THE UNIVERSITY
of ADELAIDE

A POSITIVE PSYCHOLOGICAL APPROACH

TO WEIGHT LOSS AND MAINTENANCE IN OBESE AUSTRALIANS

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Masters Psychology (Clin), B. Psych (Hons)

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

SUMMARY

Obesity is a global problem affecting the biopsychosocial well-being of approximately six hundred million adults globally (WHO, 2015). To date, the deleterious effects of obesity have attracted a wide range of treatment approaches with two things in common. The first is an almost exclusive focus on pathology in an attempt to alleviate distress and dysfunction, and the second is a high rate of relapse. This has prompted scientists to explore new approaches to facilitate weight loss, to prevent weight regain, and to improve quality of life for people struggling with weight related issues. Over the last two decades the field of positive psychology has sought to balance and enhance our traditional approach to disease management via promotion of positive thinking, feeling and behaviour across a broad range of disorders. Positive psychotherapeutic strategies have been applied to mood disorders, psychiatric illness and addictive disorders with results suggesting improvement in biopsychosocial resources and health (Kahler, Spillane, Day, Clerkin, Parks, Leventhal & Brown, 2014; Meyer, Johnson, Parks, Iwanski & Penn, 2012; Ruini & Fava, 2009; Seligman, Rashid, & Parks, 2006). However, the application of a positive psychological approach to weight loss and maintenance in obese populations is lacking.

This body of work explores the hypothesis that obese populations may be languishing, that is experiencing a state of incomplete mental health characterised by low levels of mental illness and low levels of subjective well-being (e.g. Keyes & Lopez, 2002). In this broad context, subjective well-being refers to perceptions and evaluations of one's life in terms of affect (the presence or absence of positive feelings about life), psychological health (the presence or absence of positive functioning in life) and social functioning (self-assessed quality of societally based experiences (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas-

Diener, 2010; Keyes & Magyar Moe, 2003; Keyes, Shmotkin & Ryff, 2002). We also posit that

the experience of obesity, characterised by negative mood states, a lack of functioning and

social isolation (Thomas, Hyde, Karunaratne, Herbert & Komesaroff, 2008), is sufficiently

negative to create unhelpful physiological changes, and a narrowing of functional

behavioural strategies serving to deplete personal resources and motivation (Fredrickson,

1998; Fredrickson & Joiner, 2002; Lazarus, 1991; Levenson, 1994). To the best of the

researcher's knowledge this thesis is among the first to consider positive mental health

variables as viable adjuncts to traditional strategies, in the service of improving outcomes in

this often treatment resistant population.

Given this is a new area of research, a mixed-methodology involving qualitative and

quantitative analyses served to inform and guide each study, and to provide a deeper insight

into how a positive psychology approach might benefit obese populations. The results of

three independent but related studies are presented in two published and two submitted

papers.

Paper one (*study one*) reports the results of a qualitative study exploring the 'lived'

experience of obese Australians (*N* = 22) during weight loss attempts, interpreted with

reference to the positive psychological concepts of Subjective Well-being (SWB),

Psychological Well-Being (PWB) and Social Well-Being (SLWB). Findings suggest the majority

of our participants were languishing during their weight loss experiences, evidenced by a

lack of domain specific SWB, and only four of the possible eleven domains of PWB and SLWB

required for complete mental health being subjectively endorsed. This provided preliminary support for our hypothesis that a state of languishing may serve to contribute to, or maintain obesity in some individuals. A benefit associated with the qualitative approach involved the ability to identify the presence of positive psychological variables existing outside of the weight loss domain. This served to contribute a more balanced and realistic picture of the obesity experience than traditional, domain specific quantitative approaches could offer in this early stage of investigation. Themes promoting positive mental health were identified including Motivational Forces and Self-View, indicating strengths, gratitude, hope and life satisfaction may potentially be useful areas to direct further investigation.

Paper two (*study two*) served to quantitatively verify and extend our preliminary findings, providing a vehicle through which we could identify potential differences in positive psychological correlates across weight categories including normal, overweight and obese classes one to three. The main findings of this cross-sectional study using an online survey method (n=260) suggest the category two and three obese demonstrated significantly lower scores on flourishing in comparison with the normal and overweight. The class three obese also demonstrated higher depression, and lower scores on agency, gratitude, positive affect and strength use in comparison with the normal and overweight. Results provided preliminary support for the hypothesis that a lack of well-being may contribute to atypical BMI. In addition, the treatment needs of obese categories may differ, requiring specifically targeted interventions to improve treatment outcomes.

Paper three (study two) extended our previous findings and the maintenance literature by comparing the well-being characteristics of successful weight maintainers (intentional loss of at least 10% body weight for at least 12 months) and non-maintainers, using the same dataset. Results from this cross-sectional online survey (N =250) suggest maintainers reported more frequent positive mood states and agentic thinking, both correlates of psychological health. They also engaged in more frequent diet, exercise and self-weighing behaviours in comparison with non-maintainers. However, despite achieving the physical health benefits assumed to be present post 10% weight loss, maintainers did not report being happier or more satisfied with life. Incorporating results from paper two, it was hypothesised that perhaps for some people, achieving weight in the 'normal range' (found to be associated with a flourishing state) may be more important than the achievement of successful weight maintenance. It was also hypothesised that the resultant dissatisfaction may serve to interfere with the sustained goal directed behaviour required for continued weight maintenance, perhaps leading to relapse.

Based on results from papers two and three, it was proposed that for some obese individuals a Positive Psychological Intervention (PPI) may enhance well-being via broadening and building behavioural repertoires to achieve happiness, and perhaps as a by-product of this process, achieve weight loss.

Paper four (*study three*) reports the results of a pilot uncontrolled study (N =4) using a mixed methodology investigating the potential benefits of a brief PPI teaching Hope, Strengths and Gratitude to women with class two and three obesity. Four participants were assessed using a mixed-methods approach at baseline, post module, post course and at 3-

month follow-up to establish the feasibility, tolerability, teachability and impact of the intervention on a number of outcome variables including weight, Subjective and Psychological Well-Being and mood states. Results indicated the program was teachable, feasible and tolerable. In addition, preliminary data based on reliable and clinically significant change analyses suggest the majority of women experienced short-term improvements in weight loss, positive mood states, flourishing and satisfaction with life, as well as a reduction in depression, anxiety and stress. These results provided preliminary support for the hypothesis that for some people, the promotion of positive psychological health may be helpful to sufficiently broaden and build behaviour conducive to maintainable weight loss success.

The current findings are new, and may be useful for the development of strategies to promote well-being in obese populations. First, the state of languishing may be an important contributor to the failure of current biopsychosocial approaches to facilitate weight loss and maintenance behaviour in the obese, and requires further consideration. A more balanced approach promoting the health and psychological benefits of well-being may serve to encourage flourishing, leading to improvements in outcomes in this often treatment resistant population. Second, the treatment needs of languishing individuals may differ across weight categories requiring specifically targeted interventions to achieve successful outcomes. Third, the understanding that the health benefits achieved via the recommended 10% weight loss may be insufficient as a stand-alone measure of success in weight maintenance. In addition, the facilitation of flourishing despite current atypical weight may serve to assist with motivation to continue with maintenance behaviour, improving

physiological reactivity and mood to reduce the risk of relapse. Fourth, specifically targeted Positive Psychological Interventions (PPI) promoting well-being may promote short-term improvements in the positive mental health, happiness and weight loss outcomes of the class two and three obese, beyond the benefits traditional strategies can offer, making PPI's a potentially useful adjunct to current treatment strategies. Further investigation and refinement of these preliminary findings may promote sustainable weight loss, and reduce the burden of disease and illness currently experienced by six hundred million individuals worldwide (WHO, 2015).

DECLARATION

I certify that this submission is my own work and contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. All work contained in the submission was initiated, undertaken, and prepared within the period of candidature. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide. I give consent to this copy of my thesis when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968. I also give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines. The author acknowledges that copyright of published works contained within this thesis (as listed below) resides with the copyright holder(s) of those works.

Two papers have been published, the first in the *Obesity Research and Clinical Practice* Journal and the second in the *Clinical Psychologist*. The remaining two papers are currently being considered for publication in the *Australian Journal of Psychology* and *Obesity.*

Robertson, S., Davies., M., & Winefield, H. (2015a). Why weight for happiness?

Correlates of BMI and SWB in Australia. Obesity Research & Clinical Practice.

doi.org/10.1016/j.orcp.2015.04.011

Robertson S., Davies, M., & Winefield, H. (2015b). Positive Psychological correlates of

successful weight maintenance in Australia. Clinical Psychologist.

doi: 10.1111/cp.12073

Robertson S., Davies, M., & Winefield, H. (2015c). The Well-Being of obese Australians

during weight loss attempts : A Qualitative and Positive Psychological

approach' Manuscript submitted for publication.

Robertson S., Davies, M., & Winefield, H. (2015d). A mixed method feasibility and

tolerability study of a brief, group based positive psychology intervention for

obese women. Manuscript submitted for publication.

Sharon Robertson

Signed: Date: 09/11/2015

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very, small… and valuable, as it will hopefully encourage others to advance, refine and perfect the scientific models required for best practice in the treatment of obesity.

To complete a Doctorate, regardless of field of interest is an exercise in pure determination, perseverance and humility. The value of feedback from peers is immeasurable, as is my respect for those who have achieved publication in their chosen field. I now understand the true value of scientific rigour, and through the article rewrite process have learned much regarding the tailoring of research to the specific needs of both the readership and editorial requirements. I can say without a doubt this has been a character defining experience that I would not recommend for the faint hearted… but would recommend nonetheless!

DEDICATIONS

To my three sons for their patience, understanding and belief in my ability to complete this research. It has certainly impacted on time spent enjoying extra-curricular activities, however their collective ability to see the 'bigger picture' and value of this work for me both professionally and personally, reflects what amazing young men they are… and are destined to become. We are equally proud of each other.

My parents, whose constant support in life and eagerness to spend extra time with their grandchildren was invaluable and allowed me to study in peace. Thank you.

Finally, to my new husband for his graphic design expertise, and holding the fort when I was incapacitated with Vertigo for six months. To his credit although he was new to the world of research and its 'all consuming' nature, he remained characteristically optimistic that his wife would one day emerge from her study cave. At last, that time has come!

KEY TO ABBREVIATIONS

AHS	Adult Hope Scale
ANOVA	Analysis of Variance
BMI	Body Mass Index
CSM	Complete State Model
DASS-21	Depression, Anxiety and Stress Scale (short form)
FS	Flourishing Scale
GQ-6	Gratitude Questionnaire (short form)
HIV	Human immunodeficiency virus
HREC	Human Research Ethics Committee
M	Maintainer
NM	Non-Maintainer
NHMRC	National Health and Medical Research Centre
NWCR	National Weight Control Registry
OTHQ	Orientations to Happiness Questionnaire
PANAS	Positive and Negative Affect Scale
PWB	Psychological Well-Being
SLWB	Social Well-Being
SPSS	Statistical Package for the Social Sciences
SWLS	Satisfaction with Life Scale
SWB	Subjective Well-Being
WHO	World Health Organisation

OVERVIEW

Outline of Thesis

The aim of this research was to explore the contribution that a positive psychology perspective might make to our understanding of obesity and weight loss in an Australian population. This program of research was designed to contribute to our understanding of a) the potential utility of applying positive psychology constructs to the obesity problem, and b) the applicability of a positive psychology intervention to improve Subjective Well-Being and weight loss in this difficult-to-treat population. Three independent but related studies were undertaken and the four articles produced are reported here as chapters in the manuscript. As the results of each study informed the next, each chapter is book-ended with a concise summary of relevant information pertinent to each study, and the broader context of the research program as a whole.

Chapter One provides an introduction to the biopsychosocial effects of obesity, traditional models of treatment and outcomes in obese populations. The concept of happiness (well-being) and a positive psychological framework including Diener's (2000) conceptualisation of Subjective Well-being (a broad evaluation of emotional reactions to life events and cognitive judgements of life satisfaction), and Ryff & Keyes' (1995) Psychological Well-Being (the cultivation of personal growth and a deeper meaning in one's life) are then discussed in the service of exploring how a positive perspective may be applied to weight loss and maintenance in the obese. *Chapter Two* outlines the objectives of this thesis, including the underlying assumptions, practical issues faced and initial literature search

strategies. *Chapters Three to Six* contain the four articles produced, and statements of authorship outlining each author's contributions. The Appendices relating to each paper are numbered in the table of contents, and presented sequentially at the end of the thesis. Each article has been reformatted to match the typeset of the thesis and published papers are presented in Appendix Five. *Chapter Seven* provides a summary of results, ideas for future directions, and a concluding statement.

Outline of Candidature

The current thesis was undertaken to fulfil the requirements of a Doctor of Philosophy through The University of Adelaide, South Australia. The program resulted in four articles produced over four years of research under supervision, aimed to develop my capacity to conduct research independently, and produce high quality work making a valuable and original contribution to knowledge in my field. All components of the program including induction, milestones related to the structured program, major and annual reviews and conference presentations promoting the research were successfully completed.

CHAPTER ONE : INTRODUCTION

Preamble

This chapter provides an overview of obesity and positive psychology. Rather than offering an expanded version of the literature reviews provided in the introduction of each of the four articles, a background summary of key concepts that were beyond the scope of the individual papers will be discussed. Initially, a broad overview of the obesity problem followed by the current treatment strategies and outcomes are considered, leading to the introduction of positive psychological theories and constructs serving to provide the rationale for the research undertaken.

Key Concepts

Obesity

Obesity, defined as 'abnormal or excessive fat accumulation that may impair health' is a global problem affecting over six hundred million adults (World Health Organisation, 2015, p.1). Australia has followed world trends experiencing rapidly increasing rates of obesity. Over the last 17 years, obesity has increased by 47% equating to four million Australian adults (28% of all males, and 28% of all females) aged 18 years and above (National Heart Foundation, 2015).

Aetiology of Obesity

Physical health effects

The effects of obesity on health are well established. An increase in risk occurs when the Body Mass Index (BMI) commonly defined as an individual's weight in kilograms divided by the square of height in metres, is 30 and above (National Health and Medical Research Centre, 2013). A higher BMI is associated with a number of non-communicable diseases, including cardiovascular disease leading to high blood pressure, heart attack and stroke, and increased risk of developing Type Two diabetes. Obesity is also associated with increased risk of colon, breast, endometrial and gallbladder cancer, musculoskeletal problems including osteoarthritis, gallstones, sleep apnoea and reproductive problems (NHMRC, 2013; WHO, 2015).

