about beliefs and the role they play in both maintaining attitudes and behaviours toward exercise. Relate the homework back to the patient's individual Exercise Profile by highlighting the role their exercise beliefs have played in influencing their answers on scales 4 and 5 (compulsive exercise, and obsessive weight and shape).

Review – Homework

Give a brief summary of the homework topic/aims and ask patients what they thought about/how they found the homework. Make sure that patients understand the difference between a myth (false belief) and a fact, and that beliefs are often expressed in the form of assumptions. Also reiterate the importance of beliefs in terms of their role in the maintenance of disordered attitudes and behaviours, and the influence of current beliefs on the formation of new ones. Explain how beliefs fit into the CBT model of compulsive exercise (i.e. the influence of eating disorder beliefs and exercise beliefs on *extreme concerns* about the negative consequences of stopping or reducing exercise – Compulsivity).

The second part of the homework review will form a large part of the session activity.

Ask patients to feedback the beliefs and assumptions that they wrote down as part of the homework. These could be written on a white board (or a selection). Encourage group discussion on the truth or falsity of some of the more commonly reported beliefs and assumptions (if possible) and guide the discussion according to the principles of cognitive restructuring. If the group will not enter into a discussion use one of the more commonly reported beliefs or assumptions to demonstrate the principles of (i.e. train in) cognitive restructuring.

An alternative to the above format, if for example cognitive restructuring is either not appropriate or too challenging, is to introduce the idea of assumptions leading to automatic thoughts. The session could then focus on the benefits of monitoring and the technique of thought stopping/challenging in order to manage any 'urge' or compulsion to exercise. The activity sheet may still be used with this alternative format as the statements are typically in the form of either beliefs, assumptions, or automatic thoughts.

Activity Sheet (see answers below)

Organise patients into pairs or small groups and give them 5-10 minutes to complete the activity worksheet. Then as a group exercise work through the answers. Again, taking a particular false belief (i.e. myth) that is common in the group, work through the process of cognitive restructuring with the group as a whole. Having illustrated the four steps of cognitive restructuring using the example, and ensured the group understands them, the therapist should encourage the group to practice the procedure between sessions.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

It is expected that a commonly held false belief is Number 16 on the worksheet (muscle turns to fat). If this is true of the group the therapist may wish to use the bodybuilder analogy given below.

Set Homework for next Session

Activity Answers

Myths and Facts	Myth (false)	Fact (true)
1. All body fat is unhealthy	☑	☐
2. Exercise can change/regulate your mood	☐	☑
3. Muscle weighs approximately three times as much as fat	☐	☑
4. Walking to the shops or train station is not exercise	☑	☐
5. You need to be thin to be healthy	☑	☐
6. The thinner you are the more obsessional and rigid you become	☐	☑
7. Fat can be turned into muscle	☑	☐
8. If you are fit, then you are healthy	☑	☐
9. Exercise can be addictive	☐	☑
10. You need to be thin in order to be fit	☑	☐
11. The human body is naturally thin	☑	☐
12. If a muscle is not used, then it turns to fat	☑	☐
13. You cannot be fat and fit	☑	☐
14. It takes less exercise to maintain fitness than it does to improve it	☐	☑

Bodybuilder Analogy

Therapist notes are in *red italics (delete before using as a handout).*

This analogy may be shortened or changed by therapist as deemed necessary.

If leading into this activity no-one in the group admits to the belief that muscle turns to fat, the example below can be used as a way to test their knowledge of body composition processes and so would still be relevant. Give them the first half of the example and see what the responses are regarding how the bodybuilder would look and what has happened to the muscle tissue.



The Bodybuilder

Imagine a bodybuilder *(ask if patients know what a bodybuilder looks like – if some don't then show an example or describe for them)*, typically it is a great big muscular guy or girl with huge arm, leg and chest muscles that are much bigger than normal.

When a bodybuilder has a show/competition coming up, she has to get into really good shape so that all her muscles are really well defined and hard and the judges can see all the muscular definition. In order to get that sort of definition a bodybuilder will adjust her diet so that her bodyfat percentage drops to around 5%. *(get agreement from patients that they understand that to have such amazing definition bodyfat must be very low)*

Now, imagine that the bodybuilder stopped training, that is she stopped lifting any weights, but modified her diet so that her bodyfat percentage stayed the same at 5%. After a while, what would she look like – all hard, toned and defined, or soft, rounded and flabby? *(encourage discussion around this point – remind that the bodyfat percentage has not changed therefore no muscle has turned to fat)*

The answer is that she would look soft, rounded and flabby, but given that her bodyfat percentage has remained the same at 5% her muscle cannot have turned to fat – so what has happened? *(again encourage discussion around this point)*

The answer is that unused muscle relaxes (loses tone), but it does not turn to fat (it is still muscle just not toned). Muscle and fat are two completely different sorts of tissue, meaning that one cannot turn into the other. *(make sure that this point is both understood and accepted as fact – if not return to the example and work through it)*

(Another very important point to make at this stage is that the bodybuilder's weight would not have changed as her body composition is the same – the muscle has simply lost tone!)

Over time, any muscle tissue that is no longer being used will be broken down by the body, as it attempts to normalise both its weight and its composition. In reality, the bodybuilder we have just discussed would find it virtually impossible to maintain her bodyfat at 5% when not training, as after a period of time, the body would start to break the muscle tissue down and use the energy it releases to replace the fat stores it so desperately needs, but this is not the same as muscle turning to fat.

Because bodyfat is so important for the body to function properly *(give examples such as the role of fat in insulating the body against heat loss, its role in protecting the organs and maintaining their correct functioning etc)* when someone becomes severely underweight, the body starts to break down muscle tissue instead of fat because maintaining a reasonable level of fat is more important for survival than maintaining muscle.

This also helps explain why, when you are being re-fed, you sometimes appear to gain weight so quickly *(ask if anybody knows why – body is replacing muscle as well as bodyfat, which is much heavier than fat).* If someone has been so severely malnourished that the body has had to break down it's own muscle tissue, it will be very eager to replace it again in an attempt to normalise not just its fat levels but also its overall composition of muscle and fat. As muscle weighs three times as much as fat, you will put on weight quite rapidly while the body is trying to get back to an acceptable baseline of normality.

Another important point to understand is that muscle tone is dependent on how hard and often the muscle is worked. Considerable muscle tone is not a normal state of being for the body, which is why it is so hard to maintain. In reality, we all differ with regard to our body's preferred level of muscle tone *(could mention genetics),* but if our diet is adequate to maintain a healthy weight our body will naturally maintain a baseline level of muscle tone almost irrespective of how little exercise we do. Simple everyday activities (e.g. getting dressed, tidying up, ironing, carrying the shopping) are enough for our body to maintain a healthy level of muscle tone.

Also tone is NOT definition! Definition is a combination of tone and low bodyfat. It is possible for muscles to be very well toned (imagine your job was a labourer) but have little to no definition due a high level of bodyfat (e.g. a labourer with a bit of beer gut!).

This last point also serves to illustrate that neither muscle tone, nor aerobic fitness are dependent on a very low level of bodyfat. It is possible to be both fit and toned (without definition) and have a healthy/normal level of bodyfat.

Homework

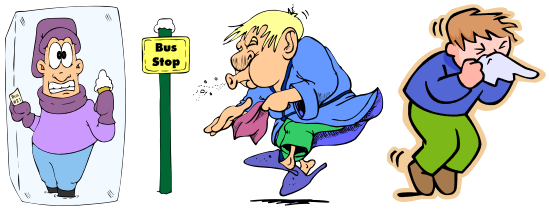
Name: Date:

…….. ……

Myths and Facts

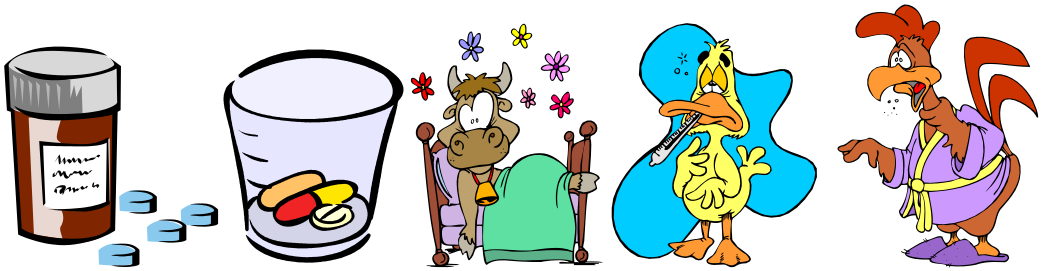
Introduction

A myth is a commonly held or popular belief that is false or unsupported by any evidence. The main difference between a myth and a fact, is that a fact is something that can be supported by evidence whereas a myth cannot. Lots of common myths have arisen as a result of trying to make sense of apparent relationships that have been observed. For example, it has long been observed that people are more likely to catch a cold in the winter. The relationship that needs to be explained is the one between cold temperatures and catching a cold. As a result, a very common myth is that exposure to cold temperatures causes you to catch a cold. Myths, like all beliefs are often expressed as assumptions in the form of *"if….., then….."* statements. For example, *"if I do not wrap-up warm, then I will catch a cold"* is an assumption based on the false belief that exposure to cold temperatures causes you to catch a cold.



However, there is actually no real evidence to suggest that this is true. In fact, the evidence tells us that in order to catch a cold you have to be exposed to someone who has already got a cold. Therefore, the reason that you are more likely to catch a cold in the winter (or when it is cold) is because you tend to be inside more often and for longer, which means that you are in close contact with more people who already have a cold making you more likely to catch one yourself. So the fact of the matter is quite different from the myth.

In reality much of your everyday behaviour is guided by the assumptions that you make and the majority of your assumptions either serve you very well, or as in the case of catching cold, do you no real harm. The main reason for this is that most assumptions are based on facts (i.e. true beliefs). For example, the belief that hard work usually pays off could lead to the assumption *"if I study hard, then I will get better results"* and there is considerable evidence to back this up. However, some assumptions that are based on myths (i.e. false beliefs) do not serve you well at all and can have a negative impact on your health. For example, the common myth that a lot of medications do more harm than good has led many people to choose not to take their medication. This has resulted in them suffering unnecessarily when the truth of the matter is that their medication is in fact very safe and could have significantly improved their health and/or quality or life.