Environmental factors

Two main environmental factors are responsible for the dramatic rise in overweight and obesity. Post-industrialisation, technological advancement in the form of automation and computer assisted technologies have revolutionised transport and reduced activity levels in both the workplace and home environments. In combination with the increased

availability of cheap calorie-dense foods, this has led to an increase in calorie intake along with decreased calorie expenditure (e.g. Perri & Corsica, 2002). In addition, global marketing strategies have promoted fast food much more than nutritious food (Bays, 2009; Shaw, O'Rourke, DelMar & Kenardy, 2005) and served to normalise increasing portion sizes. This has led to habitual over consumption in consumers. In adults this may result in a rise in cell lipid stores leading to an increase in the number of fat cells in the body (Brownell & Rodin, 1994). The degree to which individuals are affected by these environmental factors varies greatly. Evidence suggests a number of biological, social and psychological factors play a role (e.g. Shaw et al, 2005; Thomas, Hyde, Karunaratne, Herbert & Komesaroff, 2008).

Biological factors

Heritability studies suggest obesity is a polygenic condition, meaning different genes influence weight gain (Ravussin & Bogardis, 2000). Once expressed, obesity may take the form of general and / or abdominal obesity, with the latter posing the greater risk to health (NHMRC, 2013). Based on prevalence studies, women are at greater risk of developing obesity due to higher rates of eating disorders, lower metabolic rates and more sedentary lifestyles in comparison with men (French, Jeffery, Forster, McGovern, Kelder & Baxter, 1994). As research suggests specific diet and exercise behaviours play an important role in weight regulation over time, women are also more likely to experience difficulties maintaining their weight loss (Kayman, Bruvold & Stern, 1990).

Psychosocial factors

When reasons cited for weight gain are examined particular themes emerge including low mood states, a perceived lack of social support and motivation issues (Thomas et al, 2008). In addition, Corica, Corsonello, Apolone, Mannucci, Lucchetti & Bonfiglio (2008) examined the relationship between psychological variables, metabolic syndrome (a cluster of metabolic risk factors), and quality of life in an obese population. Findings suggest strong correlations between psychological disturbance, distress, and impairment in tasks of daily living. Furthermore a study by Carr, Friedman, & Jaffe (2007) reported higher BMI (above 30 kg/m^2) was related to higher levels of negative affect in comparison with individuals with lower BMI. In general terms, it appears that negative mood states elicit avoidant and compulsive coping styles often resulting in emotional over eating, feelings of social isolation, cognitive inflexibility and perceived low quality of life (Byrne, Cooper & Fairburn, 2003; Drapkin, Wing & Shiffman, 1995; Lillis & Hayes & Levin, 2011). Interestingly, similar themes have emerged as reasons for relapse in the addictive disorders namely smoking, alcoholism and illicit drug use (e.g. Brownell, Marlatt, Lichtenstein & Wilson, 1986). In sum, the literature suggests that negative emotional states have been clearly linked to psychological conditions including stress, anxiety and depression, and found to be related to relapse (Gariepy, Nitka & Schmitz, 2009).

Social isolation through stigma is also commonly experienced in obese populations. In line with international research, Australian studies suggest the obese receive unsolicited

comments about their weight from strangers, are discriminated against when seeking employment, and believe public policy and medical professionals contribute to a 'culture of blame' regarding the burden that obesity places on medical resources (Puhl & Heuer, 2009; Thomas et al, 2008). Some studies exploring the 'lived experience' of the obese suggest marked effects of such communal attitudes. For example, Rand and MacGregor (1991) interviewed formerly obese individuals who had undergone surgical intervention. Participants reported they would rather endure serious heart conditions, diabetes, sensory deprivation or endure limb amputation than return to their pre-surgery weights in an effort to avoid weight based stigma.

Given the increasing prevalence of obesity, health initiatives at the community, national and international levels have received greater publicity and increases in funding (NHMRC, 2013; Swinburn & Egger, 2004). However, despite best intentions, current interventions often achieve limited or short-term success for a variety of reasons.

Traditional Treatment Strategies

Surgical Intervention

A common surgical option is bariatric surgery. In 1969, the concept of gastric bypass was first introduced as a way to reduce adiposity via bypassing the duodenum, serving to

greatly reduce the absorption of nutrients and calories (Mason & Ito, 1969). Weight loss is achieved through both restrictive and malabsorption methods, and has been shown to be the most effective strategy for weight loss in the severely obese (BMI greater than 35). Research suggests that surgical procedures like this can achieve weight losses between 22 and 63 kilograms, and with effective follow up, support and motivation, treatment gains may last for three to eight years (NHMRC, 2013; Latifi, Kellum, DeMaria & Sugerman, 2002).

Despite the promise of dramatic weight loss, a number of drawbacks are associated with bariatric interventions. Gastric bypass patients may suffer deficiencies in B group vitamins, iron, folate and calcium because the procedure interferes with processes required for adequate absorption of these micronutrients (Latifi et al, 2002). This results in the need for long-term supplement use and monitoring which can be expensive and serves to restrict quality of life. Another factor to consider is that despite the expense and potential long-term benefits, the effects of this operation are not permanent and longevity is dependent on the patient's motivation to continue with appropriate diet and exercise regimes (Wadden & Osei, 2002). In addition to the treatment only being offered to the severely obese, negative patient perceptions including 'fear regarding the invasiveness of the procedure' and 'finding the cost prohibitive' serve as additional reasons why bariatric surgery is not a treatment option for some obese individuals (Thomas et al, 2008, p. 325).

Pharmacotherapy

Pharmacotherapy has become a popular choice for obesity management and is recommended for patients with a BMI above 30, or with a BMI greater than 27 when co-morbidities are present (NHMRC, 2013). Previously, four medications had been approved for use in Australia, namely Orlistat, Sibutramine, Phentermine, and Diethylpropion (NHMRC, 2013). However, based on increases in psychiatric events (depression, anxiety and suicidal ideation) and cardiovascular and diabetes related complications, Orlistat (a lipase inhibitor designed to decrease the gastrointestinal absorption of fats), is the only medication recommended currently (Kang & Park, 2012). Pharmacotherapy has been shown to achieve weight losses between 6 to 18kgs, however weight loss effects are only achieved with continued medication use, and in conjunction with major lifestyle changes including diet and exercise modification (Wadden & Osei, 2002).

Diet Based Interventions

In a review of studies using calorie-restrictive diets to treat obesity, Mann, Tomiyama, Westling, Lew, Samuels & Chatman (2007) suggest there is little support for calorie-restrictive diets leading to long-term weight loss. Findings suggest that one to two thirds of dieters were often found to regain more weight than they had lost, and although the authors conceded that short-term weight loss does occur, this is obviously not a cure for obesity. It has also been well established that early weight losses are rarely maintained

(Byrne, Cooper & Fairburn, 2003; Jeffery & French, 1999; Wing, Jeffery & Hellerstedt, 1995) and that frequent, unsuccessful weight loss attempts through dieting may lead to 'weight cycling' (repeatedly losing then regaining weight, also known as the 'yo-yo effect'). In a prospective study designed to assess the long-term efficacy of dieting on weight gain, Korkeila, Rissanen, Kapro, Sorenson & Koskenvuo (1999) followed over 7,000 adult twins in Finland at 6 and 15 year intervals. Their findings suggest that even after controlling for confounds including demographics, smoking and alcohol use, those who had used dieting during weight loss attempts were more likely to struggle with major weight regain in the future. Given there are substantial health risks associated with weight regain including elevated cholesterol and blood pressure, these may serve to outweigh the positive effects of initial weight loss (Wadden & Osei, 2002).

Mann et al (2007) suggest methodological error has led to the false assumption that diets are successful for the achievement of long-term weight loss. Criticisms include the lack of control groups in studies with long-term follow up, and in the majority of these observational studies less than 50% of the original participants re-present. An additional source of error lies in the reliance of researchers on self-reported weight measures, as opposed to scaled weight in the laboratory. In a systematic review comparing self-reported weight compared with actual scale-measured weight, it has been suggested that participants underestimate their weight by an average of 2.1kgs (Bowman & DeLucia, 1992). Further methodological issues lie in the possible confound between studies comparing the effects of diet only and diet plus exercise interventions, and overly strict exclusionary criteria employed at follow up (Avenell, Brown, McGee, Campbell, Grant & Broom et al, 2004).

Mann et al (2007) suggest this collective lack of rigor has served to introduce biases leading to diets appearing unrealistically effective.

Exercise Based Interventions

In contrast, regular exercise has been shown to be one of the best predictors of long-term weight loss. A longitudinal study by McGuire, Wing, Klem, Lang & Hill (1999) reviewed National Weight Control Registry participants who had successfully maintained significant weight loss of 13.6kgs for one year. Results suggested that regular physical activity was a major factor associated with long-term success. This has since been replicated in two major meta-analyses of trials randomly allocating participants to exercise only, and diet and exercise treatments (Fogelholm & Kukkonen-Harjula, 2000; Wing, 1999). However, it should be noted that in targeting weight loss specifically, only modest amounts of weight were lost overall, (averaging 1-2kgs). Wing (1999) suggests this is perhaps an underestimation due to methodological problems including inconsistent measures of exercise, short follow ups, and small sample sizes.

It would appear that despite our best efforts to assist weight loss, weight regain is the major impediment to success for most. In light of support for high levels of physical exercise and sensible calorie intake, the emphasis is shifting towards a better understanding of the processes contributing to weight management (Perri & Corsica, 2002; Jeffery, Wing, Thorson & Burton, 1998). With a focus on the cognitive, emotional and behavioural aspects of

weight-related behaviour, psychological science is well placed to explore factors affecting motivation regarding initial weight loss and continued maintenance behaviour.

Early Psychological Approaches to Weight Loss

Learning theory has been applied to weight loss since the 1960's. Short-term programs applying behavioural principles (behavioural modification through learning and reinforcement strategies) achieved modest weight loss averaging 4.5 kilograms over a 10 week program (Jeffery, Wing & Stunkard 1978). By the 1980's and early nineties, these programs had become much longer in duration and focused strongly on behavioural components including specific goals for physical activity and calorie intake, self-monitoring and problem solving techniques, stimulus control strategies, and relapse prevention plans (Epstein, McKenzie, Valoski, Klein, & Wing, 1994; Harris, French, Jeffery, McGovern & Wing, 1994). Findings suggest these approaches have helped to facilitate greater initial weight loss, but have done little to improve maintenance of treatment gains. Unfortunately, it is not uncommon for participants to gain more than a third of the weight they had lost within the first year, and although this is an improvement in comparison with dieting outcomes, this may lead to significant negative health effects including elevated cholesterol and blood pressure (Wadden & Osei, 2002).

Cognitive and Behavioural strategies

In an effort to improve treatment efficacy, cognitive and behavioural components targeting the restructuring of unhelpful thinking styles and exercise have been trialled in weight loss programs. This approach has yielded mixed results. In a comprehensive systematic review of 36 studies applying psychologically based strategies to manage obesity (Shaw, O'Rourke, Del Mar, & Kenardy, 2005), cognitive strategies were not recommended as a stand-alone treatment as they had been less rigorously evaluated in comparison with other treatment modalities. However, results did suggest that cognitive-behaviour therapy combined with a diet-exercise component improves rates of weight loss in comparison with diet-exercise alone, however weight loss tended to be modest (4.9 kg's more than controls). In comparison, behaviour therapy achieved significant results as a stand-alone treatment in comparison with placebo, with participants losing an average of 2.5 kg's more than no treatment controls. When intensive behaviour therapy was combined with diet-exercise components, more weight was lost in comparison with diet-exercise interventions alone. In summary, the average weight loss achieved for programs offering an intense behavioural and diet-exercise component ranged between 1.4 and 10.5kgs (Shaw et al, 2005).

It appears that despite our best multi-disciplinary efforts, results from the variety of approaches presented are struggling to manage the obesity condition. Consequently, proponents have called for more creative research and clinical practices to improve the efficacy of our biopsychosocial approaches (Wadden & Osei, 2002; Wadden & Stunkard, 1985; Wing, 1999).

Motivation Enhancing Strategies

It has been hypothesised that the motivation necessary for adherence to most weight loss interventions wanes between six months to three years post program participation, facilitating regain (e.g. Wing, 2001). In an effort to boost motivation, a number of psychological strategies have been employed.

A motivational interviewing (MI) approach has been trialled successfully, with regards to weight maintenance behaviour (Smith, Heckemeyer, Kratt & Mason, 1997). This pilot intervention incorporated 3 sessions of MI based techniques designed to explore participant goals, discrepancies between current behaviour and goal achievement, and target ambivalence regarding behavioural change, within a behavioural weight loss program over 16 sessions. Results suggest that in comparison with participants receiving the standard behavioural program, the MI group did adhere to program requirements including group attendance, food diary entries and glucose monitoring, however degree of weight loss remain unchanged between the two groups.

Other efforts to improve motivation include attempts to increase participant's subjective satisfaction with the amount of weight they have lost. Data now suggest that the physiological benefits of even modest weight loss (5-10%) include reductions in risk of cardiovascular disease, cholesterol levels, and blood glucose levels (Perri & Corsica, 2002;

Shaw et al, 2005; Simopolous & Van Itallie, 1984), all important outcomes for obese individuals.

Another promising adjunct to behavioural programs is the recruitment of participants and their friends. Wing & Jeffery (1999) trialled social support strategies and found that 66% of those participants attending the program with friends maintained weight lost at 6 month follow up, compared with 24% of participants recruited alone. Group approaches have also been found to offer social and peer support and encourage greater accountability (Wing, 2002). In their systematic review of the major commercial weight loss programs in the United States, Tsai & Wadden (2005) suggest scientific data regarding initial and long-term weight loss success in large commercial programs is usually hampered by a lack of rigour and high attrition rates serving to provide a 'best case scenario'. However, regarding Weight Watchers specifically, results based on three Randomised Control Studies indicate the largest recorded weight loss equated to 3.2% of initial weight at two year follow-up, much less than the minimum recommended weight loss of 5-10% required for physical health benefits. In sum, despite some small successes, motivation appears to be a key protagonist limiting weight loss success in obese populations.

An Opportunity for Balancing and Extending Current Practice

Based on a review of the literature, it appears that no one treatment option is clearly superior for successful and sustained weight loss in the obese. We do know that surgical and

pharmacological interventions are effective for some individuals meeting treatment criteria, as long as motivation to continue with maintenance behaviour occurs. Dieting may be successful in the short-term, however as with pure cognitive interventions, is insufficient as a stand-alone approach. Behavioural and group based programs offer some support for those struggling with their weight, however treatment outcomes have been limited by motivational issues and individual differences suggesting 'one size does not fit all'. On balance it appears that strategies employing a multi-component approach are necessary for better outcomes regarding initial weight loss and subsequent maintenance behaviour. However it is clear that traditional treatment strategies such as these are struggling to be efficacious in the longer-term, and some researchers have concluded that psychology in particular has been relatively ineffective in its management of obesity and weight loss (Cooper, Doll, Hawker, Byrne, Bonner, Eeley, & Fairburn 2010).