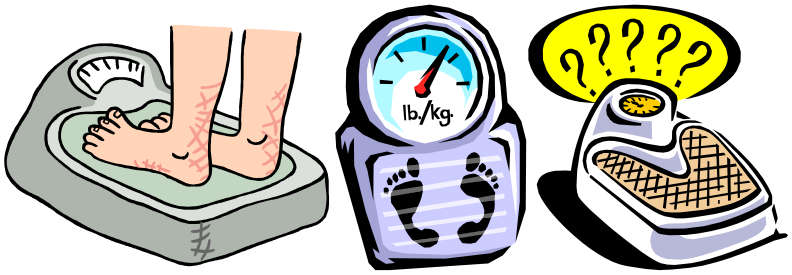


Similarly, consider an athlete who believes the myth that more exercise is always better because a friend said that it had worked for them. This could lead to the assumption *"if I do more exercise, then I will be even healthier, fitter and faster"*, which could result in them overtraining and as a consequence becoming unhealthier, less fit and slower. The fact is that more is not always better. The evidence tells us that there is only so much exercise the body can take before the positive benefits become outweighed by the negative effects. Both of these examples serve to illustrate the powerful effects that myths can have on your everyday health and behaviour.

Importance

The importance of myths in terms of your health is highlighted by the fact that many psychiatric disorders, such as an eating disorder can to a large degree be a result of

believing certain myths, because they function to maintain the disordered attitudes or behaviours that form the core of the disorder. For example, a common eating disorder myth is that it is possible to maintain a specific weight. Yet all the evidence tells us that in fact everybody's weight fluctuates within a certain range on a daily basis. Therefore, the truth of the matter is that it is only possible to maintain a certain weight range.



Finally, it is also important to remember the fact that existing beliefs can influence the formation of new beliefs. For example, if you believed the myth discussed earlier that more exercise is always better, then any beliefs you were to form about dieting or weight loss are likely to be influenced by your existing belief. Therefore, you would likely end up believing that more is always better in relation to both dieting and weight loss as well. This clearly demonstrates both how an existing belief can influence the formation of a new belief, and also how an exercise myth can lead to the formation of specific eating disorder myths.

PTO for homework activity

Name: Date:

…….. ……

What's true and what's not?

Your Beliefs

What do you believe to be true about exercise? Spend a few minutes thinking about this question. Try to think of things that you think are true or have heard are true, but are not too sure of. They could be about the benefits of exercising, the consequences of not exercising, or the significance of incidental exercise to name a few. Then using the space below, write a few down.

Your Assumptions

What assumptions do you have about exercise (i.e. *"If……, then……"* statements)? They may be personal assumptions that specifically influence your own behaviour (e.g. *"If I…...., then I will…."*), or more general assumptions that you think are true of people on the whole (e.g. *"If people……, then people will….."*). Again, spend a few minutes thinking about this question and using the space below write down any assumptions you have.

If	then
If	then
If	then
If	then
If	then
If	then

Be sure to bring this with you to the next session as it will be needed.

Activity

Name: Date:

…….. ……

Myths and Facts

Instructions

Below is a list of statements that are either myths or facts. Working in pairs or groups discuss each statement and indicate whether you think it is a myth or a fact.

Myths and Facts	Myth (false)	Fact (true)
1. All body fat is unhealthy	☐	☐
2. Exercise can change/regulate your mood	☐	☐
3. Muscle weighs approximately three times as much as fat	☐	☐
4. Walking to the shops or train station is not exercise	☐	☐
5. You need to be thin to be healthy	☐	☐
6. The thinner you are the more obsessional and rigid you become	☐	☐
7. Fat can be turned into muscle	☐	☐
8. If you are fit, then you are healthy	☐	☐
9. Exercise can be addictive	☐	☐
10. You need to be thin in order to be fit	☐	☐
11. The human body is naturally thin	☐	☐
12. If a muscle is not used, then it turns to fat	☐	☐
13. You cannot be fat and fit	☐	☐
14. It takes less exercise to maintain fitness than it does to improve it	☐	☐

Compulsive Exercise and the Eating Disorders:

Compulsive Exercise and the Eating Disorders

Homework

Introduce this homework as being about the relationship between compulsive exercise and the eating disorders. Emphasise the importance of needing to know how their compulsive exercise relates to the eating disorder in order to best manage or treat it. Relate the homework to the patient's individual Exercise Profile by highlighting how it is an extension of scales 4 and 5 (i.e. compulsive exercise and obsessive weight and shape exercise).

Review – Homework

Give a brief summary of the homework topic/aims and ask the patients to feedback how they found the homework, and answer any questions that may arise. Work through the model presented in Figure 1. and ensure that it is understood – especially in terms of the CBT model of the maintenance of compulsive exercise. If pertinent the therapist may wish to spend some time discussing the model and highlighting the links between the eating disorder and compulsive exercise maintaining factors (e.g. how perfectionism leads to behavioural rigidity, and/or the relations between extreme concerns about shape and weight, and extreme concerns about the negative consequences of stopping or reducing exercise). Ask patients to feedback their scores from the questionnaire and use the differences between patients to stimulate discussion about the role of, and different types of compulsive exercise in the eating disorders. Emphasise that a high score is not in any way an indication of the severity of the eating disorder.

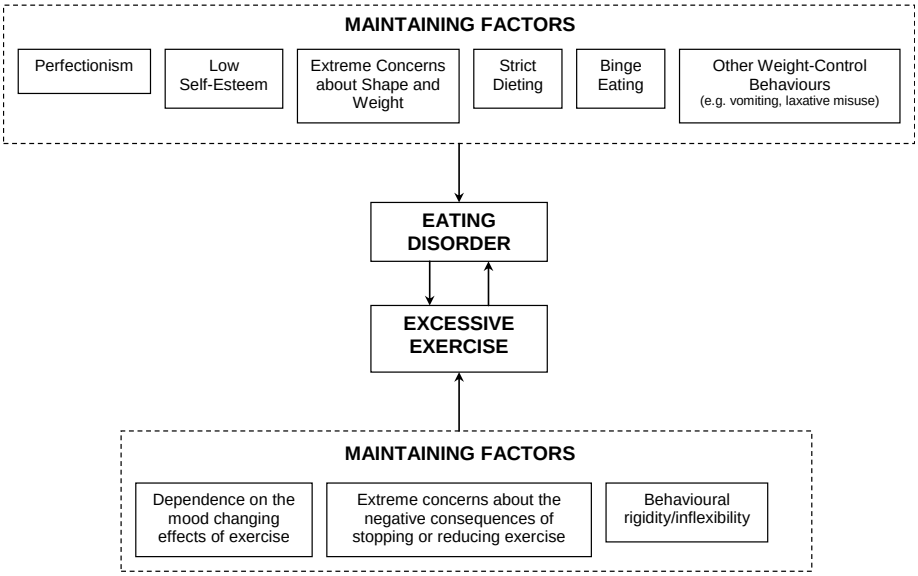


Figure 1. The relationship between compulsive exercise and an eating disorder, and their maintaining factors.

Activity

Use the rest of the session to focus on ways to challenge and/or modify the links between the eating disorder and the patient's exercise in light of the information the questionnaire has generated. Of particular importance in terms of maintaining compulsive exercise is the presence of "debting" behaviours as measured by questions 1 and 3 (see below). This activity may be structured according to the principles of problem-solving and guided discovery. Encourage patients to suggest ways of modifying their exercise behaviour so that it severs or weakens a link with the eating disorder (e.g. stop counting calories, or not exercising after eating, or thought stopping). Highlight the central importance of being in control of their exercise instead of it being controlled by the eating disorder.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

Debting

There are two forms of debting behaviour. Firstly, is the use of exercise to earn the right to eat (i.e., calorific expenditure via exercise is used to determine subsequent calorific intake). May be more common to anorexic patients and is often embedded as an exercise "rule" that they try and follow (i.e., "I am only allowed to eat what I have already burnt off").

The second type of debting behaviour is the use of exercise to compensate for what has been eaten (i.e., the amount of exercise done is adjusted according to what has been eaten previously). This compensatory from of debting, which is in essence a type of purging behaviour, may be the major form of debting seen patients with a bulimic profile. May also present as a rule ("I must burn off what I have eaten").

Set Homework for next Session

Homework

Name: Date:

…….. ……

Compulsive Exercise and the Eating Disorders

Introduction

Exercise is essentially a healthy, life improving activity that you should enjoy and not have to worry about. But when it becomes associated with an eating disorder exercise usually becomes compulsive and starts to have a negative effect on your health. The reason compulsive exercise is so important is that it both maintains the eating disorder and becomes maintained by the eating disorder (see Figure 1.).

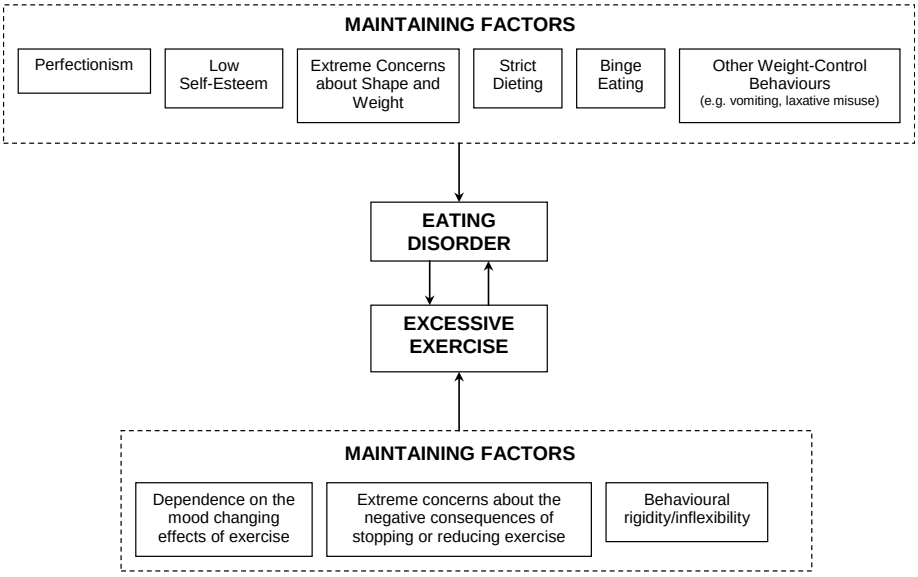


Figure 1. The relationship between compulsive exercise and an eating disorder, and their maintaining factors.