Perhaps our collective treatment difficulties are not through lack of effort, but the theoretical lens through which we view the problem. Historically, research and treatment protocols for physical and mental health issues have targeted dysfunction as opposed to wellness (Seligman & Csikszentmihalyi, 2000). This medically based approach has allowed for a strong methodological science to grow and inform best practice, however such approaches have also served to obscure individual's strengths and resources, which may be particularly pertinent to weight loss and maintenance. Ruini & Fava (2004) posit this traditional focus on distress and disorder may be insufficient, and the idea that an absence of illness is the same as the presence of wellness may no longer be helpful as a stand-alone treatment approach. In response to this insight, and the call for creative approaches to weight loss and

maintenance, the potential benefits and explanatory utility of a positive psychological

approach will be considered as a possible adjunct to existing treatments for obesity.

A Positive Psychological Approach

Positive Psychology

Positive psychology is a broad term describing the scientific study of what makes life

worth living, and the encouragement of optimal human functioning (e.g. Lopez & Snyder,

2009; Seligman, Steen, Park & Peterson, 2005). The field is not new, and has theoretical

antecedents in the early work of Maslow's self-realisation, Roger's concepts of the fully

functioning individual and Jung's work on individuation (Jung, 1933; Maslow, 1954; Rogers,

1974; Ryff & Keyes, 1995). The positive psychology movement has aimed to purposefully

organise pre-existing research to create a theoretically legitimate and stable base from

which to balance and extend our current understanding of human functioning and

flourishing (Pressman & Cohen, 2005; Ruini & Fava, 2007; Seligman, 2002).

In direct response to the almost exclusive focus on alleviating distress and disorder

post World War II, positive psychologists aim to complement existing theory and practice

through the understanding and optimisation of three main areas. These include the

subjective experiences of well-being including 1) contentment and satisfaction (e.g. Diener,

2009; Seligman, Parks & Steen, 2004), 2) our degree of hope and optimism for the future (e.g. Snyder, 1995) and 3) feelings of happiness and 'being in the zone' or 'flow' in the present (e.g. Seligman & Csikszentmihalyi, 2000). Within the positive psychology paradigm, research has pursued the causes and correlates of well-being, a term representing the 'full life' often used interchangeably with 'happiness', and assumed to be vital for the optimisation of the human experience. Two independent but related routes have been identified as being important pathways to develop happiness and sustain the good life (Delle Fave, Brdar, Freir, Vella- Brodrick & Wissing, 2011; Keyes, 2005), namely Subjective Well-Being (SWB), and Psychological Well-Being (PWB).

Subjective Well-Being

The theoretical precursors of Subjective Well-being (SWB) can be traced from Plato, Seneca, and Aristotle often represented in language, art and politics including the Utilitarians whose policies promoted practicality over beauty and religion (e.g. Ng & Fisher 2013; Veenhoven, 1996; Veenhoven, 2013). This approach, in which the physical, emotional and psychological correlates of the human condition were explored, provided early insight into the importance of SWB as necessary for living a meaningful, rewarding and full life.

In positive psychology, SWB is a broad term, referring to both individual perceptions and evaluations of mood, psychological and social functioning (Keyes, Shmotkin & Ryff,

2002), and a more domain specific measure of the concept (e.g. Diener, Lucas & Oishi, 2002). To reduce conceptual confusion, although related, the former will now be referred to as well-being, and the latter SWB defined as the measurement of positive and negative affect and cognitive judgements regarding life satisfaction. This hedonic or 'pleasure' pathway engaging the affect component of SWB has regularly been applied across a broad range of research (e.g. Delle Fave et al, 2011; Diener, Lucas & Oishi, 2002; Pavot & Diener, 2008). Findings suggest that high levels of SWB have a reciprocal influence regarding life improvement in four main areas, namely health and longevity, work, social relationships and society as a whole (Diener & Biswas-Diener, 2008; Lyubomirsky, King & Diener, 2005).

In the context of health and longevity, studies have shown individuals reporting higher levels of SWB experience better health overall, less negative physical symptoms, higher immunity to infections, lower incidence of breast cancer and stroke and improved cardiovascular function (Chida & Steptoe, 2008; Diener & Biswas-Diener, 2008; Diener & Chan, 2011; Hamilton, 1996; Ostir, Markides, Peek, & Goodwin, 2001; Pressman & Cohen, 2005, Røysamb, Tambs, Reichborn-Kjennerud, Neale & Harris, 2003). Given improvements in these areas would be highly beneficial for obese populations, this finding is particularly relevant.

Measurement of Subjective Well-Being

Post WWII, interest in satisfaction with life was assisted by the development of surveys designed to assess large, representative samples of the population (e.g. Gallup, 1976; Sherif & Cantril, 1945). Early happiness surveys were short, sometimes consisting of rudimentary stand-alone items including 'How happy are you?' (Diener, 2009). Most of our knowledge on SWB came from this kind of research, known as 'subjective social indicators', used to complement the more objective living standards research commonly undertaken in the 1950's and 60's (e.g. Schwarz & Strack, 1991). As the field progressed multi-item measures were developed and showed superior psychometric properties in comparison with their predecessors. For example, Pavot & Diener (1993) developed the Satisfaction with Life Scale (SwLS), a broad, cognitive based self-evaluation of satisfaction with life, demonstrating discriminant validity from measures of emotional well-being. Lucas, Diener & Suh (1996) also made an important contribution, conducting three studies in an effort to assess the convergent and discriminant validities of the components of SWB, self-esteem and optimism. Their findings demonstrated that positive and negative affect and life satisfaction were discriminable from each other, as was life satisfaction from self-esteem and optimism. Since this time, a great number of scales related to SWB have been designed, however those used most regularly within the health sciences include the global measure of Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) representing the cognitive component of SWB, and the Positive and Negative Affect Scale (PANAS) measuring the affective component of SWB via two ten-item scales assessing each mood state as relatively independent constructs (Watson, Clark & Tellegen, 1988).

Psychological Well-Being

The second route through which the 'good life' can be pursued involves Psychological Well-Being (PWB), concerned with cultivating personal growth and a deeper meaning in one's life (Ryan & Deci, 2001; Ryff & Keyes, 1995). Also termed eudaimonia, or 'living well', this concept was originally based on a number of conceptual and methodological refinements exploring the meaning of psychological 'wellness'. Moving beyond initial conceptions including frequency of positive and negative affect (e.g. Bradburn, 1969) and the sociological notion that life satisfaction is the main indicator of well-being (e.g. Andrews & McKennell, 1980), the exploration and addition of new dimensions was theoretically driven and based on multiple conceptualisations of positive functioning derived from developmental and clinical psychology (Ryff & Keyes, 1995).

Measurement of Psychological Well-Being

Measurement of this concept was based on work by Ryff & Keyes (1995) involving a large nationally representative sample of adults ($n = 1,108$). Results suggested the following six discrete dimensions of wellness could be organised under the second-order factor Psychological Well-Being (PWB). These included 1) self-acceptance (understanding of the self and one's past), 2) positive relations with others (the sharing of quality relationships), 3) personal growth (sense of development and personal growth), 4) purpose in life (perceiving purpose and meaning in life), 5) environmental mastery (perceived capability to manage one's life and surroundings), and 6) autonomy (self-determination).

Measurement of Psycho-social Functioning

Given our focus on complete mental health, well-being conceptualisations should also include an understanding of how individuals judge their quality of life and personal performance using socially based criteria (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas-Diener, 2010; Keyes, 1998). Two scales were developed for this purpose assessing psycho-social prosperity, and providing useful adjuncts to measures of SWB and PWB. The Social Well-Being measure (Keyes, 1998), extends the PWB dimension of the *'positive relations with others'* domain and represents an individual's assessment of their societally based experiences, existing as part of a continuum (Keyes, 1998; Keyes & Magyar Moe, 2003). This framework includes five dimensions 1) social coherence (an interest in and view of society as predictable and logical), 2) social actualisation (the belief society is evolving in a positive direction), 3) social integration (feeling a sense of belonging and support from one's community), 4) social acceptance (a positive attitude and general acceptance of members of society), and 5) social contribution (feel valued by, and actively contribute to society's value). Despite the influence of occupational status, age and gender, Keyes' research suggests nearly 40% of the middle-aged Americans surveyed were in the top tertile of three or more dimensions of social well-being. In general terms, one to two fifths of Americans in the general population (aged 25-74 years) experience a high level of social well-being overall.

In addition, Diener et al (2010) produced the Flourishing Scale based on essential components related to well-being, derived from multiple theoretical constructs including humanism (e.g. Ryan & Deci, 2000; Ryff & Singer, 1998;), social capital (Helliwell et al, 2009), engagement and interest in life (Csikszentmihalyi, 1990), social relationships (Dunn et al,

2008) and optimism (Scheier & Carver, 2003). This eight-item measure assesses the degree to which an individual is 1) involved in supportive and rewarding relationships, 2) actively contributes to the happiness of others, 3) is respected by others, 4) is fully engaged and interested in their life, 5) has respect for the self, 6) optimistic, 7) competent and 8) capable in pursuits believed to be important to that person (Diener et al, 2010). The Flourishing Scale yields a single psychological well-being score and demonstrates good psychometric properties and convergent validity. Based on these attributes, the Flourishing Scale is often used in research to complement and extend well-being related findings (e.g. Maltseva, 2015).

Combined Models of Well-being

Until very recently, the philosophical concepts of hedonia (the affect component of SWB) and eudaimonia (PWB) were treated as independent constructs based on debate focused on conceptual and practical constraints (e.g. Biswas-Diener, Kashdan & King, 2009; Henderson & Knight, 2012; Kashdan, Biswas-Diener & King, 2008; Ryan & Deci, 2001; Waterman, 1993). Since then, it has been proposed that both models can be used independently, and in combination to extend our understanding of the underlying processes related to well-being. Given there is a degree of confusion in the literature regarding the relationship between constructs, in this body of work it is assumed that both hedonic and eudaimonic measures do overlap, however they measure different components of flourishing. In support of this supposition, recent research suggests the presence of high levels of hedonia and eudaimonia contribute to flourishing, evidenced by optimal levels of

positive feeling and functioning (Fredrickson & Losada, 2005; Henderson & Knight, 2012; Huta & Ryan, 2010; Keyes, 2007).

Two examples of this combined approach are the complete state model of mental health (CSM) and the Orientations to Happiness model (OTH). Regarding the CSM, based on previous PWB findings (Ryff & Keyes, 1995), Keyes reviewed multiple theories in the psychological literature and developed a conceptual continuum promoting concepts of psychological wellness as opposed to illness (Keyes, 2007). In a seminal study by Keyes (2005) involving a large national sample (n = 3032), findings suggest mental illness and mental health variables were correlated, but independent from each other and were not merely opposite states. The resultant Complete State Model (CSM) posits that individuals who are completely mentally healthy or flourishing (displaying healthy psychosocial functioning, high resilience, pursue clear life goals, and enjoy strong intimacy in relationships) constitute approximately 18% of the adult population sampled. It has since been suggested that around 80% of the general population may be struggling with low to moderate PWB leading to a number of negative biopsychosocial consequences. For example, Keyes (2005) suggests those displaying languishing (a lack of mental illness but low well-being) were equal to or worse off regarding psychosocial, occupational and health functioning in comparison with the pure mental illness category. Regarding the last finding, Keyes (2004) found those in a languishing state were more at risk of developing cardiovascular disease than their flourishing counterparts. In sum, these findings suggest high PWB serves as a protective factor regarding some mental and physical health comorbidities relevant to obese populations.

The Orientations to Happiness model (OTH) explores concepts of 1) pleasure (positive emotion), 2) engagement (optimal functioning through concentration and deep enjoyment of personal pursuits) and 3) meaning (purposeful activity that may transcend individual needs and benefit others), as the three fundamental components or pathways to happiness (Peterson, Park & Seligman, 2005; Schueller & Seligman, 2010). The OTH scale has since been utilised in a wide variety of research indicating that a life higher in all three orientations (especially engagement and meaning) has been found to be more satisfying than a life lower in all dimensions (Mitchell, Stanimirovic, Klein & Vella-Brodrick, 2009; Vella-Brodrick, Park & Peterson, 2009). In addition, individuals may have a preferred route to happiness serving to guide their actions. As this may serve as a possible motivator for behavioural change, the OTH model may be a particularly useful measure of happiness for obese populations.

The Broaden and Build Theory of Positive Emotions

It is posited that the evolutionary function of specific emotions is an important determinant of human motivation. For example, fear may result in fight or flight responses, creating the physiological changes and narrowing of functional behavioural strategies required to ensure survival (e.g. Lazarus, 1991; Levenson, 1994; Tooby & Cosmides, 1990). Conversely, positive emotions facilitate approach behaviours allowing the individual to broaden their attention and thought action repertoires serving to motivate behaviour and build enduring personal resources (Fredrickson, 1998; Fredrickson, 2001; Fredrickson, 2004).

Also considered in the development of the Broaden and Build model were findings suggesting individual judgements of life satisfaction are based on the balance of positive to negative emotions one experiences (e.g. Diener, Sandvik Pavot & Gallagher, 1991). This idea was extended by Fredrickson & Joiner (2002) via the suggestion that positive emotions were not only markers for well-being and happiness, they were also active contributors. Prospective evidence of this effect was shown in American college students completing measures of affective states and coping at two time points. Results suggest positive affect (rather than negative) predicted broader-minded coping strategies leading to the promotion of positive affect and well-being, known as the 'upward spiral' effect (Fredrickson & Joiner, 2002). In addition, a meta-analytic exploration of positive well-being and mortality in healthy and diseased populations suggests positive well-being was significantly associated with a reduced risk of death by cardiovascular event in healthy populations, and served to reduce mortality in patients with human immunodeficiency virus (HIV) and renal failure (Chida & Steptoe, 2008). This observed effect across studies using cardiovascular events as an example may be explained by the idea that negative emotions increase blood flow to specific areas of the body. In exploring the effects of positive emotion on cardiovascular functioning (post highly negative emotion inducement), positive emotional states were found to improve cardiovascular recovery compared with the neutral control condition (Fredrickson & Levenson, 1998).

The relationship between happiness and health has also recently been explored in the field of health psychology. McCrory, Dooley, Layte & Kenny (2015) conducted a large (N = 6,912) longitudinal study examining the effects of childhood adversity (consisting of

socioeconomic adversity, physical and sexual abuse, and substance abuse by parents) and the development of chronic disease and emotional disturbance in adulthood. Results suggest disease risk including cardiovascular and lung disease as well as nervous and psychiatric illnesses increased in midlife and older age groups, based on degree of adversity experienced during childhood. In summary, although causality cannot be inferred from the current data, it appears that the promotion of positive emotional states may serve to motivate a broadening and building of personal resources necessary for improving health compliant behaviours, happiness and well-being, all valued outcomes in treatments for obesity (e.g. Diener & Chan, 2011).

The Proposed Role of Positive Psychology in Weight loss and Maintenance

Obesity is a complex problem. Based on unsatisfying outcomes regarding common biomedical and psychosocial approaches, it appears creative strategies are required to balance, extend and complement existing treatment protocols. Given the majority of the obese report negative health, social and psychological effects associated with their weight condition, it is possible that obesity represents a state of languishing. As improvement in well-being has been found to serve as a motivator for goal directed behaviour, perhaps increasing the well-being of obese Australians may promote a state of flourishing, serving to positively impact health, happiness, weight loss and maintenance outcomes in this traditionally treatment resistant population.

CHAPTER TWO : AIMS OF THIS THESIS

Preamble

The broad rationale for this thesis came from the author's clinical psychology work with the obese. Despite applying strategies based on current guidelines for best practice (NHMRC, 2013), treatment outcomes including mood and long-term weight maintenance were underwhelming, mirroring common findings in the obesity and maintenance literatures. This led to interest in the possibility that obese clients (and psychology) could benefit from a new approach to weight loss and management. Upon initial review of the literature, it appeared the majority of research focused on the negative symptoms associated with obesity, and that this may indicate a 'failure to thrive' consistent with Keyes (1995) concept of Languishing. It was postulated that given the field of Positive Psychology seeks to balance and extend the traditional deficit approach, perhaps obesity could benefit from a similar approach recognising and promoting the value of flourishing and optimal functioning. If this state could be achieved, what effect would it then have on the health and happiness of individuals struggling with the many difficulties associated with obesity?

The primary aim of this research was to investigate 1) the potential utility of positive psychology constructs applied to the problem of obesity, and 2) the applicability of a positive psychology intervention to improve both well-being and weight loss in this difficult to treat population. Therefore this body of work was designed to meet three primary objectives;

The first explored the 'lived' experience of obese adults during their current weight loss attempts. This study was among the first to apply a qualitative analysis in the service of providing greater depth, detail, openness and authentic representations of individual experiences, and to identify themes related to the presence or absence of positive psychological variables in an obese community based population.

The second study was built upon the results of the first. Based on content derived from the thematic analysis, positive psychology variables were identified and incorporated into a quantitative cross-sectional examination of the relationships between weight categories, weight maintenance and key positive psychological variables. This served to further validate and extend our previous findings, and assist with variable selection for the third and final study.

Utilising variables identified in the previous studies, a clinical intervention protocol was piloted in a group-based positive psychological intervention for weight loss and sustained maintenance. The study used a mixed methodology, serving to improve depth and meaning of results, and provide triangulation within and across studies to improve study integrity. The intervention assessed the feasibility and tolerability of the small group intervention, as well as outcomes on a number of dependent measures including weight, mood, and subjective and psychosocial well-being at twelve-week follow-up. In sum, this study was designed to assess the suitability of a positive psychological intervention designed to improve well-being and perhaps as a by-product of this process, facilitate weight loss and maintenance in obese community based Australians.

This thesis utilised the positive psychological concepts of Subjective Well-Being (e.g. Diener, Lucas & Oishi, 2002), Psychological Well-Being (Ryff & Keyes, 1995; Schueller & Seligman, 2010), Flourishing and Languishing (Keyes, 2005; Keyes, 2007), Psycho-social functioning (e.g. Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas-Diener, 2010; Ryff & Keyes, 1995; Ryff & Singer, 1998) and the Broaden & Build theory of positive emotions (e.g. Fredrickson, 2004). Given the application of positive psychology to weight loss is new, multiple triangulation methods were used in an attempt to strengthen the design, as well as increase the ability to interpret findings within and across studies (Denzin, 1970; Lincoln & Guba, 2000; Patton, 1999; Patton, 2001). The potential benefits of using this approach include improvement in both internal and external validity, reliability, and procedures designed to lessen potential biases within the research (e.g. Mitchell, 1986).

The preferred format for this thesis was by publication rather than a conventional thesis. Findings could then be widely distributed via publication, and valuable feedback from reviewers and editors could be incorporated into the final work. Despite the four papers being presented independently, they are related and provide an accurate representation of the underlying theory and methods guiding the research as it progressed. Actual publication dates differ from the order in which the papers are presented, as two papers have been published and two are currently being considered for publication.

Practical Issues:

The duration of a research program fulfilling the requirements of a Doctor of Philosophy in Australia, is expected to last between three and four years in a fulltime capacity. This body of work met the expectation that research be incremental, informing and building upon previous results, leading to a progressive refinement of subsequent study designs and choice of outcome variables. At this level of research, access to large representative samples and complex experimental designs was not possible due to time and budgetary constraints during the term of my candidature. Time presented one of the biggest challenges to overcome. The process of advertising and recruitment often took twice as long as expected, especially for study one in which juggling interviewee availability and home visits was difficult, sometimes resulting in cancellations and travel to rural communities. Events beyond the researchers control included computer hardware failure, time taken for ethics approval, the review process for journal submissions, and physical illness. Consequently, the accumulative effect of these delays resulted in a much shorter follow-up period for the final intervention study (3 months instead of 12 months) in order for the thesis to be completed within the time-frame required.

Underlying Assumption of Research

This thesis explores the possibility that the obese may be languishing, and improvements in well-being (also referred to as happiness in this body of work) can lead to optimal functioning in obese populations. It is also posited that increases in positive health will improve motivation, and perhaps as a by-product of this process, weight loss and maintenance behaviour may be increased. This hypothesis assumes there is a clinical value in focusing on well-being, that psychological strengths can be developed through direct intervention, and that the benefits outweigh any deficits associated with this positive health focus.

The validity of increasing happiness has been questioned on theoretical and moral grounds. Based on a comprehensive review, Veenhoven (1989) suggests the argument that *too much* happiness would promote "contented cows, political apathy and destructive hedonism" is unsupported by the literature, and that in most cases, well-being is associated with pro-social behaviours including increased productivity (Veenhoven, 1989, p.1). In addition, the legitimacy of positive health based interventions has been challenged by the idea that a genetically determined set-point ensures individuals always return to baseline levels of happiness, despite short-term increases (e.g. Brickman & Campbell, 1971; Headey & Wearing, 1992; Kahneman, Diener & Schwarz, 1999). This 'Hedonic Treadmill' effect is a legitimate concern serving to represent one part of the argument, as a number of scientists have also suggested life satisfaction *can* achieve change over sustained periods of time (Fujita & Diener, 2005). For example prospective and longitudinal studies have shown increases in Subjective Well-Being have successfully reduced symptoms of mental and physical illness (e.g. Chida & Steptoe, 2008; Diener & Chan, 2011). In addition, well-being is

closely related to a number of variables including personality traits of neuroticism and extraversion (Costa & McCrae, 1990), sociodemographic conditions comprising affluence and political stability, religiosity, older age, being married, enjoying reliable well-paid employment and belonging to the middle classes (e.g. Diener, Suh, Lucas & Smith, 1999). Given these factors are thought to contribute between eight and fifteen percent of the variance in Happiness (Diener et al, 1999), they are acknowledged but are not specifically controlled for in this body of work.

The arguments presented led to the hypothesis that obese populations are languishing and may benefit from positive mental health strategies designed to improve well-being, including Subjective, Psychological and Social Well-Being, motivation and weight loss outcomes in community based obese Australians. Therefore this program of research was anticipated to contribute to both the content and targeting of future treatment strategies for obese populations.

Based on a search using multiple health and psychology databases (see appendix one), an initial gap in the literature was identified, resulting in study one. Subsequent studies were then developed based on findings from the preceding research, and current literature. Each study will be discussed in sequence, forming the basis of a short, pre-chapter introduction providing additional context and background information regarding decisions made beyond the scope of the individual papers.

CHAPTER THREE : Study One

A qualitative study of the experience of obesity during weight loss attempts

Context

Following an initial search of the literature (see Appendix 1), it became evident that the bulk of research utilised traditional deficit based approaches to explain and treat the biopsychosocial factors associated with obesity (e.g. Carr, Friedman, & Jaffe, 2007; Leong & Wilding, 1999; Perri & Corsica, 2002). Common findings suggest negative effects included low mood, chronic pain, increased risk of cardiovascular disease, diabetes, musculoskeletal problems and stigma, however a notable exception was Crisp & McGuiness's (1976) seminal study exploring the relationship between 'fatness', neurotic illness and personality characteristics. Findings suggested morbid obesity was associated with lower anxiety in men and women, and lower depression in men, resulting in the 'Jolly Fat Hypothesis'. Since then, this study has been replicated using a wide range of samples, measures and study designs yielding mixed results (Jansen, Havermans, Nederkoorn & Roefs, 2008; Palinkas, Wingard & Barrett-Connor 1996 ; Roberts, Deleger, Strawbridge & Kaplan, 2003). On balance, findings offered initial support for our hypothesis that obese populations may be languishing (lacking in positive emotion and psychosocial functioning, Keyes, 2002; Keyes, 2005), and the application of positive psychological theories to extend and balance our traditional understanding of the obesity phenomenon have been lacking.

In one of the few studies employing a eudaimonic approach to obesity directly, a study of severely obese individuals on a very low calorie weight loss program demonstrated that when patients engaged in a weight loss program facilitating a high degree of, and support for individual autonomy, weight maintenance was enhanced (Williams, Grow, Freedman, Ryan and Deci, 1996). This provided support for Self-Determination Theory (Ryan & Ryan, 2000) suggesting the motivation to continue with weight maintenance behaviour may lie in the individual's perception of the behaviour as being self-chosen (indicating a sense of autonomy), or controlled by others. The authors further theorised that personal competence and autonomous behaviour is a lifelong pursuit, and a very necessary component of personal integrity and well-being.

Regarding Subjective Well-Being in particular, research has shown a link between the benefits associated with physical activity, and improvements in Subjective Well-Being in individuals with cardiovascular disease, high blood pressure and obesity (Mutrie & Faulkner, 2004). Additionally, in an examination of the health literature broadly considering a Psychological Well-Being perspective, Boehm & Kubzansky (2012) investigated the relationship between eudaimonic and hedonic measures of well-being, and a number of health outcome variables including risk of cardiovascular disease. Results suggest optimism and hedonic well-being including life satisfaction and positive emotional states were more consistently associated with cardiovascular health, however the authors did concede that there were fewer investigations representing the eudaimonic perspective across the health literature.

Based on the initial review, there appears to be ample research exploring the negative aspects of obesity, however this approach rarely considers the existence or promotion of flourishing, a state characterised by positivity, and purposeful, goal directed behaviour shown to be associated with improved health and well-being (e.g. Diener & Chan, 2011). Therefore, the primary objective of Study One was to employ a qualitative design using semi-structured interviews to explore and balance our current understanding of the 'lived experiences' of obese Australians in a community based sample. Given the area of investigation is new, the qualitative design was more likely to provide sufficient depth, detail and authentic representations of individual experiences beyond that which quantitative analysis could achieve (Bernard, 1988). In addition, a further assumption underlying our targeted population was the idea that those who had attempted weight loss within the last 12 months were probably 1) currently unsatisfied with their weight and able to provide valuable information as to 'why' this is the case via qualitative enquiry, and 2) would perhaps be more motivated to engage in the study than those who were more passive or satisfied regarding their current weight.

In sum, the first empirical study explored the experience of obese Australians, using qualitative methods and was specifically designed to 1) ascertain the potential usefulness of this approach with an obese population, 2) serve as a broad indicator of flourishing and languishing based on the presence or absence of SWB, PWB and Social Well-Being related experiences, and 3) identify potential variables of interest to incorporate into subsequent studies.

Statement of Authorship

Title of Paper	The well-being of obese Australians during weight loss attempts. A Qualitative, Positive psychological approach
Publication Status	☐ Published ☐ Accepted for Publication ☑ Submitted for Publication ☐ Publication Style
Publication Details	

Principal Author

Name of Principal Author (Candidate)	Sharon Robertson
Contribution to the Paper	I was responsible for the conception and primary authorship of the paper. I conducted the literature searches, twenty two face to face interviews and analysed the majority of the data. I was also corresponding author and primarily responsible for responses to reviewer comments and article re-submission.
Overall percentage (%)	75%
Signature	Date 31/07/2015

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

     i.   the candidate's stated contribution to the publication is accurate (as detailed above);

     ii.   permission is granted for the candidate to include the publication in the thesis; and

     iii.   the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Dr Matthew Davies
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Signature	Date 31/07/2015

Abstract

Obesity is a global problem affecting the physical, psychological and social well-being of millions. Despite a broad range of strategies including surgery, medication and psychosocial interventions, health professionals struggle to manage the complex and costly nature of obesity. New approaches are required and we believe Positive Psychology associated with improvements in health and well-being, may be beneficial in the management of obesity. This study aims to extend and balance the customary focus on the negative effects of obesity in current research. Given this is a new area of enquiry, to ascertain the potential usefulness of this approach we applied three well-established frameworks to explore the positive mental health qualities of obese Australians during weight loss attempts. Participants were 22 Australian residents, aged between 18 and 65 years who had initiated a weight loss attempt over the last 12 months. A qualitative thematic analysis using semi-structured interviews was conducted (Braun & Clarke, 2006), and findings were discussed with reference to the positive psychological concepts of Subjective Well-Being (SWB), Psychological Well-Being (PWB) and Social Well-Being (SLWB). Five main themes and nineteen sub-themes were generated, and suggest respondents were languishing overall. The experience of being obese was negative due to low mood, physical discomfort, low self-esteem and compassion and the impact of obesity on valued tasks of daily living. Health problems, sabotage and complex environmental demands were also found to adversely impact the motivation required to sustain weight loss efforts. Conversely, factors promoting positive mental health were also identified. Strong support networks, strengths knowledge, gratitude, hope, task enjoyment, life satisfaction and social awareness all contributed to a predominantly positive sense of future despite obesity.

We posit that a lack of flourishing may serve to contribute to or maintain obesity in some individuals. It is our hope that a more balanced approach considering positive mental health variables may improve health outcomes in this traditionally treatment resistant population.

Introduction

Obesity is defined as 'abnormal or excessive fat accumulation that may impair health' (World Health Organisation, 2015). According to recent data, six hundred million adults were obese, representing around thirteen percent of the world's adult population (WHO, 2015). Australia has followed world trends, experiencing a rapid rise in rates of overweight and obesity since the 1980s. If this continues, an estimated 4.6 million Australians will be obese by year 2025 (Access Economics, 2009).

The negative effects of obesity on physical health are commonly reported. A body mass index (BMI) above thirty is associated with a number of non-communicable diseases, including cardiovascular disease, type 2 diabetes, musculoskeletal disorders, and some cancers, serving to increase rates of morbidity and mortality (Leong & Wilding, 1999; NHMRC, 2013). The psychosocial effects of obesity have also been widely stated. For example, Corica et al (2008) examined the relationship between metabolic syndrome, quality of life and psychological symptoms in an obese population, and found strong correlations between mental health difficulties, distress and marked impairment in tasks of daily living.