What makes compulsive exercise so important is that it has its own maintaining factors that need to be addressed in order for it to return to healthy exercise. However, you should be able to see from the diagram in Figure 1 that the successful treatment of compulsive exercise requires both its maintaining factors *and* the eating disorder to be addressed. Even successfully treating an eating disorder does not ensure that exercise behaviour returns to a non-compulsive healthy state.

The Development of Compulsive Exercise

Although compulsive exercise refers to exercise that is associated with an eating disorder there can be considerable variation in how it first started. Whereas some people exercise purely to control their weight and shape, and only started exercising after they developed weight and shape concerns (i.e. an eating disorder), others used to exercise healthily before the eating disorder took over (hijacked!) their exercise as another form of weight control. There is even another group whose exercise is potentially unrelated to their weight and shape concerns as they have simply kept up what they had been doing before the onset of the eating disorder. This last group often includes those individuals who believe they are exercising to stay fit rather than to control their weight.

Irrespective of how your exercise behaviour first started there can also be further variation in the strength of the relationship between your exercise behaviour and the eating disorder. Because exercise is such a powerful weight-control behaviour (i.e. means of burning calories and losing weight), the eating disorder often uses it to further its own ends. This can even happen without you being aware, and is especially true of people who were exercising before the onset of the eating disorder.

One way of assessing the strength of the relationship between your exercise and the eating disorder is to measure whether or not you ever experience exercise attitudes, beliefs and behaviours that are influenced by the eating disorder. A good indication of this can be obtained by looking at your scores on scales 4 and 5 of your Exercise Profile and re-reading

the interpretation. Another way is to use a more detailed measure to assess the influence of your weight, shape and eating concerns on your exercise behaviour.

On the next page is a short questionnaire that specifically measures how much of an influence your weight, shape and eating concerns have on your exercise attitudes, beliefs and behaviours. Try to answer the questions as honestly and accurately as possible as they will give you a very good insight into the type of relationship your exercise behaviour shares with the eating disorder. Once you have completed the questionnaire, simply add up the number of Yes's and write your score in the box. Be sure to bring this with you to the next session as it will be needed.

Interpretation of your score

It is very important to note that your score is not in any way an indication of the severity of the eating disorder. It is simply a measure of how integrated your exercise attitudes, beliefs and behaviours have become into the eating disorder. Irrespective of whether you were exercising before the eating disorder or not, it is to be expected that your exercise will have become very focused on weight and shape issues as the eating disorder will have worked very hard at using exercise to further its own ends.

Name: Date:

…….. ……

Questionnaire

	YES	NO
1. Do you ever adjust the amount of exercise you do according to what you have eaten?	□	□
2. Do you worry that you will gain weight if you do not exercise?	□	□
3. Do you ever work out how much you can eat based on how many calories you have burned or can burn?	□	□
4. Do you ever feel the need or desire to exercise after you have eaten?	□	□
5. Do you ever exercise after a binge?	□	□
6. Do you ever use exercise as a means to earn the right to eat?	□	□
7. Do you ever use exercise to manage any guilt you feel after eating?	□	□
8. Do you ever think about how many calories you are burning when you are exercising?	□	□
9. Do you ever weigh yourself before and after exercising to see if you have lost weight?	□	□
10. Do you feel thinner after you exercise?	□	□
11. Do you exercise primarily to lose weight?	□	□
12. Do you ever do more exercise as a punishment for eating certain foods or eating too much?	□	□
13. Do you exercise primarily to improve your appearance?	□	□
14. Did your interest in exercise begin with a desire to lose weight?	□	□
15. Do you ever measure your “self-worth” in terms of how much or how well you exercise?	□	□
16. Have you ever exercised in secret?	□	□

Score = Yes’s

Healthy and Unhealthy Exercise:

Healthy and Unhealthy Exercise

Homework

Before handing out the homework on Healthy and Unhealthy Exercise to the patients, introduce this homework as a way of analysing their current understanding and knowledge about what constitutes healthy or unhealthy exercise. Relate the homework back to the patient's individual Exercise Profile by emphasising how the Profile can be used to help complete the homework activity – by thinking about how each exerciser described in the homework would score on each of the Exercise Profile scales it is possible to work out whether they are a healthy or unhealthy exerciser and what the reasons are for labelling them as such.

Review – Homework (see answers below)

Give a brief summary of the homework topic/aims and ask patients what they thought about/how they found the homework. Using the whiteboard to record patient's answers/reasons, work through each of the exercisers in the homework activity and record patient's answers/reasons. The therapist may also draw an Exercise Profile Graph on the whiteboard for each exerciser and ask the patients to indicate what they think the score would be on each of the scales. Emphasise how each reason relates back to both the Exercise Profile scales and the CBT model of the maintenance of compulsive exercise. For example, exercise as a means of earning something such as the right to eat is a form of debting, which is a behaviour that is motivated by shape and weight concerns (i.e. the eating disorder).

Note: The therapist may choose not to include the activity below if the review generates a good discussion that is deemed productive to continue. However, it is important that the discussion is structured according to the principles of cognitive restructuring and challenges patient's false beliefs and/or dysfunctional assumptions.

Activity Sheet (see answers below)

Organise patients into pairs or small groups and give them 5-10 minutes to complete the activity worksheet. Then as a group exercise work through the answers, and additionally take each statement from the activity worksheet and go around the group finding out how many patients would apply it to themselves and ask the patient(s) to describe how/where it fits into the CBT maintenance model (could illustrate on whiteboard).

Emphasise how many of the statements may describe attitudes, beliefs and/or assumptions that patients may hold, and how they may constitute core maintenance factors for their exercise behaviour. Taking those statements which one or more individuals identify as particularly relevant to themselves, use them as examples to work through the process of (i.e. train in) cognitive restructuring with the group as a whole. Having illustrated the four steps of cognitive restructuring using the example, and ensured the group understands them, the therapist should encourage the group to practice the procedure between sessions.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

Set Homework for next Session

Homework Answers

Walking Wendy: Unhealthy

- Rigidity – inflexible approach to exercise
- Fixed routine – repetitive, no variation (boring!)
- Strict exercise rules.
- Withdrawal symptoms – irritable, anger, anxiety
- Avoidant coping strategy – negative reinforcement
- No pleasure or enjoyment

Circuits Sam: Unhealthy

- Possible dependence on exercise – mood improvement and mood regulation
- Rigidity – interferes with social life and studies
- Fixed routine – repetitive, little variation
- Withdrawal symptoms – irritable, anger, depression, low mood
- Very obsessive attitudes – therefore false beliefs about weight, shape, health and fitness

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Sporting Sue: Healthy

- Exercise is positively reinforcing – enjoyable and improves mood, but no dependence
- Exercise is not rigid – happy to miss the odd session
- Routine is varied – soccer and tennis
- No obsessive attitudes – even though weight loss was original motivating factor
- No emotional withdrawal symptoms

Random Rachel: Unhealthy

- Doesn't enjoy exercise at all – is a chore
- Makes herself exercise even though doesn't want to – Compulsivity
- Feels compelled to exercise due to guilt and worries
- Very obsessive attitudes with regards to weight and shape

Marathon Michelle:	Healthy • Exercise is positively reinforcing – enjoyable and improves mood, but no indication of dependence • Exercise is not rigid – able to miss the odd session and vary rest days week to week • Exercise goals that are realistic and are *not* 'rules'. • Although mid range score on scale 4 this is due to high level of commitment in absence of high scores on any other scales • No obsessional attitudes or emotional withdrawal symptoms
Active Annie:	Unhealthy • Doesn't enjoy exercise at all – is a chore • Makes herself exercise even though doesn't want to • Feels compelled to exercise due to guilt and worries • Obsessive attitudes about weight and shape

Activity Answers

Statements	Healthy	Unhealthy	Reason
1. I use exercise as a means of earning certain privileges, such as food		☑	.....
2. I exercise because I enjoy it	☑		.....
3. I exercise primarily to change my weight or shape		☑	.....
4. I need to be slim in order to be fit		☑	.....
5. I feel better about myself after I exercise	☑		.....
6. I am preoccupied with exercise, I think about it a lot		☑	.....
7. I exercise harder if I have done something wrong or been bad		☑	.....
8. I use exercise to help me relax and de-stress	☑		.....
9. I make up for any exercise sessions I miss by doing more next time		☑	.....
10. I exercise to compensate for what I've eaten		☑	.....
11. I follow a strict exercise routine		☑	.....
12. I exercise in order to improve my health	☑		.....
13. I make myself exercise even when I'm tired		☑	.....
14. I exercise in order to avoid feeling bad (e.g. anxious or irritable)		☑	.....
15. I prefer exercise to be a social activity	☑		.....
16. I feel guilty about not exercising		☑	.....
17. I follow a varied and flexible exercise routine	☑		.....
18. I need to exercise in order to cope with how I feel		☑	.....

19. The fitter I am, the healthier I am		.....
20. I prefer to exercise alone		.....
21. I have exercise targets/goals that I must reach for it to be worth it		.....
22. I feel that I *have* to exercise		.....
23. I exercise to maintain a healthy weight		.....
24. I feel bad if I am unable to exercise (e.g. anxious, irritable, depressed, or angry)		.....
25. I follow exercise rules – such as 'no pain, no gain', or 'more is better'		.....
26. I exercise but I don't enjoy it		.....
27. I continue to exercise even when I have an injury		.....
28. I need to exercise in order to cope with life		.....
29. I find exercise a chore and have to make myself do it		.....
30. I continue to exercise when I am ill or not feeling well		.....

Homework

Name: Date:

…….. ……

Healthy and Unhealthy Exercise

Introduction

What is healthy exercise? I think we would all agree that although some exercise is healthy, compulsive exercise is unhealthy, but how easy is it to correctly identify whether exercise is healthy or unhealthy? Detailed below you will find descriptions of six different exercisers. Read each description carefully and then decide whether the person described is a healthy exerciser or an unhealthy (compulsive) exerciser. Try to think about the factors that are maintaining their exercise behaviour and then use the space below each description to record your reasons for labelling them healthy, or unhealthy. Remember to use your Exercise Profile as it will help you to identify reasons (i.e. read the scale descriptions).