When reasons cited for weight loss failure are examined closely, particular themes emerge. Research suggests eating to reduce discomfort and stress, low mood states, a perceived lack of social support, motivation issues due to a lack of goal clarity, sedentary lifestyles and poor dietary habits all contribute (e.g. Carr, Friedman, & Jaffe, 2007). Given the

negative effects of obesity on health and well-being, it is understandable that treatment foci have been concerned in the main with alleviating distress and dysfunction. This 'Medical Model' approach has many merits, however this exclusive focus on pathology may result in important opportunities for treatment success to be missed (e.g. Ruini & Fava, 2004). This has led to more creative strategies being developed and applied to clinical research.

Described by Seligman, Steen, Park & Peterson (2005, p. 1) as 'the study of positive emotions, positive character traits, and enabling institutions', positive psychology questions our traditional focus on distress and disorder as the only treatment target for common conditions (e.g. Peterson, 2006). It is posited that when treatment strategies balance this 'deficit' based model with those recognising and enhancing what's also 'going right' with people, it is possible to create a more functional, balanced and successful life leading to greater satisfaction and improvements in health and happiness.

Using this positive psychological framework, particular concepts associated with optimal human functioning are regularly applied to clinical research. The first, Subjective Well-Being (SWB) is concerned with emotional well-being including perceptions of one's life in terms of affective states and cognitive evaluations of satisfaction with life (Diener, Lucas & Oishi, 2002). The second, Psychological Well-Being (PWB) represents six different dimensions of positive functioning including 1) self-acceptance, 2) positive relations with others, 3) personal growth, 4) purpose in life, 5) environmental mastery and 6) autonomy. The degree to which one is experiencing PWB is characterised by 'Flourishing', defined by Ryff & Keyes (1995) as a state in which mental health is indicated by the presence of positive feelings and

positive functioning in life, and 'Languishing' defined as the absence of positive emotion and a lack of psychosocial functioning. The latter concepts exist on a mental health continuum based on the Complete State Model (CSM,) in which languishing does not represent a polar opposite of flourishing, however it does indicate a state in which the individual is neither mentally healthy nor mentally ill (Keyes, 2005; Keyes, 2007). Given the focus on complete mental health, Keyes (1998) suggests that well-being conceptualisations should also include an understanding of how individuals manage social challenges, representing the more 'public' side of their functioning. Keyes' concept of Social well-being includes five dimensions, 1) social coherence, 2) social actualisation, 3) social integration, 4) social acceptance and 5) social contribution (Keyes & Magyar Moe, 2003).

In the context of health, recent research has identified Subjective well-being (SWB) and its correlates as contributors to improved immune, metabolic and cardiovascular function (e.g. Diener & Chan, 2011). A possible mechanism for this relationship may be explained by the 'Broaden and Build' theory of positive emotions. Fredrickson, Cohn, Coffey, Pek & Finkel (2008) posit that when positive emotions are experienced, this serves to improve motivation and encourage behavioural and cognitive flexibility creating improvements in biopsychosocial resources and health. To date, exploration of the positive aspects of psychological functioning with regards to the experience of obesity has been underrepresented in the literature. In an effort to address this gap, our study was designed to identify which aspects of the weight loss experience not only detract from, but contribute to well-being in the context of Subjective, Psychological and Social Well-Being and concepts of Flourishing and Languishing.

Given this research is exploratory, a qualitative thematic analysis was conducted based on Braun & Clarke's protocol (2006), recommended for researchers new to qualitative enquiry. This method including semi-structured interviews was chosen to provide greater depth, detail, openness and authentic representations of individual experiences, beyond that which quantitative analysis could achieve (Bernard, 1988). It is hoped that this research will provide a more balanced approach to the understanding of the weight loss experience, and encourage further research designed to incorporate positive psychology into subsequent treatment protocols.

Method

Recruitment

The study took place in Adelaide, South Australia. An advertisement describing the study as an 'investigation of weight loss experiences' was placed in a daily newspaper. Screening questions assessing Age (18-65 years), Australian residency, BMI 30 and above, having within the last twelve months initiated a weight loss attempt, and any medical conditions directly responsible for current weight condition (including pregnancy, mental illness medication, eating disorders and metabolic syndromes) ensured prospective participants met study inclusion criteria. Of the initial 50 respondents, 28 failed to meet inclusion criteria based on mental illness medication ($n = 8$), pre-existing metabolic & medical conditions ($n = 9$), lack of weight loss attempts ($n = 3$), low BMI ($n = 4$) and lack of interview availability ($n = 4$). Twenty two individuals were eligible, and invited to attend a one hour, face to face interview. Study approval was granted by the University of Adelaide Human Research Ethics Committee (ref: H-240-2011).

Participants

The sample was Caucasian (100%) and 54% were female. Age ranged between 19 and 59 years (M= 41 years, SD=6.3). Fifty-five percent of participants were married. Based on the National Health and Medical Research Council (NHMRC) guidelines, 32% of the sample was classed as Obese Class 1 (BMI=30-34.99), 27% Obese Class 2 (BMI=35-39.99), and 41% Obese Class 3 (BMI=>40). Identifying information has been replaced with a new name, and current age in years.

Procedure

Interviews were conducted over a four month period by the first author (SR) in an office at the University of Adelaide, or participants' homes. The interview consisted of three parts. The first included the structured National Health and Medical Research Council's Obesity Assessment guide for General Practitioners, to capture general health and lifestyle information (Table 2). The semi-structured interview (Table 1) consisted of two parts. Both parts used open ended questions designed by the researchers to capture relevant data with part one exploring the most recent weight loss experience, and part two exploring participants' life perceptions in general. Interviews were conversational and purposively non-directive beyond the semi-structured questions and prompts if required. Regarding the issue of reflexivity based on introspection (Finlay, 2002), the author acknowledges observing her own desire to 'ease' the emotional distress of participants during the interview process. The urge to wear the 'clinician' hat and problem solve was strong, based on a genuine empathy born of her own experience of weight related discomfort during pregnancy. This realisation was made quickly, and the researcher counter-balanced the competing roles by offering basic but helpful clinical resources post-interview.

Interviews lasted 45-60 minutes on average, and were digitally recorded and transcribed by

a professional transcription service within one week of being conducted.

Table 1. *Semi-structured Interview Protocol*

The following questions are designed to explore your most recent weight loss attempt:
1. Can you describe what it's like for you to be your current weight?

2. Why would you like to lose weight?

3. What kinds of things are you doing to try to lose weight at the moment?

4. What are some of the things you find difficult about losing weight?

5. What would successful weight loss look like for you?

6. How would you describe your weight loss progress so far?

7. What kinds of strategies do you / have you use(d) to keep the weight off once you've lost it?

8. What are some of the things you find difficult about weight loss?

9. How do you try to overcome these things?

10. Is anyone helping you to lose weight?

11. Do you enjoy any weight loss activities?

12. Overall, how would you describe your current weight loss experience?

13. If you could successfully lose all the weight you want and keep it off, how would life change for you?

    The following questions are related to how you are feeling in general:

14. How would you describe your life at the moment?

15. How do you view your future?

16. If life knocks you down what helps you to get up again?

17. Are there things in life you think you do well?

18. If your life could be exactly what you wanted, what would that look like?

Analysis

Data were analysed by SR and guided by the second author MD during fortnightly meetings. Adopting an essentialist / realist epistemology, the research applies a deductive and semantic approach based on Braun and Clarke's (2006) thematic analytical procedure. Key themes were identified and considered using criteria based on both degree to which examples were prevalent, indicated by a *[P]* and / or degree of importance and interest in the context of the full data set, indicated by an *[I]*. Final candidate themes and sub-themes were also reviewed using Patton's (1990) dual criteria for category judgement based on internal homogeneity and external heterogeneity. The analysis was recursive and conducted by hand to maximise interpretation of the data. An iterative process of refinement through merging, removing and creating new themes then took place with careful attention paid to the context of the raw data set. A detailed audit trail recorded all stages of the refinement process. Upon final revision, five main themes and nineteen sub-themes were generated in relation to the weight loss experience of obese Australians. Results were then discussed and interpreted within the context of the positive mental health continuum including emotional, psychological and social well-being.

Results

The physical health and lifestyle data captured by the National Health and Medical Research

Council (NHMRC) weight management plan is presented in Table 2 below.

*Table 2. Summary of participant physical health and lifestyle information
expressed as a percentage**

Co-morbidity	%	Lifestyle	%
High blood pressure	27%	Eat breakfast	68%
Liver function	4%	Organised meal times	55%
Endocrine	4%	Always hungry	41%
Orthopaedic	64%	More than 3 snacks between meals	23%
Respiratory	27%	High intake of soft drink / fruit juice	14%
Gastrointestinal	23%	More than 2 hours daily television viewing	59%
Heat intolerance	45%	Eating in front of television	59%
Excess sweating /Intertrigo	50%	Food used as a reward	41%
Breathlessness on exertion	82%	Food used as a comfort	46%
Tiredness	36%	Smoker	14%

*As measured by the National Health & Medical Research Council (NHMRC) Weight

Management Plan for Adults

Qualitative analysis

In an effort to reduce repetition, some quotes were edited with careful attention paid to

preserving the original meaning and context of the participant information presented.

The results suggest five main themes including 1) Obstacles to feeling good about current weight, 2) Obstacles to weight loss, 3) Weight loss strategy, 4) Motivational forces, and 5) Self-view, were relevant to the weight loss experiences of obese Australians.
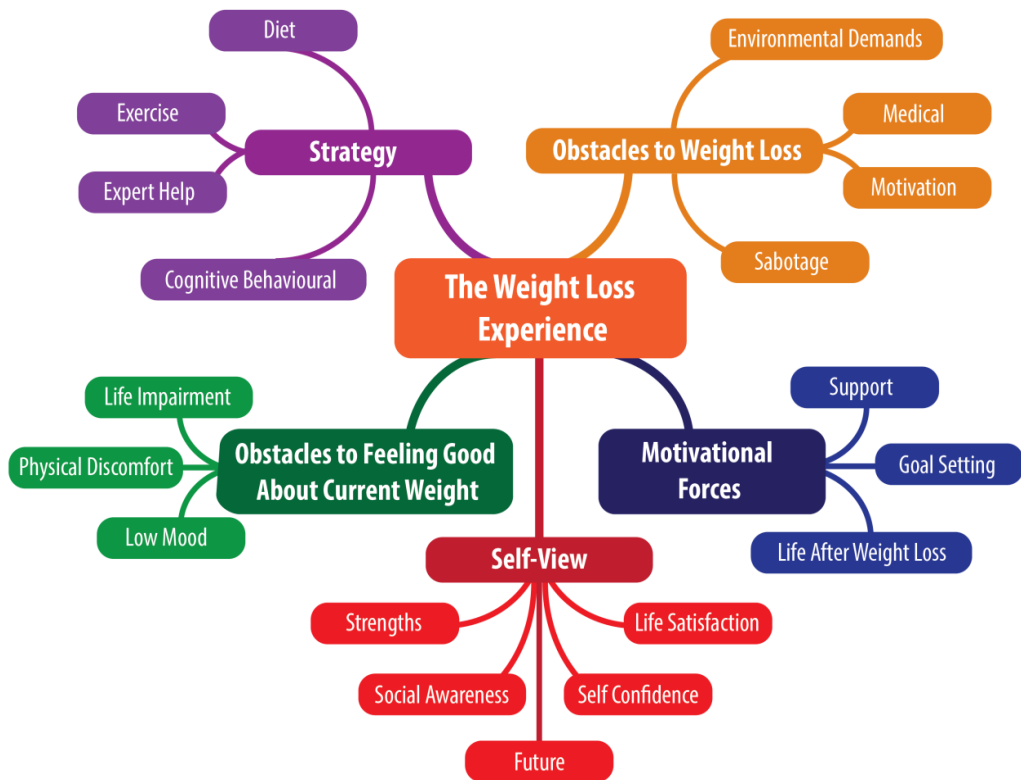
Fig 1. Main themes and sub-themes related to the weight loss experiences of obese Australians.

Theme 1. Obstacles to feeling good about current weight

The experience of being obese was typically negative due to low mood, physical discomfort and the negative impact of obesity on valued tasks of daily living.

a) Negative Mood [P]

Within the context of the last weight loss attempt almost all respondents reported experiencing negative mood states that interfered with their ability to feel good about their current weight. Fear of regain, unhappiness, frustration, dissatisfaction and feeling 'awful' were terms used to describe their lived experiences, sometimes leading to feelings of helplessness and hopelessness, affecting motivation:

'It's disheartening,, yeah I find it is disheartening because I want it to happen and I don't know after a while of failing, failing, failing, you sort of start to give up a little bit inside I think, and I even said the other day I don't think I will ever lose this weight' [Tegan, 33 years].

b) Physical Discomfort [I]

Respondents described a wide range of physical effects related to their current weight. For some this included chafing on the arms and legs, profuse sweating, breathlessness and pain on exertion. Tasks of daily living were also made uncomfortable due to a loss of flexibility in the joints, muscle pain and a lack of mobility. Two respondents reported being uncomfortable having to squeeze into clothing they needed to wear as they struggled to close zippers and buttons. Undertaking simple tasks like scratching one's back or bending down to pick something up also created feelings of discomfort, and served as a frequent reminder of their limitations:

'You're feeling a bit bloated and it can be a real struggle and you feel out of breath doing things. The thing is it's frustrating and uncomfortable because it feels like you're covered, you know you put the fat suit on, and it's really hard to move around' [Debbie, 24 years].

c) Life Impairment [P]

Life Impairment was a prominent theme affecting a range of highly valued activities. Shopping for clothes was a frustrating and difficult process for both males and females across the data set. Descriptive experiences included being under catered for by the major department stores making 'feeling nice' and 'looking respectable' difficult. Formal pants, shirts and jackets were difficult to find for men attending special events, and one respondent reported having to buy work wear from America because he could not find adequately sized shorts in Australia. Sizing inconsistency between stores was also a common frustration, and became embarrassing when shopping with others. Women in particular disliked how clothes began to change shape and lose their style appeal in bigger sizes:

'Then you go up to [size] 18 designed for the bigger people. Yeah they suddenly come down to your knees and then you know all flowy. When you get to you know just that little bit bigger, you have to wear a tent' [Jessica, 26 years].

Current weight was also seen as a barrier to engaging in desired activities such as physical exercise. Some avoided swimming because they could not wear their bathers (swimming costumes), others felt their current weight precluded them from involvement in hiking, walking, dancing and yoga activities. Social behavior was also adversely affected, high-lighted by one respondent feeling the need to use other people as 'cover' because she felt she couldn't walk into a crowded bar at her current weight without attracting negative attention.