Walking Wendy:

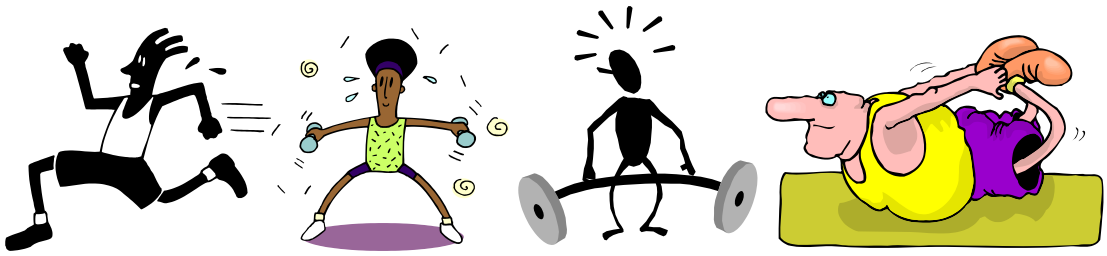
Wendy is 22, works part-time at a shop and is a regular walker. Wendy always walks the same route at the same time every day, which only takes her about 45 minutes at a leisurely pace. Wendy's walk isn't motivated by weight or shape concerns as she never changes her walk if her diet changes and never tries to make up for any missed walks. In fact Wendy doesn't even break a sweat and never sets herself any exercise targets. However, Wendy does follow strict exercise rules. She cannot alter her route, or the time she goes for her walk, nor can she reduce the time or distance, or miss the walk for a day without feeling extremely anxious. Nor can Wendy tolerate being interrupted when she is walking as it makes her irritable and angry. Wendy doesn't feel any 'better' or 'happier' after her walk as she doesn't really enjoy it, she just feels less anxious.

Is Wendy a healthy exerciser or an unhealthy exerciser?

Healthy □ **Unhealthy □**

Reasons:

- ……
- ……
- ……
- ……
- ……
- ……



Circuits Sam:

Samantha is 19, a student and is a fitness fanatic. She attends the same circuits class at a gym 5 times a week and goes for a run every day at the same time before she goes to university. She also does a yoga class at the weekend and will do extra gym classes if she has nothing else to do. Samantha always feels much happier after she has exercised and finds it really boosts her mood. Samantha believes that she needs to exercise every day in order to stay slim and that the fitter she is, the healthier she is. In order to make herself exercise as hard as she can, Samantha sets herself targets to reach at the gym, such as doing more repetitions or lifting more weight, and running targets such as running further in the same time or running the same distance faster. If she cannot reach one of her targets

Samantha feels like she's let herself down and that her day has been ruined. Because Samantha believes that fitness and slimness are related she watches what she eats in order to not gain any weight and will often do more exercise to make up for eating a bad food or too much food. If Samantha cannot exercise for any reason she feels irritable and annoyed, and a bit low/depressed. She also worries that she will lose fitness and gain weight and so will make up for any exercise she has missed by doing more next time. Samantha often feels she isn't doing enough, or could be doing more exercise but it is difficult to fit in as it is already affecting her studies. If she has a lecture at the same time as her circuits class she will miss the lecture, and she often turns down invitations to parties as it will mean she misses an exercise session.

Is Samantha a healthy exerciser or an unhealthy exerciser?

Healthy □ **Unhealthy □**

Reasons:

- ……
- ……
- ……
- ……
- ……
- ……

Sporting Sue:

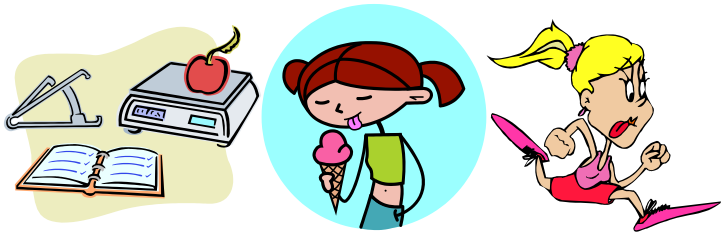
Sue is 26, a full-time mum and is an active member of several sports teams. Sue never used to play any sport or do any other exercise, but she became concerned that she was putting on weight and decided to do some exercise to help her lose some weight. Sue initially joined a gym but found it too boring, so she joined her local women's soccer team. Sue found she enjoyed the social aspect of team sport a great deal and now plays soccer 3 times a week as well as playing tennis 2-3 times a week. Despite initially starting exercise to lose weight it is the social aspect and the enjoyment Sue gets from it that keeps her going. Sue also likes walking and often goes for long walks in the countryside or along the coast with her friends and family. Sue always feels a lot better after she has done some exercise and finds that it helps her to relax and unwind from a stressful day. Sue often misses one of her training sessions due to other commitments, or sometimes just because she can't be bothered, but so long as she makes it most of the time she feels that it is ok.

Is Sue a healthy exerciser or an unhealthy exerciser?

Healthy □ **Unhealthy** □

Reasons:

- ……
- ……
- ……
- ……
- ……
- ……



Random Rachel:

Rachel is 20, is a music student and is a random exerciser. Rachel doesn't enjoy exercise. She always hated sport and is naturally not that active as a person. Rachel likes walking round the shops and doesn't mind walking to the train station or somewhere locally, but she doesn't enjoy gyms or exercise classes. Lots of Rachel's friends are regular exercisers being members of the gym and are very concerned about their weight and shape. Rachel didn't used to be bothered about her weight or shape as she is naturally quite slim albeit curvy, but since her friends are now all slimmer than her Rachel worries that she is fat. As a result Rachel often feels really guilty about the amount she has eaten and will do 1, 2, or even 3 hours of exercise to compensate. When Rachel feels the need to exercise she has to do it immediately even if she feels tired or has a prior commitment. If she cannot exercise Rachel feels guilty that she has let herself down. Rachel doesn't follow any sort of exercise routine and will often not exercise for several days, but when she does exercise she tends to do a lot, usually running, sit-ups and press-ups. Rachel's friends keep trying to get her to come to the gym with them, but she doesn't want to as she feels she would be the fattest person in the gym because all her friends are so thin. Rachel often joins her friends on various diets, but she finds them impossible to keep to and ends up exercising to make up for breaking the diet.

Is Rachel a healthy exerciser or an unhealthy exerciser?

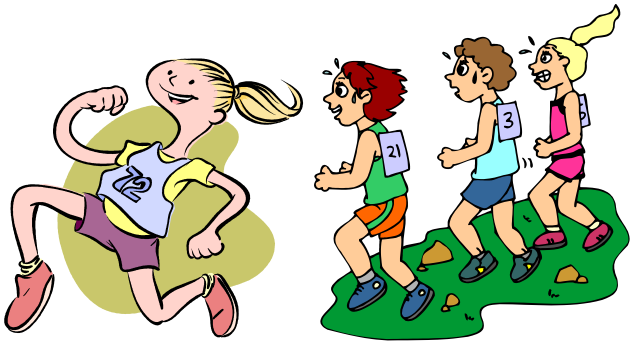
Healthy □ **Unhealthy □**

Reasons:

- ……
- ……
- ……
- ……

- ……

- ……



Marathon Michelle:

Michelle is 21, works in an office and is training for a marathon. Michelle has always enjoyed running since she started cross country running at school when she was 12. Although she used to compete in local and national competitions Michelle does not compete any more. However, Michelle is very competitive by nature and highly perfectionistic, so she always strives to do the best she possibly can. She is following a strict training regime, which she got from a running magazine, that is specific for running a marathon and slowly builds up her weekly mileage. The training regime also incorporates weekly performance goals that should be aimed for. Although the training regime is strict, each week is different and always incorporates 2 or 3 rest days. Michelle follows the prescribed routine exactly and never tries to do any more. On average Michelle is doing about 7-8 hours of exercise a week. Michelle is also following a fairly strict diet. She weighs herself several times a week to make sure that she is maintaining her weight and she increases her calorific intake each week to make up for the extra exercise. Michelle is aware that her running keeps her slim and in good shape, and she also likes the way running makes her feel, but she knows that too much exercise can damage her health so several times a year she will stop all exercise for a week or two to give her body a rest. Although she misses running when she stops, Michelle doesn't worry or feel guilty and isn't concerned that she'll gain weight or lose shape.

Is Michelle a healthy exerciser or an unhealthy exerciser?

Healthy □ **Unhealthy □**

Reasons:

- ……
- ……
- ……
- ……
- ……
- ……

Active Annie:

Annie is 21, works as a groom at a stable yard and is a regular gym user. Despite having a physical job Annie goes to the gym 5 times a week for an hour after work, in order to stay slim and in shape. Annie finds the gym a real chore as she doesn't really enjoy it, but feels she has to do it if she wants to stay slim. She makes herself go even though she is often exhausted after a hard day at work. If Annie is unable to go to the gym for whatever reason she always feels really guilty about missing it, like she's let herself down. She also worries that she will become unattractive if she doesn't keep going to the gym as she believes that she needs to exercise in order to be attractive. Annie is always looking at the other people in the gym, comparing herself to them and thinking that they are slimmer and more attractive than her. She also notices that they seem to have more energy than her and she thinks this is because they are fitter than her. Annie thinks that the slimmer you are the more attractive you are and that if she were slimmer she would feel a lot better.

Is Annie a healthy exerciser or an unhealthy exerciser?

Healthy □ **Unhealthy □**

Reasons:

- ……
- ……
- ……
- ……
- ……
- ……

Remember to bring this with you to the next session as it will be needed.

Activity

Name: Date:

…….. ……

Healthy and Unhealthy Exercise

Instructions

Written below are a list of statements that can be used to describe exercise attitudes, beliefs, or behaviours. Work in pairs or small groups and decide whether the statements describe healthy aspects or unhealthy aspects of exercise. For each statement try to give a very brief reason why you think it is either healthy or unhealthy in terms of exercise (don't worry if you can't always think of one). For example, if the statement was 'continuing to exercise against advice of doctor' you would tick 'unhealthy' and could put as a reason 'may be damaging health'.

	Statements	Healthy	Unhealthy	Reason
1.	I use exercise as a means of earning certain privileges, such as food	☐	☐	……
2.	I exercise because I enjoy it	☐	☐	……
3.	I exercise primarily to change my weight or shape	☐	☐	……
4.	I need to be slim in order to be fit	☐	☐	……
5.	I feel better about myself after I exercise	☐	☐	……
6.	I am preoccupied with exercise, I think about it a lot	☐	☐	……
7.	I exercise harder if I have done something wrong or been bad	☐	☐	……
8.	I use exercise to help me relax and de-stress	☐	☐	……

9. I make up for any exercise sessions I miss by doing more next time	☐	☐	.....
10. I exercise to compensate for what I've eaten	☐	☐	.....
11. I follow a strict exercise routine	☐	☐	.....
12. I exercise in order to improve my health	☐	☐	.....
13. I make myself exercise even when I'm tired	☐	☐	.....
14. I exercise in order to avoid feeling bad (e.g. anxious or irritable)	☐	☐	.....
15. I prefer exercise to be a social activity	☐	☐	.....
16. I feel guilty about not exercising	☐	☐	.....
17. I follow a varied and flexible exercise routine	☐	☐	.....
18. I need to exercise in order to cope with how I feel	☐	☐	.....
19. The fitter I am, the healthier I am	☐	☐	.....
20. I prefer to exercise alone	☐	☐	.....
21. I have exercise targets/goals that I must reach for it to be worth it	☐	☐	.....
22. I feel that I *have* to exercise	☐	☐	.....
23. I exercise to maintain a healthy weight	☐	☐	.....

24. I feel bad if I am unable to exercise (e.g. anxious, irritable, depressed, or angry)	☐	☐	……
25. I follow exercise rules – such as 'no pain, no gain', or 'more is better'	☐	☐	……
26. I exercise but I don't enjoy it	☐	☐	……
27. I continue to exercise even when I have an injury	☐	☐	……
28. I need to exercise in order to cope with life	☐	☐	……
29. I find exercise a chore and have to make myself do it	☐	☐	……
30. I continue to exercise when I am ill or not feeling well	☐	☐	……

Activity Anorexia:

Activity Anorexia

Homework

Introduce this homework as being about the biological/physiological effects on the brain of being severely underweight and how this may result in an 'urge' to exercise compulsively. Make specific reference to feelings of restlessness, fidgeting and hyperactivity. Relate the homework to the patient's individual Exercise Profile by highlighting how it relates to scales 1 and 2 (i.e. mood improvement/positive reinforcement and withdrawal symptoms/negative reinforcement). Also mention that some individuals may want to consider whether any of the questions that make up the other scales are relevant.

Review – Homework (see answers below)

Give a brief summary of the homework topic/aims and ask patients what they thought about/how they found the homework. Work through each of the quiz questions getting patients to feedback their answers. Discuss how activity anorexia relates to the CBT model of the maintenance of compulsive exercise (i.e., it is an aspect of the eating disorder that may exacerbate and reinforce compulsive exercise behaviours). Also ask if anyone found any questions from the other Exercise Profile scales that might pick up on activity anorexia (some questions from scales 4 and 6 are particularly relevant). If no patients looked for other questions the therapist may want to work through the Exercise Profile as a group activity. Emphasise the potential influence of activity anorexia on incidental exercise especially via fidgeting, restlessness and general hyperactivity.

Activity

Use the rest of the session to focus on problem solving skills in relation to managing activity anorexia. Either working with certain patients who are willing, or working hypothetically, evaluate all the possible ways of managing the 'urge' to exercise. Focus on management strategies such as using relaxation techniques, distraction, the potential role of medication (i.e. SSRI's), and the use of monitoring sheets to monitor their activity levels and associated thoughts and feelings (introduce the idea of monitoring if patients are unaware of it). Highlight the central importance of being in control instead of being controlled by exercise and how this may be influenced by bodyweight.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

Set Homework for next Session

Homework Answers

1. **What must you do to enable your Leptin levels to return to normal?**

☐	☐	☑
Maintain your weight	Eat before exercise	Return to a 'normal' bodyweight

2. **How does your body initially respond to a fall in bodyweight?**

☐	☑	☐
Decreases energy levels	Increases energy levels	Maintains energy levels

3. **What happened to the exercising rats that had their diet restricted?**

☐	☐	☑
They exercised less	They were the healthiest rats	They ran themselves to death

4. **Why does the body increase energy levels in response to a fall in bodyweight?**

☐	☑	☐
It is more efficient	It is an evolutionary survival mechanism	The thinner you are, the fitter you are

5. **What effect does the increase in energy levels due to low bodyweight have on the body?**

☑	☐	☐
It places considerable stress on the body	It has no effect	It mildly stresses the body

6. **What is the best way to manage the increase in energy levels?**

☐	☐	☑
Exercise until tired	Keep yourself busy	Restrict activity and normalise bodyweight

Homework

Name: Date:

…….. ……

Activity Anorexia

What is Activity Anorexia?

The Activity Anorexia theory is an animal model of unhealthy exercise that helps to explain why you may have a strong 'urge' to be active (i.e. elevated energy levels). In an experiment into the effect of food restriction on activity levels, two groups of rats were given access to running (exercise) wheels. One group was given enough food to maintain their 'normal' bodyweight and the other group had their food restricted so that they began to lose weight. Whereas the normal weight rat's activity levels remained constant, the rats on the restricted diet began to exercise more and more (i.e. spend longer and longer on the exercise wheel) until they eventually ran themselves to exhaustion and ultimately death (see figure 1).

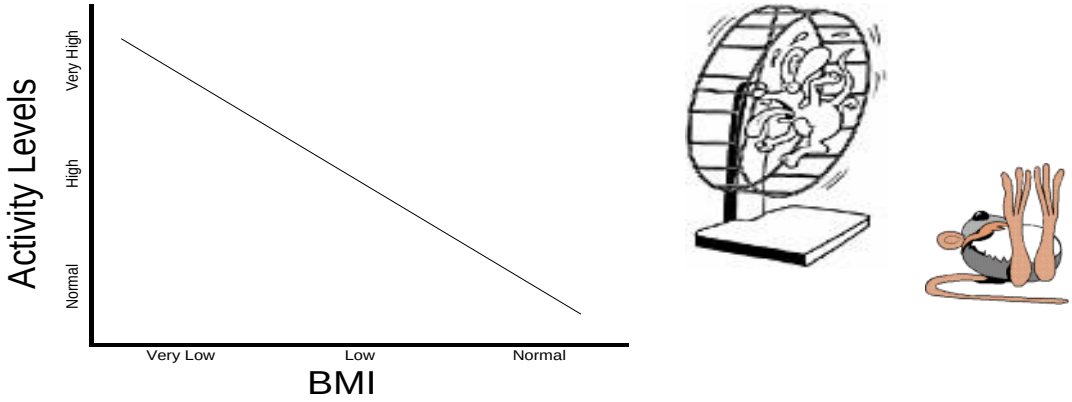


Figure 1. Graph to show the relationship between weight loss (reduction in BMI) and activity levels.

Explanations for Activity Anorexia

There are two mutually compatible explanations for activity anorexia. The biological explanation tells us that the 'urge' to be active is controlled by a brain chemical called Leptin. In the rat experiment it was found that the rats on the restricted diet had a significantly reduced level of Leptin, but that when they were restored to their normal bodyweight their Leptin levels increased and their activity levels normalised. It is important to note that neither increasing food intake before exercise or being given enough food to maintain an artificially low bodyweight had any effect on the rat's Leptin levels, or their level of activity (see figure 2).

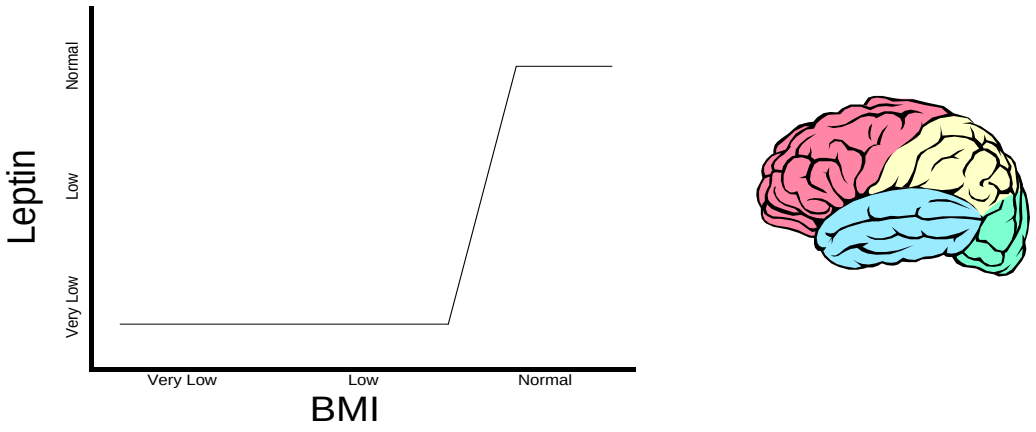


Figure 2. Graph to show the relationship between weight restoration (BMI normalisation) and Leptin levels.

The evolutionary explanation tells us that the 'urge' to be active (and associated elevation in energy levels) is an evolutionary survival mechanism to aid all foraging and hunting animals (of which we were once a part) in time of famine. The theory states that an animal's activity/energy level is optimised for a particular territory size (see diagram 1). However, in a time of famine there is not enough food in the existing territory to ensure survival. The animal needs to cover a much larger territory just to find some food and survive and so it's bodyweight drops. The body responds to the fall in bodyweight by making much more energy available and increasing activity levels to the maximum level possible in an effort to aid the animal in covering a larger territory and finding food. Only when food becomes plentiful again and the animal's bodyweight returns to normal will the activity and energy levels be reduced.

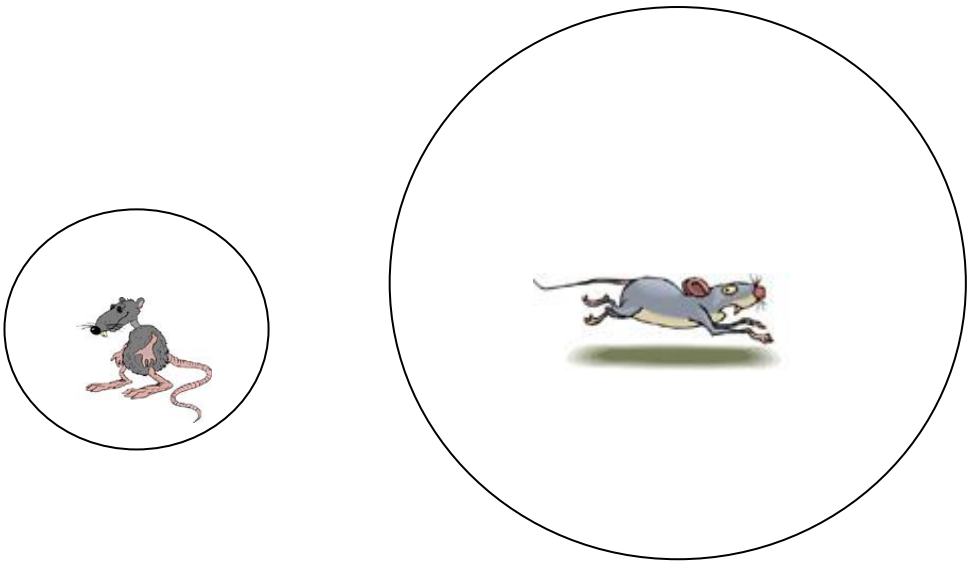
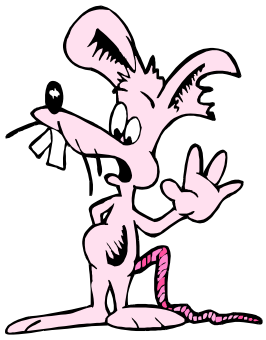


Diagram 1. Territory size differences in order for an animal to maintain it's bodyweight and survive in times of plenty (Left) and times of famine (Right).