Suitable products and services were also found to be lacking for the obese. For example one respondent pointed out that fold out chairs had a manufacturers warning not to exceed 100 kilos, making family picnics and attending outdoor events difficult. The desire to travel more was expressed by a few respondents, however being uncomfortable in aircraft seats and having to pay for an extra seat were strong deterrents:

'I wouldn't mind doing a bit more travel that would be nice. But you've got to be fit to do that too, and I don't want sit in one of those bloody seats in the airplanes, one of those extended ones. No, no... I refuse to pay. Because I've sat next to this woman on the way back from Cairns just recently, and I gotta tell you, it was pretty uncomfortable' [Kate, 52 years].

Theme 2. Obstacles to Weight Loss

The impact of health problems, self and other sabotage as well as complex environmental demands adversely affected the sustained weight loss efforts required to achieve desired outcomes.

a) Lack of motivation [P]

The motivation to engage in weight loss activities long enough to achieve results was problematic for the majority of respondents. A wide range of factors contributed to this, including frustration and impatience regarding the 'slowness' of the weight loss process, the boring and pointless nature of activities related to weight loss, and diets being so strict that they were unsustainable. Motivation to exercise was also hampered by the physical and emotional demands of being 'physically heavy'. Of interest was the common perception that there was insufficient reward for weight loss efforts reflecting a 'more pain than gain' attitude:

'It just doesn't shift you know. I'm really conscious about eating healthy, and I have all my boot camps, I will go and weigh myself and I lost absolutely sod all. And so the next week I think oh to hell with it. So I'll eat, you know I won't go mad or anything but I might say well you know yes, I will have some carbs this week. And then I'll go [weigh] and I don't put on anything, and then I think what's the bloody point?' [Karen, 44 years].

b) Medical [P]

Medical reasons for weight loss difficulties were commonly cited across the sample. Chronic pain affecting joint mobility and participation in weight loss activities, as well as menopause and other hormonal imbalances were implicated. Evidence of the cyclic 'yo-yo' nature of weight loss and regain was also present, as some participants complained that the metabolic 'brakes' were on serving to create frustration impacting on quality of life:

'Metabolically I think I'm like a sloth. [Chuckles] I mean I just realised everything is so hard. I feel like I'm moving in, I feel like I live my life in..... some sort of viscous or like porridge, everything is really hard and sluggish and slow. That's how it feels'. [Tim, 48 years].

Frustration with weight loss failure led some respondents to seek more invasive tests and procedures in an effort explain why the weight wasn't shifting. Thyroid function and glucose intolerance tests as well as surgical procedures including banding were sought, sometimes with unintended consequences:

'I lost nearly 30 kilograms. But I was miserable because I wouldn't go out to tea with anyone else and was constantly throwing up. If I had a glass of water too fast I'd throw up. I ended up getting stomach rupturing because it was too tight even though I had the normal amount of tightening. There were all these things that I was missing out on and I thought bloody hell, this is not what I want my life to be' [Kym, 28 years].

c) Environmental demands [P]

A diverse range of environmentally based stressors were described as being unhelpful for weight loss. Social situations in which one felt obliged to drink alcohol, clean one's plate and eat unhealthy food at family gatherings were commonly cited. Time pressure was also a problem, especially for workers with long commutes and shift workers struggling to eat healthy food with limited resources:

> 'Have you ever tried to get something healthy to eat at two o'clock in the morning in Adelaide? All of a sudden you're faced with cream buns and pies and sausage rolls that have 20 grams of fat in there, well there go all my calories for the day....' [David, 36 years].

Of particular interest was the apparent incongruence between competing roles making meeting the personal goal of weight loss very difficult:

> 'Because I'm a responsible parent and with the hierarchy of values in my life I think I should spend time with my kids. I'm not gonna jump on the bike and go for a ride for an hour, or go to training. Then I'm gonna try to be a good husband and help out with the house cleaning and then I'm gonna try and fix my yard. And [because] of these other demands and pressures I'm gonna sacrifice in my head my health and fitness

and put it last. So maybe if I've got enough time on my weekend I might go for a ride or I could say, screw it and tell my wife that she'd better start looking after kids and cooking dinner and paying the bills cause I've got to go to footy training or else I'm gonna die from a heart attack. Hell of a quandary you're put in' [Dominic, 36 years].

Financial barriers regarding the cost of weight loss related products and services were also reported by a number of respondents. Gym, swimming pool and commercial weight loss memberships were found to be financially out of reach for those in low socio-economic circumstances including pensioners and university students.

d) Sabotage [P]

Self-sabotage took many forms including distraction through the use of electronic devices including i-pads to play 'time wasting' games, and avoidant thinking styles including denial and self-justification. A lack of self-control was also acknowledged including an over indulgence in alcohol, over eating even when full, and using the drive through for fast food when tired or bored. Many participants were aware that they had just 'stopped doing the right things', attributing this to getting too comfortable on weekends, being too busy to cook, or just being lazy in general:

'It was soul destroying that I was so close to getting over that line of being in a healthy weight range and then I blew it again. Yeah, and so then for the next 6 months I don't do anything' [Marcus, 54 years].

Sabotage was also perpetrated by friends and family members. Partners were reported to engage in enabling behaviour including the offer to 'share food' in restaurants, as well as over stocking the pantry with unhealthy snacks. Well-meaning parents created additional distress by being hypercritical, over controlling and blaming. Mixed messages regarding weight loss expectations were common:

'I go out and they'll ask are you coming home for dinner? No, I'll be all right; I'll find something, I'll eat. Well you come home and they still have a plate of food for you in the oven. Dad says like I saved food for you in the oven but why? Then they wanna know why you haven't eaten the food in the oven. Because I'm trying to lose weight, that's what you said when you were bitching at me at being fat' [Dean, 36 years].

Theme 3. Weight Loss Strategy

Respondents demonstrated a broad knowledge and application of common strategies available for weight loss, with varying degrees of sustainability and success.

a) Diet [P & I]

Managing diet was an integral part of weight loss for the majority of respondents, however levels of success varied based on perceived sustainability. Self-regulation was evident in strategies including portion control, avoiding fast food, and actively reducing carbohydrate, sugar and fat intake in the form of pasta, soft drinks and sweets consumption. Some participants were learning to enjoy food again through trying new

recipes, and being shown how to cook new ingredients such as swordfish (Commonwealth Scientific and Industrial Research Organisation well-being diet).

There was some evidence of strict diet based regimes being used for quick, short-term weight loss in which many foods were 'banned' leading to criticism that the diet was bland or tasted horrible and always left you feeling hungry (e.g. Optifast). For others, a more balanced approach was adopted based on past experiences:

> *'It's less rigid than what I've done before. I've done just about every diet known to man I think. This time I'm just sort of trying to be conscious of rather than saying okay you can't have you this or you can't have that and calorie counting, I'm just trying to eat better in general'* [Jess, 34 years].

b) Exercise [P]

Exercise was a popular and varied strategy for weight loss. Some respondents preferred to engage in group based activities including Zumba, boot camps and gym classes for the added benefit of socialisation. Others preferred to apply themselves to individual pursuits comprising weight training, bike riding, walking, jogging, and the use of computer based equipment including the Wii Fit.

Swimming was the most popular weight loss exercise and despite one respondent hi-lighting drawbacks including the chlorine smell and messy hair, it was highly regarded as an option for those with chronic pain, joint problems and low distress tolerance:

'I like the swimming. I really do. I enjoy the swimming very, very much for the weight loss definitely. I hate exercising simply because I don't like sweating and I do sweat a lot. I don't like that feeling of being hot and sweaty and out of breath. You don't get that in the pool' [Jenny, 32 years].

Enjoyment of weight loss activities was expressed by a few respondents reporting that the feeling of working their bodies hard felt good, and that sore muscles post-exercise was a motivational reminder that they had achieved something important. Personal trainers were also helpful for some in the pursuit of fitness and increased motivation.

c) Expert help [P]

Participants had sought help from a number of products, services and health professionals in the service of weight loss. Doctors gave general as well as specific advice with one respondent being placed on a diet tailored to personal blood type. Cardiac unit hospital diets were also sought to drop a large amount of weight quickly, however criticisms included that they were too restrictive, boring and unlikely to be maintainable in the long-term.

By far the most popular commercial program used was Weight Watchers. Opinion on the efficacy and quality of information provided varied among members. For example, weight loss goals based on the BMI were deemed both unrealistic and unmaintainable by some, and helpful to others deriving motivational benefits from the weekly weigh in's. There appeared to be a stark contrast in member opinions regarding confidence in the 'science' upon which the program was based:

'I have always believed that Weight Watchers is the ideal way to lose weight. Because they're tried and they're tested and they are backed up by medical practitioners and people who do studies for them'. [Leanne, 20 years].

'I mean they really come out with some absolute unscientific crap. So they were saying you should eat more meat and that will help you at that time [menstruation] and that will help you curb your cravings. Well that is quite true, but then they go into all of the reasoning as to why, and into brain chemicals and stuff. That's absolute unsubstantiated rubbish'. [Paula, 55 years].

Reference to the more modern forms of weight loss programs included following the Michelle Bridges diet and exercise program either online or on DVD, and the very popular 'Biggest Loser' programs shown on television. One participant expressed his concern regarding the misleading and unrealistic expectations shows such as these create for some members of society:

'One thing I laugh about is the biggest loser type concepts. Jesus if I could take five months off of work and go and do nothing but train, I'd lose all weight in the world. But it creates such unrealistic expectations of weight loss. There's gonna be people out there who're vulnerable, who are gonna become more vulnerable because of what they're being told and seeing' [Derek, 36 years].

d) Cognitive Behavioural [I]

Some participants were mindful that they would need to change their approach from a diet mentality to one accepting that long-term lifestyle changes were needed for successful weight loss:

'Because the other problem is this is about a lifestyle change, not about just changing my body. So it's about changing all the things that have gotten me there as well' [Karen, 52 years].

Behaviour change was also evident in strategies designed to reduce temptation, such as driving in the right hand lane or counting to three when passing fast food places to avoid turning into the drive through. Technology was also helpful and computers and smart phones were used to set reminders in the service of maintaining behavioural routines, and record food intake using food diaries online.

Theme 4. Motivational Forces

Motivation for weight loss achievement was present through goal setting, significant other support, and optimism regarding life after weight loss.

a) Support [P]

Support for weight loss activities was commonly derived from family, friends and the self. Family support took a variety of forms including providing an environment in which talking openly about the changes required for weight loss was encouraged and in some cases adopted by other family members. Positive comments regarding weight loss progress, and even negative ones provided motivation for continuing with weight loss behavior:

> *'[Wife] And she's really encouraging and she's probably the only person that would say when I was getting undressed 'you're putting on weight, you need to stop snacking or whatever'.* [Martin, 53 years].

Friends were also important sources of support through providing a 'gym buddy' to train with, and electronically as part of a larger online community of like-minded individuals:

> *'I'm on a forum custom fighters, which is in America and they're like the best people, we're like family. There are threads there that are dedicated to weight loss'* [Tom, 31 years].

Examples of self-support were common across the sample. Motivational self-talk helped some to push through personal discomfort and avoidance of weight loss activities. Others acknowledged that they were personally responsible for weight loss and that they must rely on themselves to achieve this.

b) Goal Setting [P]

The majority of the sample had a good idea of what they wanted to achieve weight loss for. Some had quite concrete goals including a goal weight, clothing size, activity such as running in a marathon, or identifiable change in a particular body part such as the belly, arms and legs. Improvement in personal health was often cited for multiple reasons. For some it was quality of life for the self, while others sought to ease loved one's fears for their health. Of interest was improvement in health appeared to be a more popular goal than improved appearance:

> *'I have never had an issue about the fact that I'm fat. I've never wanted to lose the weight, I wanted to get healthier. So if I get healthy and the weight is still there, I'm totally fine. Losing weight and having a look that people want to look at... that's not getting fit, or having energy'.* [Dani, 36 years].

c) Life after Weight Loss [P]

In general terms almost all participants had a positive and hopeful view of the future. Being healthy and long lived, successful with good jobs and financial security were popular

aspirations. The need for material possessions was minimal, with respondents favouring strong family relationships and leading purposeful lives over the need for fancy houses and cars, or being 'rich':

> *'I'd like to be a suburban dad I guess. Have a nice house, nothing too big or fancy. The lawns kept well, have a nice car, nothing over the top, kids in school yeah. That's pretty much it'* [Brad, 59 years].

Regarding life after weight loss specifically, most respondents had a clear picture of what life would be like. For some there would be an improvement in self-confidence and self-esteem through being able to go clothes shopping and wear what they wanted. Others felt they would be much happier because they could achieve more in life:

> *'I could wear anything I wanted, and I'd be I think I'd get a bit of my self-esteem back. I'd feel better about myself and I would be able to go swimming without thinking about anyone, and go to the beach, and well I know I'd be a lot happier'*. [Tegan, 33 years].

Other expected benefits of successful weight loss included improvements in the social aspects of life including going out with friends more, and being able to fully interact with the demands of children and grandchildren. Health benefits were also prioritised and included increased energy, more comfortable exercise with less pressure on the knees and spine, and general improvements in health.

Theme 5. Self-view

View of self revealed a lack of self-confidence and self-compassion, however strengths knowledge, social conscience and general life satisfaction despite obesity, were all predominantly positive.

a) Strengths [P & I]

When participants were asked to think about the things they are good at, there were three main responses. The primary response was mostly positive, that is, people were willing and able to describe themselves as being passionate about their work, loving, communicative, honest, sociable and loyal. It was interesting to note that answers were also qualified with negatives, as if to reduce self-conscious feelings:

> *'Um, I'd say personal relations, being a talker, um, gregarious, friendly, lover a game of scrabble and I'm quite intelligent. Um, laterally intelligent, but not too good on just the basics and I'm a bit dyslexic but I come to it, but basically, um, I'm a nice person'.* [Deanne, 49 years].

Interestingly, male respondents were more prone to the view that discussing strengths was akin to being boastful, and were happy to downplay their importance:

> *'I learn pretty quick sometimes and that's about it. [wife] She says I'm good person and all of that type of stuff I don't know. Stuff that blokes don't want to hear sometimes [Laughs]. It's like someone boasting or something you know. I don't think*

that's a good quality. Ah you could be really good at something but you can be a crap

person too'. [Tom, 31 years].

b) Life Satisfaction (general domain) [P & I]

Outside of the weight loss domain, the majority of respondents described enjoying a 'satisfying' and 'full life' overall. This was attributed to a variety of factors including partners, family life, enjoyable employment and a sense of genuine thankfulness for the things they had in life:

'I've got a beautiful wife and two kids and the right family and a job that I love doing.

[laugh]. Can't get much more satisfied than that'. [Timothy, 30 years].