Activity Anorexia Conclusions

It is important to note that there is considerable variation in individual's responses to the same stresses. Not all individuals experience the same increase in energy levels and 'urge' to be active, though most who are underweight will. Of those that do, most will find the increase in energy initially very reinforcing, whereas others will find it distressing due to a difficulty relaxing. The increase in energy will often manifest behaviourally as restlessness, constant fidgeting and/or hyperactivity (incidental exercise). It is also important to note that the increase in both energy and activity are only meant to be a short-term survival mechanism. It places considerable stress on the body to release such a large amount of energy while severely malnourished and underweight, and the increased activity further stresses the organs and muscles of the body. As your weight begins to normalise, so too will your activity levels, but in the meantime it is imperative that you control your activity and restrict it so it does not endanger your health.



PTO for a quick quiz

Name: Date:

…….. ……

Test your knowledge: Quick Quiz

Instructions

Check how much you have remembered by trying to answer as many of the questions below as you can. Once you have ticked your answers, re-read the handout to check if you were correct and give yourself a score out of six. Remember to bring this with you to the next session as it will be needed.

1. **What must you do to enable your Leptin levels to return to normal?**

☐ Maintain your weight	☐ Eat before exercise	☐ Return to a 'normal' bodyweight

2. **How does your body initially respond to a fall in bodyweight?**

☐ Decreases energy levels	☐ Increases energy levels	☐ Maintains energy levels

3. **What happened to the exercising rats that had their diet restricted?**

☐ They exercised less	☐ They were the healthiest rats	☐ They ran themselves to death

4. **Why does the body increase energy levels in response to a fall in bodyweight?**

☐ It is more efficient	☐ It is an evolutionary survival mechanism	☐ The thinner you are, the fitter you are

5. **What effect does the increase in energy levels due to low bodyweight have on the body?**

☐ It places considerable stress on the body	☐ It has no effect	☐ It mildly stresses the body

6. **What is the best way to manage the increase in energy levels?**

☐ Exercise until tired	☐ Keep yourself busy	☐ Restrict activity and normalise bodyweight

SCORE: ……..out of six

Psychological Dependence on Mood Regulation and 'Exercise Addiction':

Psychological Dependence on Mood Regulation and 'Exercise Addiction'

Homework

Introduce this homework as being about the role of exercise in regulating mood/emotions and how this can result in a psychological dependence or 'addiction' to exercise. Relate the homework to the patient's individual Exercise Profile by highlighting how it relates to scales 1, 2 and 6 (i.e. mood improvement, withdrawal symptoms and lack of enjoyment). The material in this homework is heavily biased towards patients that have a significant exercise problem. For those patients who do not have an exercise problem simply reiterate the importance of working through the homework for educational purposes.

Review

Give a brief summary of the homework topic/aims and ask patients what they thought about/how they found the homework. Highlight the importance of understanding that it is not possible to become physiologically addicted to exercise. However, for some people their psychological dependence on exercise in order to regulate their mood can be so strong that it is almost identical to a real addiction. Because of this, it is often useful to treat 'exercise addiction' as a real addiction.

For those patients with an exercise problem it may prove useful to spend some time examining their self-ratings on the homework scales and the level of agreement with their Exercise Profile answers. This may be used to generate a discussion about why their answers did or did not fully agree – highlight the effect of previous sessions on improving self-awareness and insight, and how this is important for tackling an exercise problem. Emphasise the significance of mood regulation to the CBT model of compulsive exercise and lead into the session activity of how to manage/treat 'exercise addiction' and emotional withdrawal symptoms.

Activity

Use the rest of the session to focus on problem-solving skills in relation to managing/treating 'exercise addiction' and/or emotional withdrawal symptoms. This should follow the format of guided discovery using a therapist led group discussion. Evaluate all the possible ways of managing 'exercise addiction' and emotional withdrawal symptoms. Focus on management strategies such as using relaxation techniques (square breathing – see below), distraction, the potential role of medication (i.e. SSRI's), or using monitoring sheets

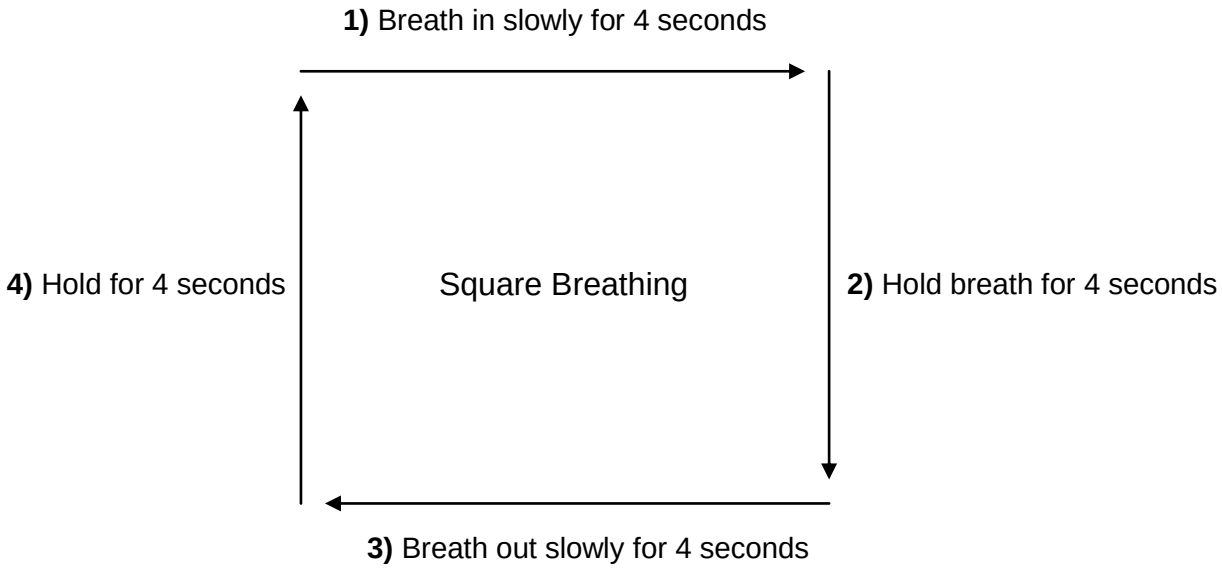
to monitor their activity levels and associated thoughts and feelings (introduce the idea of monitoring if patients are unaware of it). Highlight the central importance and role of being in control instead of being controlled by exercise. In terms of the treatment of 'exercise addiction' and emotional withdrawal symptoms highlight the importance of a period of abstinence, alternative coping-strategies, re-learning healthy behaviour, and remaining in control. It may prove useful to emphasise these points by highlighting the similarities between exercise and alcohol using the sheet below.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

Set Homework for next Session

Square Breathing

This is a simple relaxation technique based around the control of breathing. Patients are instructed to breath in to the count of 4, hold to the count of 4, breath out to the count of 4, and hold for the count of 4. Simply repeat 10 times. Patients may be give the diagram below. Alternatively, the therapist may wish to substitute their own relaxation technique.



Exercise and Alcohol: The Similarities

Effects

- Both are healthy in moderation and unhealthy when used compulsively
- Both may lead to an addiction/dependence when compulsive
- Both are used to avoid/manage/numb negative emotions/moods
- Both are positively reinforcing in moderation (make you feel good), but often make you feel worse when compulsive
- Both have a detrimental impact on other areas of your life when compulsive (i.e., educationally, occupationally, and socially)
- Both are characterised by a loss of control when compulsive

Treatment

- Both require a period of complete abstinence (a clearing-out period)
- Both require the learning of alternative emotional coping-strategies, such as problem-solving
- Both require the healthy behaviour to be remodelled
- Both can benefit significantly from the use of monitoring to identify triggers
- Both require a gentle/graded reintroduction with constant vigilance in order to keep under control
- Both are about re-gaining control over the behaviour

Homework

Name: Date:

…….. ……

Psychological Dependence on Mood Regulation and 'Exercise Addiction'

Introduction

Exercise is a very powerful way of changing how you feel (i.e., regulating your mood). Even a small amount of exercise, as little as 20 minutes of mild or moderate physical activity, has been shown to improve most people's mood and make them feel less anxious and less depressed (i.e., happier). This is an example of positive reinforcement and it is a strong maintaining factor for exercise behaviour. An important fact to remember is that the positive mood benefits of exercise occur within the first 20 minutes of mild to moderate exercise. Vigorous exercise does NOT have the same positive effect. Instead it often results in an increase in negative mood.

Use the scale below to record how reinforcing you find exercise. Simply place a mark on the line where you think you fall.

How much of an effect does exercise have on improving your mood?

None at all		Very large

'Exercise Addiction'

Occasionally, some people become so used to exercise improving their mood that they may feel they are 'addicted' to exercise. These people will often try and exercise more and more in an effort to 'feel good' and typically find it very difficult to stop or cut down their exercise behaviour. 'Exercise addiction' is one aspect of a *psychological dependence on mood regulation* as detailed in the CBT model of compulsive exercise (Handout 2). It is characterised by a psychological dependency on the positive reinforcement properties of exercise. It is important to note that most people find exercise positively reinforcing, but very few would regard themselves as 'addicted'. Only when exercise is *needed* in order to feel good is it possible that the individual may feel they are 'addicted' to exercise.

Use the scale below to record how 'addicted' you may or may not be on exercise to regulate your mood. Simply place a mark on the line where you think you fall.

To what extent do you *need* to exercise in order to feel good?

Not at all ——— Always

Would you consider yourself 'addicted' to exercise?

Not at all ——— Totally

Emotional Withdrawal Symptoms

In contrast, the other aspect of a psychological dependence on mood regulation is the experience of unpleasant mood changes or *emotional withdrawal symptoms* when unable to exercise. These emotional withdrawal symptoms often include increased feelings of anxiety, anger, irritability, depression and/or frustration as a result of not exercising. People who experience emotional withdrawal symptoms when unable to exercise find it extremely difficult to cut down or stop their exercise behaviour. Continued exercise is needed in order to *avoid* the emotional withdrawal symptoms. This is an example of negative reinforcement. Although positive reinforcement is a strong maintaining factor for continuing to exercise, negative reinforcement is a much more powerful maintaining factor. Negative reinforcement is also much more common in compulsive exercise as compulsive exercisers typically rely on exercise as their primary means of avoiding and regulating all their negative mood states (i.e., anxiety and depression).

Use the scale below to record how 'dependent' you may or may not be on exercise to avoid emotional withdrawal symptoms. Simply place a mark on the line where you think you fall.

How easy do you find it to stop exercising altogether?

Easy ——— Impossible

To what extent do you continue to exercise in order to avoid feeling anxious, irritable, depressed, frustrated, angry, or upset?

Not at all ——— Always

Your Assessment

Some people may experience a mix of both the positive and negative reinforcing properties of exercise – that is, they find it hugely improves their mood, but also experience the emotional withdrawal symptoms when unable to exercise. You can get a good idea of how significant both the positive and negative reinforcement properties of exercise are for you by looking at your scores on scales 1, 2 and 6 of your Exercise Profile and re-reading the interpretation. See how your Exercise Profile scores compare with your answers using the scales above.

To what extent do your exercise profile scores agree with your answers on the scales above?

Not at all | Always

Summary and Conclusions

It is important to remember that a psychological dependence on the mood regulatory properties of exercise is largely the result of exercise having become your main method of mood regulation. There is considerable variation in people's susceptibility to developing any sort of psychological dependence (or 'addiction') and whereas some people very easily become dependent, others are almost immune to any sort of dependency. Also, although a psychological dependence is not directly related to bodyweight, there is no doubt that brain chemistry is strongly related to diet, and certain dietary deficiencies, such as essential fatty acids, vitamins and minerals can have a significant effect on brain chemistry changing your susceptibility to developing a dependence.

Lastly, it is important to note that strictly speaking it is not possible to become physiologically addicted to, or dependent upon, exercise. However, for some people their psychological dependence on exercise in order to regulate their mood can be so strong that it is almost identical to a real addiction/dependence. Because of this, it is often useful to treat 'exercise addiction' as a real addiction.

Remember to bring this with you to the next session as it will be needed.

Behavioural Rigidity:

Behavioural Rigidity

Homework

Introduce this homework as being about what causes a rigid/inflexible approach to exercise and why it is 'unhealthy'. Relate the homework to the patient's Exercise Profile by highlighting how it relates to scales 3 and 4 (i.e., exercise rigidity and compulsive exercise). Emphasise that behavioural rigidity isn't unique to exercise and that people who are rigid tend to apply it to many areas of their life, such as eating – so even if some patients are not exercisers, this homework is still highly relevant.

Review

Give a brief summary of the homework topic/aims and ask patients what they thought about/how they found the homework. Highlight the importance of behavioural rigidity in terms of the CBT model of compulsive exercise, especially in terms of it's relationship with compulsivity and the eating disorder (perfectionism). It may be pertinent to spend some time expanding upon the topics of dichotomous thinking and perfectionism. Make sure patients understand that behavioural rigidity is not exclusive to exercise but also influences other areas of their lives, such as eating. Ensure that patients understand the function of rules in avoiding negative emotions and the difference between a 'healthy' rule and an 'unhealthy' rule (i.e., the role of compulsive/unrealistic standards as opposed to realistic standards).

The second part of the homework review will form a large part of the session activity.

Ask patients to feedback their rules that they wrote down as part of the homework (not the 'healthy' rules, but rather the rules that they try and follow). These could be written on a whiteboard (or a selection). Introduce the idea of evaluating the rules in terms of their costs and benefits (advantages/disadvantages), and encourage a group discussion on the 'value' of examining their rules in this way. Pick a rule (or using a hypothetical rule) and list its costs and benefits. Then evaluate each of the costs/benefits according to the principles of cognitive restructuring. Repeat this for the 'healthy' rules. Be sure to highlight the costs of the 'unhealthy' rules as opposed to the potential benefits of the 'healthy' rules.

Activity Sheet

Organise patients into pairs and give them 5-10 minutes to complete the activity worksheet. Then as a group exercise work through the process of cognitive restructuring with the group as a whole. Having illustrated the four steps of cognitive restructuring and ensured

the group understands them, the therapist should encourage each of the pairs to practice the procedure using the costs they identified for their rules.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

Set Homework for next Session

Homework

Name: Date:

…….. ……

Behavioural Rigidity

Introduction

Behavioural rigidity is one of the most powerful maintaining factors of compulsive exercise. Specifically referring to scale 3 of your Exercise Profile, behavioural rigidity simply details how rigid (inflexible) and repetitive your exercise behaviour has become. Behavioural rigidity typically describes following a specific exercise routine or order of events. It is also usually associated with negative emotions such as feelings of anxiety, irritability or anger when the routine is in anyway disrupted or broken. People with a high level of behavioural rigidity almost always find it extremely difficult to cut down or stop their exercise behaviour.

Rigidity and Rules

Behavioural rigidity is very often the result of following specific rules that must be followed in order to avoid feeling bad. These rigid rules are usually based on certain standards or expectations that it is felt are important to meet. If a rule is broken or cannot be met it may result in the feeling of having 'failed or 'let yourself down'. Rigid rules are usually expressed in the form of "must" or "should" statements. Examples include:

- I must exercise every day
- I should never miss an exercise session
- I must do my exercises in the same order
- I should be able to run faster/further
- I must always do more than I did last time
- I must exercise at a certain time

Using the space below list examples of exercise rules that you try to follow and write them in the form of either a "must" or "should" statement. (If you do not do any exercise, list examples of any other rules that you try to follow)

My Rules:

- ……
- ……...
- ……..
- ……..
- ……..
- ……..

Rules and Perfectionism

Following specific rules is often a way of trying to manage negative emotions (such as anxiety) that stem from a strong need for things to be done correctly, and/or done well. This need for things to be done correctly/well is often referred to as perfectionism. Unfortunately, because perfectionism is often associated with feeling bad when a standard cannot be met (i.e., a rule is broken), people who are perfectionistic often overcompensate by engaging in a behaviour compulsively. This is why exercise rules are almost always associated with compulsive exercise. If you refer back to the CBT model of compulsive exercise (Handout 2) you will notice that perfectionism is part of the eating disorder, and it influences compulsive exercise both directly and via behavioural rigidity.

Rules and Dichotomous Thinking

Dichotomous thinking describes a way of thinking that is very 'black-and-white' or 'all-or-nothing'. It is a tendency to see things as either right or wrong, good or bad, success or failure, without acknowledging the possibilities in between. In fact, it is important to remember that "right" and "wrong" are just two extremes on a continuum upon which there are many more possibilities. You should be able to see now that rigid rules are an example of dichotomous thinking. You either stick to the rule (which is "right") or you don't (which is "wrong"). Unfortunately this means that any breaking of a rule is perceived as a complete failure and results in feelings of having 'failed or 'let yourself down'.

'Healthy' Rules

Not all exercise rules are ‘unhealthy’. For example, you could have a rule that states “I should never exercise when I am injured” or “I must not burn more calories than I consume”. Both of these are examples of ‘healthy’ rules that even when applied rigidly would not result in compulsive exercise or indeed any negative consequences. It is even possible to have a rule for being flexible – “I must regularly change my exercise routine”.

Using the space below try and list some more examples of ‘healthy’ rules. You could even try and write ‘healthy’ alternatives to your rules you listed in the earlier exercise.

‘Healthy’ Rules:

- ……
- ……...
- ……..
- ……..
- ……..
- ……..

Summary

It is important to note that the main difference between a ‘healthy’ rule and an ‘unhealthy’ rule is that ‘unhealthy’ rules are always compulsive. That is, ‘unhealthy’ rules are always based on unrealistic standards that are difficult if not impossible to meet. This then leads to more and more rigidity in order to try and meet the standard (not break the rule). In contrast, ‘healthy’ rules are always based on realistic standards that are much easier to meet and do not result in exercise rigidity or a repetitive routine.

Remember to bring this with you to the next session as it will be needed.

Activity

Name: Date:

…….. ……

Behavioural Rigidity

Costs/Benefits Analysis

Working in pairs, use the table below to write in one of your rules from the homework task and list all the possible costs of breaking that particular rule. Then do the same for the benefits of breaking the rule. Using separate sheets, do this for one rule each.

Rule:……	
Costs of breaking the rule	Benefits of breaking the rule

Initiating and Maintaining Factors and the Function of Exercise:

Initiating and Maintaining Factors, and the Function of Exercise.

Homework

Introduce this homework as being about the difference between reasons for starting to exercise (initiating factors) and reasons for continuing to exercise (maintaining factors), and how to distinguish between them. Highlight the importance of grasping the concept of maintaining factors and relate them directly to the CBT model of compulsive exercise. Emphasise how the patient's Exercise Profile will be needed in order to complete this homework, especially scales 1, 2, 4, and 5 (positive reinforcement, negative reinforcement, compulsivity, and weight and shape exercise).

Review

Give a brief summary of the homework topic/aims and ask patients what they thought about/how they found the homework. Make sure that patients understand the difference between an initiating factor and a maintaining factor, and how maintaining factors relate to the CBT model and form the 'targets' for treatment (behavioural change).

The second part of the homework review will lead directly into the session activity.

Ask patients to feedback their reasons for starting to exercise. These could be written on a whiteboard (or a selection). Highlight the difference between those who started exercising before the eating disorder (i.e., 'healthily') compared to those who started as a result of weight and shape concerns in terms of their initiating factors, and encourage a group discussion around this point. Be sure to point out that these differences are not related to severity of either the eating disorder or the exercise problem. Lead into the session activity.

Activity

Ask patients to feedback the functions exercise serves for them and their fears regarding the perceived negative consequences of stopping. Highlight how these relate to the CBT model of compulsive exercise (especially in terms of compulsivity) and if pertinent encourage a discussion around this topic. Then using a common fear, such as gaining weight, or not being able to cope, work through the process of cognitive restructuring with the

group as a whole. Having illustrated the four steps of cognitive restructuring and ensured the group understands them, get the group to apply cognitive restructuring principles to some of the other fears that were fed back.