For some, satisfaction levels were qualified with things that were also problematic, including injuries, financial, and relationship problems, however for the majority of these, weight was the major detractor:

'Like I have it all and you know that generally ticks a whole bunch of boxes. But

sometimes one of those things that gets to me a little is that people think you're

depressed because you're fat. No, actually I'm pretty good. Like I'm smarter and

healthier and better looking than you are, I just haven't lost the weight'. [Dean, 36 years].

c) Social Awareness [I]

A number of participants demonstrated an awareness and concern for the environment in which they live, and the kind of world the next generation will inherit. Acts of community service including plans to train therapy dogs for hospital visits, run a childcare centre for disabled children, and helping those in need were expressed by a few respondents. For the minority, the state of the world was depressing and inspired little faith in other human beings:

> *'Just everything you know, in the street people are rude to each other and no one loves each other anymore. There's no courtesy, there's war, there's famine and there's disease, there's drugs there's yeah everything, the whole world is wrong at the moment'.* [Tom, 31 years].

Concern for the next generation was also expressed through the effects of fast food now being routinely 'super-sized', and irresponsible marketing to promote 'skinny' images to children. Criticism of government policy and big business practices was also expressed as an issue of importance:

> *'It would be good to see big industry being forced by governments with testicles to make the changes that they should. They need to take the advice of experts and make hard decisions for people when they're incapable of making them themselves. And I'm not for one minute suggesting that you should take away the free choice or*

ability of people to make decisions, but media, marketing……the propaganda, you know we just kind of get bombarded with it every day ' [David, 36 years].

Stigma perpetrated by strangers was acknowledged by some in the group, however there also appeared to be a negative view of obese people and their behaviour *by* obese people in the sample. For one individual, being overweight contradicted his religious beliefs and represented a 'poor example to society', and another believed being obese was 'no excuse for depressive states and / or unmotivated behavior'.

d) Self-confidence [P]

The effects of obesity on self-confidence were predominantly negative and impacted on a number of life domains. Social anxiety was present in particular activities including eating at restaurants (fear of menu choices being judged), and going to the beach (fear of criticism regarding beachwear and body shape) resulting in avoidance of those situations.

Others were hypercritical of the self, especially regarding their appearance. A lack of self-compassion was commonly expressed, evident in perceived problems regarding particular body parts including skin described as 'saggy' and 'requiring surgical intervention' and feelings of revulsion for some. This led to problems with self-esteem and feelings of shame and being unattractive. In some cases this was reinforced by partners:

'Well now he really hates my body because he had to do that...Yeah he was going to topless bars, I found out and I'm like great fabulous. I know he wasn't doing anything with them but still that…… it's kind of upsetting'. [Henny, 24 years].

Friends were also found to reinforce the idea of being unattractive due to weight problems:

'One of my friends said I hate it when you're at the bar and guys start chatting to you and I don't want to get into flirting I don't like that. And she said oh, you wouldn't have had that problem in the past, would you? And I thought how rude' [Tessa, 33 years].

A minority expressed little interest in how others perceived their weight, and were confident in themselves regardless:

'I assume to other people you know, I'm fat. But I am different because I don't care what other people think. So, no, I'm a very outgoing kind of person with an amazing amount of confidence, so I'll walk through the streets naked'. [Tom, 30 years].

Discussion

The primary purpose of this study was to explore the well-being experiences of the obese, as they struggle with the many challenges associated with weight loss. A balanced interpretation also considered the positive aspects of emotional, and psychosocial well-being, found to be relevant for optimal functioning (e.g. Keyes, 1998: Ryff & Keyes, 1995), and often underrepresented in the mainstream literature.

Subjective Well-Being (SWB) is concerned with subjective degrees of positive feeling in terms of happiness and life satisfaction (Diener, Suh, Lucas & Smith, 1999). This can be

determined within a domain specific context (i.e. weight loss experience) and also in general terms. Within the domain specific context our findings support previous literature suggesting the obese were unhappy, expressing negative mood states and dissatisfaction attributed to combinations of physical discomfort, health problems and a perceived reduction in quality of life (e.g. Carr, Friedman & Jaffe, 2007). Given that the NHMRC data also confirms the presence of significant co-morbidities and lifestyle challenges, this is perhaps unsurprising. However, the additional finding that life satisfaction outside of the weight loss experience was judged by the majority to be quite positive overall was of interest. The presence of positive health correlates including gratitude, optimism, strengths recognition and hope, serve to illustrate the point that traditional quantitative approaches focusing solely on domain specificity, may miss the 'bigger picture' in terms of the true nature and scope of the obesity experience.

The psychological well-being (PWB) of our sample was interpreted in terms of the Complete State Model continuum (Keyes, 2002; Keyes, 2005; Keyes, 2007), based on the six dimensions of positive functioning developed by Ryff & Keyes (1995). On balance, the sample demonstrated a state of languishing, experiencing neither mental health nor mental illness as indicated by the following. Participants were low on four elements of PWB namely self-acceptance, environmental mastery, personal growth and autonomy, but showed evidence for two elements including positive relations with others and purpose in life.

For example, *Self-acceptance* includes the degree to which one has a positive attitude towards the self, and is able to accept their good and bad qualities. Our data suggests most respondents struggled to accept themselves based on appearance and the

social consequences of being obese, and although some respondents could readily identify with their strengths, others were quick to qualify this with their weaknesses reducing the discomfort associated with being perceived to be 'boastful'.

Environmental mastery in which flourishing individuals experience competence and a sense of control regarding choice and use of surrounding opportunities was also lacking for the obese in this study. A strong finding was the perceived incongruence between socially constructed and valued roles such as parenting, spouse, and breadwinner, and the behaviour required for weight management. Often respondents sacrificed their individual needs for external demands including money, relationship and time pressures, and felt unable to change or improve their circumstances.

Personal growth represents one's ability to realise their potential through engagement in new experiences leading to improvements in the self and behavior over time. Again domain specificity was an important factor, as personal stagnation was reported within the domain of weight loss itself. Respondents were predominantly frustrated and uninspired by their weight loss outcomes, leading to sabotage and a lack of motivation to develop improved attitudes and behaviour. However, the sample also demonstrated a great deal of optimism regarding life *after* weight loss, suggesting both faith and vision regarding their ability to achieve the personal growth necessary for future weight loss, and the realisation of personal potential in a number of other valued domains.

Examples involving the ability to act independently of the expectations and evaluations of others, known as *autonomy,* were not well developed across the data set. There were many negative reactions to stigma and examples of low self-confidence based on appearance, social anxiety and feelings of shame and embarrassment, indicating most felt the need to conform to social pressure.

Respondents appeared to flourish, that is, experience positive feelings and functioning in life across two PWB domains. The demonstration of *positive relations with others* was best represented in the support sub-theme. Despite weight loss efforts being sabotaged by friends and family in some cases, the majority of the sample were able to describe satisfying, warm and trusting relationships with significant others in their lives.

In addition, *purpose in life*, defined as having a sense of meaning and directedness was present and best represented in the goal setting, life after weight loss and strategy sub-themes. Collectively, these themes captured a sense of direction through concrete and purposeful goals, using a range of strategies with the ultimate view of achieving weight loss success and a predominantly positive view of the life they wished to live.

With regards to Keyes' (1998) conceptualisation of social well-being, only a few respondents within the social awareness sub-theme contributed data relevant to two of the five domains. The first was the idea of *social coherence* in which health is represented by a realistic understanding of, and genuine care for, the world in which we live. Examples included the recognition of advertising effects, inadequate government policy and concerns

for the well-being of the next generation. The second domain involves the concept of *social contribution* in which personal responsibility and efficacy promotes the idea that we have something of value to contribute to the world. Examples included training therapy dogs, and caring for the disabled and disadvantaged in life, all potentially valuable community based contributions. In comparison with Keyes' research suggesting nearly 40% of Americans surveyed were in the top tertile of three or more dimensions of social well-being (Keyes, 2005), our population appeared to struggle with comparatively lower psychosocial prosperity. The degree to which this observation is related to the condition of obesity requires further investigation.

<div align="center">Conclusion</div>

Based on this summary of findings, we posit that the majority of our participants were languishing during their weight loss experiences, evidenced by a lack of SWB, PWB and Social well-being overall. Regarding SWB, life satisfaction within the weight loss domain was low, evidenced by the presence of a broad range of negative emotions including frustration with the perceived lack of progress in this important area of life. In addition, complete mental health represented by the state of flourishing, is usually indicated by the presence of healthy psychosocial functioning, high resilience, the pursuit of clear life goals and strong intimacy in relationships.

In this study, evidence for only four of the possible eleven domains of PWB and Social Well-Being required for complete mental health were subjectively endorsed, aligning with Keye's findings (2005) that the majority of people in the general population demonstrate a low to moderate state of languishing. This is an important finding given obesity already predisposes individuals to physical health problems, the recognition that they are languishing suggests useful areas for future research to target in the service of increasing the many protective factors SWB and PWB can offer obese populations.

This study has served to provide initial support for our hypothesis that obese community based Australians are languishing. We also posit that this state of languishing may serve to contribute to, or maintain obesity in some individuals, and that the addition of positive psychological strategies designed to promote flourishing by encouraging positive thinking, feeling and behaviour, may improve biopsychosocial resources in obese populations, beyond the customary deficit based models of treatment. As this study has identified the presence of SWB outside of the weight loss domain, and positive psychological assets including strengths, gratitude, positive relationships, hope, purpose, and social coherence / contribution, the cultivation of these variables may prove to be useful treatment targets for health promotion in the obese. Further research exploring potential treatment targets in the service of promoting complete mental health in obese populations, would be a new and valuable contribution to the obesity and positive psychological literatures.

Limitations

As the current thematic analysis provided a broad picture of weight loss experiences across the group, limitations due to the subjective nature of our theoretical approach and data interpretation, as well as a lack of quantifiable information impacts the generalisability of

our results. Quantitative analyses clarifying the relationship between obesity and positive

psychological variables of interest, within and between group differences, and the use of

international samples are encouraged to extend our preliminary findings.

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CHAPTER FOUR : Study Two

The correlates of BMI and Subjective Well-Being

Rationale

This chapter presents a report of an empirical study which has been accepted for publication. Based on support for our initial hypothesis that obese Australians may be languishing, a number of positive psychological constructs related to Subjective, Psychological and Social Well-Being were identified as being potentially useful targets for future research. However, in the context of our main objectives we were aware that our focus would need to become progressively narrower, to ensure the intervention planned for Study Three was theoretically justified, meaningfully targeted, and practicable. After carefully considering our options, and in the context of the current literature, it was agreed Study Two (paper two) would investigate differences in SWB and selected positive psychological variables, across weight categories.

Weight categories

Ample evidence demonstrates the physical effects of obesity increase with BMI (NHMRC, 2013). When general psychological health is considered, the majority of research (including our own findings in Study One), suggests a negative relationship between psychological variables including low mood, self-esteem, stigma and weight (e.g. Wadden &

Stunkard, 1985). In a recent mixed-methods study exploring the impact of weight change among American adults (N = 3000), the relationships between five psychological variables across six weight categories (underweight, normal weight, overweight, and obese categories one to three) were explored. Results suggest differences in outcome variables did exist across BMI categories, with class two and three obese reporting more frequent negative mood, less frequent positive mood, lower self-satisfaction and self-acceptance, as well as more stigma than those with a lower BMI (Carr & Jaffe, 2012). Given current treatment approaches are struggling to manage obesity, the identification of differences in positive psychological correlates across weight categories would be a new and potentially valuable contribution to both the positive psychology and obesity literatures.

Rationale for focus on Subjective Well-Being

The rationale for the focus on SWB was justified by the observation that current studies successfully employ hedonic and eudaimonic measures of well-being separately (Røysamb et al, 2003) as well as in combination (Grimm, Kemp & Jose, 2015; Mitchell, Stanimirovic, Klein & Vella-Brodrick, 2009). There is also evidence to suggest that although both concepts are distinct, a degree of overlap between constructs exists (Boehm & Kubzansky, 2012; Ryan & Deci, 2001; Huta & Ryan, 2010; Keyes, Shmotkin & Ryff, 2002). Furthermore, we chose to draw from the comparatively larger literature regarding the relationship between SWB and health outcomes in an effort to maximise the interpretation

and usefulness of our results. As research suggests higher SWB acts as a buffer against the mental and medical illnesses associated with obesity, this served to further legitimise our focus (Chida & Steptoe, 2008; Diener & Chan, 2011, Lyubomirsky, Sheldon & Schkade, 2005). In addition, given the Flourishing Scale is often used to complement and extend SWB related findings, it was included as our broad measure of psychosocial functioning (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas-Diener, 2010). We also chose to include the following positive psychological variables, based on the prevalence and interest data reported in Study One, and their potential benefits for obesity and weight maintenance behaviour in the context of current research.

Hope

Historically, hope was considered a 'character flaw' (Snyder, 2000, p.4). By the 1960's the science of hope had been reconceptualised within the disciplines of psychiatry and psychology, as a positive and helpful vehicle for goal attainment in the context of recovery from stress and illness (Menninger, 1959; Stotland, 1969). Based on the work of his contemporaries (e.g. Lazarus & Cohen, 1977; Lazarus, 1991) Snyder synthesised past and present findings to redefine hope as *'the sum of perceived capabilities to produce routes to desired goals, along with the perceived motivation to use those routes'* (Snyder, 2000, p.8).

Within this conceptualisation, Snyder defined three main components of Hope. The first is *Pathways* thinking, defined as one's perceived ability to generate reasonable routes to goal achievement. The second known as *Agency* thinking, is concerned with the ability to generate sufficient motivation to use those pathways towards goal achievement, and to persevere if obstacles are present. The final component is *Goal* thinking, serving to provide a cognitive anchor or end-point promoting the achievement of an important, moderately challenging personal goal (Snyder, 2000; Snyder, Cheavens, & Sympson, 1997). Although presented as separate components, Pathways and Agency thinking can promote or detract from the other's performance, and if an individual is low on either component, they are not considered to be hopeful overall. In addition, a threat to hope may occur when a goal is perceived to be blocked. In the context of goal failure, those low in hope are less likely than their hopeful counterparts to generate sufficient alternative pathways, or generate the motivation to overcome barriers and succeed, leading to negative emotions and a lack of well-being (Omodei & Wearing, 1990; Ruehlman & Wolchik, 1988). Given the high rate of relapse associated with weight loss and regain, it is plausible to suggest obese individuals may be experiencing low levels of Hope. Consistent with this assumption, research exploring the relationship between Hope, Body Mass Index (BMI) and a number of health-related outcomes has recently been conducted.

Boisvert & Harell (2013) studied the effects of BMI, trait hope and body shame on symptoms of eating disorder in women (*N* = 641). Findings suggest women with high BMI and body shame experienced less eating disorder symptomatology if they had higher hope. In addition, a community based survey investigating the relationship between BMI, hope and

self-rated health in American women (*N* = 434) reported hope was negatively correlated with BMI, and positively correlated with self-rated health (Kelsey, DeVellis, Gizlice, Ries, Barnes & Campbell, 2011). Currently, the relationship between hope and obesity in Australian populations is lacking.