End by summarising the main points of the session and emphasising the importance of the knowledge/skills covered in preventing relapse.

Set Homework for next Session

Homework

Name: Date:

…….. ……

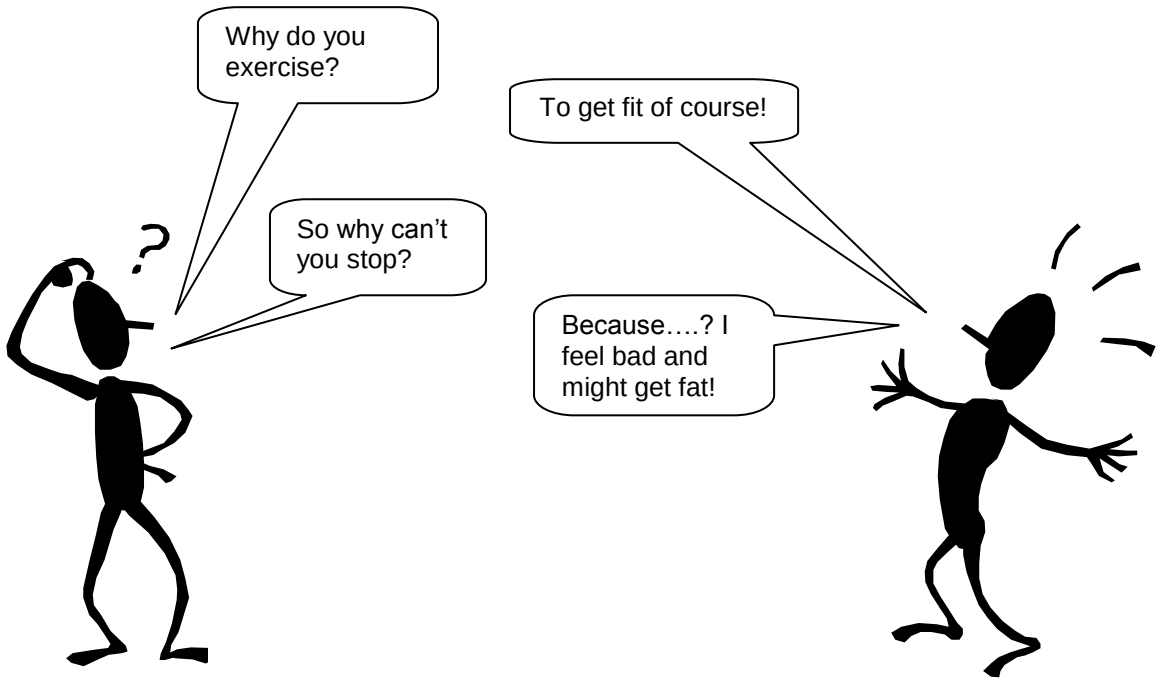
Initiating and Maintaining Factors,

and the Function of Exercise.

What are Initiating and Maintaining Factors?

Understanding why you behave a certain way often requires a deeper understanding than can be obtained just by asking yourself your reasons for behaving that way. For example, it may be that the reason you started exercising was to get fit and because you enjoyed it, but the reason you cannot or don't want to stop exercising is because you are afraid you will gain weight. Therefore, the reason you started is not the same as the reason you cannot or don't want to stop. Re-phrased in cognitive-behavioural language, 'the factors that initiate a behaviour are not necessarily the same as those that maintain it'. Using the space below, write down the reasons you first started exercise.

Why I started exercising



It is important to understand that when you first started a particular behaviour such as exercise, your initiating and maintaining factors were most probably the same. If you started exercising to get fit, then it is likely that the reason you kept going was also to get fit. However, over time it is possible for the factors maintaining your behaviour to change, often without you being aware. In order to change your behaviour it is essential that you identify the factors that are maintaining it.

How to Identify Maintaining Factors? The Function of Exercise.

One way to start trying to identify the factors that maintain your exercise behaviour is to look at the function of your exercise. That is, what do you get out it? Using your Exercise Profile you should be able to identify some of the core functions exercise serves for you. For example, if you scored highly on scale 2 it is likely that exercise serves an avoidant function for you by helping you to avoid certain negative mood consequences that you believe will result from stopping exercise. If you scored highly on scale 5 it is likely that exercise serves the function of controlling your weight and shape. Many of the questions you answered as part of your Exercise Profile may provide useful clues as to the function of your exercise. Using your Exercise Profile as a guide, try and identify some of the core functions exercise serves for you and write them below.

The Function of My Exercise.

Maintaining Factors and a Fear of Negative Consequences

Another way to identify which factors are maintaining your exercise behaviour is to look at what you're afraid may happen if you stopped exercising. It may be that you do not fear any consequences of stopping exercise and as such would have no problem stopping. However, often one of the most powerful maintaining factors of compulsive exercise is a fear of negative consequences that will occur if you stop exercising. This fear makes you continue to exercise in order to avoid the negative consequences. You can get a good idea of whether a fear of negative consequences is a potential maintaining factor for you by looking at your score on scale 4 of your Exercise Profile. This scale measures compulsivity which is a result of the fears you have (extreme concerns) about what you believe will happen to you as a result of stopping exercising. Using the space below, write down any specific fears or concerns you may have about stopping or reducing your exercise. A tip here is that some of your fears may be related to the function exercise is serving for you (i.e., avoidance).

My Fears

Don't forget to bring this with you to the next session.

Appendix 1:

Myths and Facts: Additional Information

15. All body fat is unhealthy = MYTH
    a. Only *excess* body-fat is unhealthy
    b. Body-fat is essential for the healthy functioning of the body (includes brain, heart etc)
    c. Protects the internal organs
    d. Is the body's insulation against heat loss
    e. Is the primary fuel of the body for all sustained (i.e. aerobic) activity – including normal daily activities and functions such as metabolism (heat generation), physical activity (just moving around etc), normal (good) sleep etc..

16. Exercise can change/regulate your mood = FACT
    - As little as 20 mins of moderate exercise can effect mood (sometimes even less depending on individuals' sensitivity)
    - Can be used to avoid, numb, or modulate/regulate negative affect
    - Feel good during exercise, or feel good after (intrinsic and extrinsic rewards)
    - Exerts influence at both a psychological and physiological level
    - Is primarily an adaptive form of mood regulation unless a dysfunctional reliance develops

17. Muscle weighs approximately three times as much as fat = FACT
    - May explain rapid weight gain when re-feeding (for some)
    - Muscle is simply a much denser tissue hence increased weight
    - Body's preference for replacing muscle/fat (ratio) determined by genetics – differs for all of us.
    - Muscle needed as is a major source of heat production – hence shivering. Less muscle = less heat, therefore body may desperately want to replace lost muscle

18. Walking to the shops or train station is not exercise = MYTH
    - Incidental exercise
    - Can serve the same functions as structured exercise (i.e. mood regulation, burning calories, compulsivity etc…)

19. You need to be thin to be healthy = MYTH
    - Considerable variation in healthy body-fat ratio (continuum)
    - Healthy body-fat ratio is genetically determined
    - Ideal body-fat ratio is the *range* where the body will naturally settle given enough calories (i.e.energy/food) and physical activity

20. The thinner you are the more obsessional and rigid you become = FACT
    - Keys et al starvation study – even “normal” non-eating disordered people may become highly obsessional when emaciated – relate back to fat needed for optimum functioning.
    - This is an important point as it normalises the increased obsessionality
    - Could make point that after a while individual may habituate to increased obsessionality and come to accept it as their norm (i.e. it essentially becomes a learned behaviour influencing maintenance after weight restoration)
21. Fat can be turned into muscle = MYTH
    - You cannot turn lead into gold!
    - Fundamentally different types of tissue
    - Fat may be metabolised (burnt) by the body to use as fuel when building muscle (exercising), but fat *cannot* be turned into muscle
22. If you are fit, then you are healthy = MYTH
    - Think sumo! They are fit, but cannot be healthy given excess fat and the associated strain placed on the body (i.e. heart) and other internal organs.
    - Fitness simply refers to the efficiency with which the body can undertake aerobic activity. Active people are often pretty fit, but may still be overweight and/or eat an unbalanced/unhealthy diet
    - Many athletes overtrain – this is not healthy despite being fit
    - Give examples of athletes that have died as a result of the strain on their body of pursuing fitness (i.e. has happened in tour de france and in various marathons usually from a heart attack)
23. Exercise can be addictive = FACT
    - From a *psychological* perspective, exercise may be experience as an addiction
    - It is possible to become dysfunctionally reliant on exercise (psychologically dependent) as a means to regulate mood
    - Symptoms of exercise deprivation may mimic those of substance withdrawal
24. You need to be thin in order to be fit = FALSE
    - Again, think sumo! They train for many hours a day and are very fit
    - If sumo example too extreme, use other examples of high body-fat athletes such as ocean swimmers, rugby players etc.. All are very fit despite often being essentially overweight (high body-fat)
    - Remember, fat is the body’s primary fuel for aerobic activity. Therefore, there is a point at which becoming thinner will negatively impact on fitness/performance

25. The human body is naturally thin = FALSE
    - Body composition may vary according to genetics and environment (i.e. the difference between Eskimos and Aboriginals)
    - The optimum composition is the range where the body will naturally settle (give healthy BMI ranges) – this is not the same for all of us

26. If a muscle is not used, then it turns to fat = FALSE
    - Refer back to question 7. You cannot turn lead into gold!
    - If this is hotly contested then may be useful to give bodybuilder analogy – a muscle that is not used will lose *tone* and may appear flabby, but it has not turned to fat
    - Muscle that is not used is often metabolised by the body (i.e. broken down as it is not needed)

27. You cannot be fat and fit = FALSE
    - Again, think sumo! Fitness is not dependent on being slim/thin
    - The point to drive home is that fitness and body composition are to a large extent unrelated. Fitness is about aerobic efficiency, body composition is about the optimum body-fat ratio for an individual

28. It takes less exercise to maintain fitness than it does to improve it = TRUE
    - This is about overtraining (i.e. training more than is required to maintain optimum health and/or performance)
    - Is especially relevant to goal setting, use of rules, rigidity, and perfectionism
    - You do not need to constantly increase your level of fitness in order to receive the health benefits
    - A healthy level of activity/exercise is the amount that is required to maintain the optimum fitness for an individual's given lifestyle (i.e. you do not need to be as fit as a marathon runner unless you run marathons – there is no health advantage to having a level of fitness that is more than is required for optimum body functioning/heart health)