Strengths

Strengths are defined as those things that are performed well, are intrinsically motivating and create a sense of flow (Linley, Willars & Biswas-Diener, 2010). Based on decades of research across social indicator, organisational and coaching psychology disciplines, strengths have been associated with a number of benefits encouraging the pursuit of optimal functioning (Gallup, 1976; Hodges & Clifton, 2004; Linley, Willars & Biswas-Diener, 2010). Personal strength recognition and use have been associated with higher self-esteem (Minhas, 2010), energy and vitality (Govindji & Linley, 2007), personal resilience and goal achievement (Linley, Nielsen, Gillett & Biswas-Diener, 2010). In addition, recent findings suggest those individuals using their strengths enjoy improvements in Subjective and Psychological Well-Being (Biswas-Diener, Kashdan & Minhas, 2011; Park & Peterson, 2009; Park, Peterson & Seligman, 2004). As research exploring strengths in obese populations is lacking, and given current findings have implications for improving mood, motivation and life satisfaction, along with the observation that differences in strength 'ownership' may occur based on gender (Study One) we felt this variable was worthy of inclusion.

Gratitude

Gratitude, defined as the expression of appreciation and thankfulness, has had a strong historical presence in many religions (Emmons & Crumpler, 2000; Emmons & Shelton, 2002). Often confused with 'indebtedness' in which an obligation to repay is present, gratitude has been shown to motivate pro-social behaviour including generosity, helpfulness and empathy. The practice of gratitude has also resulted in improvements in positive mood, life satisfaction and served to lower rates of depression and stress (Kashdan, Uswatte & Julian 2006; Mc Cullough, Emmons & Tsang 2002; Wood, Joseph & Maltby, 2009). Of particular relevance to weight maintenance is the finding that those higher in gratitude are less likely to use negative and avoidant coping strategies under stress, including denial and the use of substances, found to be important indicators of relapse in alcoholism, smoking and obesity (Brownell, Marlatt, Lichtenstein & Wilson, 1986; Wood, Joseph & Maltby, 2009).

Research exploring the benefits of gratitude practice on a number of weight related issues has been conducted recently. In the context of body image, an experimental design (*N* = 67) investigating the role of gratitude as a buffer for low mood (experienced in response to thin-ideal media exposure), showed body dissatisfaction levels were lower post-gratitude practice, in comparison with the 'daily hassles' focused group (Homan, Sedlak & Boyd, 2014). Furthermore, a quasi-experimental design evaluating a newly developed health and fitness program for adults investigated the effects of gratitude practice on health related behaviour. The results suggested gratitude practice based on self-reflection performed regularly,

improved self-perception and depression in comparison with no treatment controls (Bataller, 2011).

Providing further support for Fredrickson's Broaden and Build Theory of Positive Emotions (2004), a possible mechanism of action underlying these positive effects involves the idea that gratitude is adaptive. It is posited that regular gratitude practice serves to redirect attention from the negative, allowing for the re-interpretation of negative life events providing a valuable mechanism for building the psychological resources required for optimal functioning (Fredrickson, Tugade, Waugh & Larkin, 2003). Although some caveats related to participant and gratitude exercise attributes are presented in the forthcoming study, this variable is an important contributor to the literature as research investigating the relationship between gratitude and obesity is lacking.

Self-Compassion

Defined as an emotionally positive attitude towards the self, self-compassion is thought to provide a buffer for the effects of negative self-judgement including rumination and social isolation (Neff, Kirkpatrick & Rude, 2007). Neff (2003) also suggests self-compassion consists of three conceptually distinct but mutually beneficial parts including 1) self-kindness (extending kindness towards the self, rather than engaging in harsh self-criticism and judgements), 2) common humanity (placing our experiences in the context of

being human, rather than seeing them as separating or isolating) and 3) mindfulness (balancing our awareness of negative thoughts and feelings rather than over-identifying with them). Comparatively, self-esteem represents a more egocentric view of the self, based on a range of judgemental and comparative processes that may have negative consequences including narcissistic, self-centred behaviour (Neff & Vonk, 2009). Furthermore, research suggests self-esteem is very resistant to change, and has shown a strong positive relationship with self-rumination, anger, negative social comparison and self-consciousness in comparison with self-compassion (Neff & Vonk, 2008; Swann, 1996). The focus of research has now shifted from self-esteem (once regarded as the primary measure of psychological health) to include self-compassion as an important indicator of physical and psychological well-being (Neff, Kirkpatrick & Rude, 2007).

Popular in studies exploring resilience in adolescent and student populations (e.g. Neff & McGehee, 2010), the investigation of self-compassion and weight related issues has also grown. For example, in research exploring the effects of self-compassion on attitudes towards eating behaviour in restrictive and guilty eaters, findings suggest increases in self-compassion resulted in lower levels of distress and healthier post-intervention eating behaviour in the college women sampled (Adams & Leary, 2007). Current findings suggest self-compassion is negatively associated with binge eating behaviour (Webb & Forman, 2013), negative affect and pain related catastrophising (Wren et al, 2012), and significant reductions in cortisol following a compassion focused imagery task, in comparison with those higher in self-criticism (Rockliff, Gilbert, McEwan, Lightman, & Glover, 2008). Given the health benefits demonstrated by recent findings, and lack of self-compassion reported by participants in Study One, self-compassion was also included in the forthcoming study.

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Overall percentage (%)	75%		
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By signing the Statement of Authorship, each author certifies that:

   i.   the candidate's stated contribution to the publication is accurate (as detailed above);

   ii.   permission is granted for the candidate to include the publication in the thesis; and

   iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

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Abstract

Despite our best medical and behavioural strategies, the physical and mental health of the overweight and obese remains compromised. In an effort to improve treatment outcomes, research has begun to focus on 1) specific BMI categories, and 2) Subjective Well-Being (SWB), a broad construct exploring how we evaluate and experience our lives. Positive psychology is concerned with SWB, through the application of variables associated with health, happiness and optimal functioning. To date, research exploring the relationship between BMI categories and SWB is lacking for community based Australians. This study employed a cross-sectional design using an online survey method (n=260). SWB, Flourishing, Self-Compassion, Gratitude, Hope (pathways and agentic thinking), Strengths, Depression, Anxiety and Stress were assessed over five BMI categories including normal, overweight, and obese classes one, two and three. Main findings suggest the category two and three obese demonstrated significantly lower scores on flourishing in comparison with the normal and overweight. The class three obese also demonstrated higher depression, and lower scores on agency, gratitude, positive affect and strength use in comparison with the normal and overweight. Furthermore class two and three obese reported lower scores on pathways thinking than the overweight. Results provide preliminary support for the hypothesis that a lack of SWB may contribute to atypical BMI. In addition, the treatment needs of obese categories may differ, requiring specifically targeted interventions to improve treatment outcomes.

Introduction

Obesity has rapidly become a global problem. Since 1980 the worldwide prevalence has almost doubled resulting in 10% of males and 14% of females aged 20 and above with a body mass index (BMI) equal to or greater than 30 (World Health Organisation, 2014). In 2008 over 3.71 million Australians were estimated to be obese, and based on current levels of increase projected rates by year 2025 suggest that 4.6 million Australians will meet obesity criteria (Access Economics, 2009).

Substantial research into the physical and psychological effects of atypical weight has established common correlates and consequences of obesity including diabetes, musculoskeletal conditions, diabetes and some forms of cancer (e.g. Guh et al, 2009; Leong & Wilding, 1999) In psychological terms, correlates including low self-confidence and self-esteem, body image dissatisfaction, guilt and negative attributional style have also been found (Hayaki, Friedman & Brownell, 2002; Swinburn & Egger, 2004) . Regarding mood disorders, meta- analytical work has identified weak to strong positive associations between obesity, depression and anxiety in obese women seeking treatment (Gariepy, Nitka & Schmitz, 2009), and a recent systematic review of longitudinal data has established the bi-directional nature of obesity and depression (Luppino et al, 2010).

In their work on sub-typing non-eating disordered obese into high and low negative affect groups, Jansen, Havermans, Nederkoorn & Roefs (2008) suggest the relationship

between depression and obesity is complex, and may require specific treatment strategies directly targeting obese sub-types. The potential clinical value of this approach has been considered in research exploring the concept of Health Related Quality of Life (HRQoL), which differs significantly across obese categories, especially when treatment-seekers with higher BMI's undergo intense interventions such as gastric bypass surgery (Kolotkin, Crosby & Williams, 2002).

Psychology's contribution to this more holistic approach includes Positive Psychology. Known as the scientific study of optimal human functioning, this approach does not discount distress and disorder. However, it seeks to move beyond achieving baseline levels of functionality, enhancing well-being through the practice of positive cognition, affect and behaviour (e.g. Seligman, Steen, Park, & Peterson, 2005). Within this perspective, well-being or happiness can be measured using two distinct pathways. The *eudaimonic* path is related to Psychological Well-Being (PWB) and represents 'living well' via the cultivation of personal growth and deeper meaning in life (Ryff & Keyes, 1995). The second pathway, based on the *hedonic* pursuit of pleasure and avoidance of pain, is best represented by Subjective Well-being (SWB). SWB measures a person's cognitive and affective evaluations of his or her life and consists of two separable components (Diener, Lucas & Oishi, 2002). The first is satisfaction with life (cognitive), and the second frequency of positive and negative emotion (affect). Both pathways explore facets of the well-being construct, and can be used either independently or in combination. Given there is evidence to suggest a degree of overlap regarding SWB and PWB measures (Ryan & Deci, 2001; Huta & Ryan, 2010), we have chosen to draw from the comparatively larger literature regarding the relationship between SWB

and health outcomes in an effort to maximise the interpretation and usefulness of our results. Research suggests higher SWB acts as a buffer against life stressors, including mental and medical illnesses, both common problems within obese populations (e.g. Chida & Steptoe, 2008; Diener & Chan, 2011, Lyubomirsky, Sheldon & Schkade, 2005). In the interest of presenting a complete well-being conceptualisation, the understanding of individual judgements regarding quality of life and personal performance using socially based criteria is also recommended (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas-Diener, 2010; Keyes, 1998). Within this study, the flourishing measure will be used to assess this psychosocial prosperity, serving to complement and extend well-being related findings.

The investigation of SWB and obesity in Australia has shown mixed results at the population level. In an analysis of cross-sectional panel data from Germany, the United Kingdom and Australia, SWB was found to be unstable and negatively related to obesity in all three countries (Headey, Muffels & Wagner, 2013). The happiness measure used however consisted of a single item asking 'How satisfied are you with your life?' measured on an 11 point-index. Although findings were significant, the author did concede that the measure used was limited in scope, and perhaps should not have been used interchangeably with the concept of happiness. Alternatively, in a recent study on the relationship between SWB and health, Cummins suggests SWB (as measured by the multi-item Personal Wellbeing Index) has very stable and positive norms, even within the overweight and mildly obese. However in the severely obese (BMI≥30-40[+]) SWB dropped markedly, irrespective of personal income levels (Cummins, 2013).

Research on the relationship between BMI categories and SWB from a positive psychological perspective is lacking. Therefore this study explores three research questions;

1) *Research Question 1*

    Is there a difference in SWB and related constructs across normal, overweight and obese class one, two and three Australians?

2) *Research Question 2*

    How well do the SWB measures predict BMI in an Australian sample?

3) *Research Question 3*

    What are the best predictors of flourishing in this population?

We believe this research has the potential to contribute to both the obesity and positive psychology literatures, in the service of better understanding the relationship between SWB and BMI, and potentially assisting in the targeting of clinical interventions to specific BMI categories.

Method

Participants

A national social media campaign using Facebook, and posts on weight related websites and forums promoted the study. Screening questions assessing Age (18-65) years, Australian residency, self-reported height /weight, and nil medical conditions directly responsible for current weight ensured participants met study inclusion criteria. Of 334 potential participants, 260 were initially eligible to participate. The response rate based on completions was 78%. Study approval was granted by the University of Adelaide Human Research Ethics Committee (H-2013-024).

Procedure

Participants meeting inclusion criteria were invited to take part in a customised online survey. Average completion time was 25 minutes. After completion participants could choose to enter the draw for a $100 department store voucher (unadvertised in the original recruitment material) and to receive results of the study in the future. Data reported here were collected over a five month period.

Measures

All subjects were asked to report their gender, country of birth, height without shoes in centimetres (cm) and current weight in kilograms (kg). Data on relationship status, employment, current strategies being used to lose / maintain weight, satisfaction with current weight, frequency of self-weighing behaviour and ideal weight estimations were also collected. There were two measures of Subjective Well-Being (SwLS), positive and negative affect (PANAS), one measure of psychosocial functioning Flourishing (FS), and five measures of variables identified as being present or absent in the weight-related experiences of Australians (Robertson et al, 2015c) including: Strengths knowledge (SUCKS), Hope (AHS), Gratitude (GQ-6), Self-Compassion (S-COM) and Depression, Anxiety and Stress (DASS-21). All measures used have demonstrated high levels of reliability and validity. The Cronbach's α values, means and standard deviations reported represent those calculated for each scale in this study.

1 .The Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) consists of five items measuring the cognitive component of Subjective Well-Being serving to provide a global judgement of life satisfaction (e.g. I am satisfied with my life', 'If I could live my life over, I would change almost nothing'). The participants rated themselves using a 7 point Likert-type scale (1= strongly disagree, 7= strongly agree). Higher scores indicate higher levels of general satisfaction with life. Cronbach's α = .90, (*M* = 22.94, *SD* = 7.32).

2. The Positive Affect and Negative Affect Schedule (Watson, Clark & Tellegen, 1988) measures the emotional component of SWB, and is divided into two sub-scales. The Positive Affect sub-scale consists of ten adjectives related to positive affect (e.g. excited, enthusiastic) and the Negative Affect sub-scale ten adjectives related to negative affect (e.g. irritable, afraid). A five-point Likert-type scale (1=very slightly or not at all, 5= extremely) was used to rate the degree to which participants felt this way in the present moment. The positive affect sub-scale achieved an α = .91, (M = 32.40, SD = 8.14), and the negative affect sub-scale achieved an α = .89, (M = 21.14, SD = 7.93).

3.The Flourishing Scale (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas Diener, 2010) consists of eight items measuring feelings of competence, engagement in positive relationships and living a purposeful and meaningful life (e.g. 'My social relationships are supportive and rewarding', 'I am competent and capable in the activities that are important to me'). A 7-point Likert-type scale (1=Strongly disagree, 7=Strongly agree) was used to indicate degree of flourishing in life, and higher scores are associated with a higher degree of flourishing in life. Cronbach's α = .92, (M = 43.89, SD = 8.70).

4. The Adult Hope Scale (Snyder, Harris , Anderson, Holleran, Irving, Sigmon & Harney, 1991), consists of 12 items and defines hope as a cognitively based positive emotional state, determined by two key components. The first, known as pathways thinking, refers to one's perceived capacity to generate productive pathways to achieve one's goals. This subscale consists of four items (e.g. 'I can think of many ways to get the things in life that are important to me'), Cronbach's α = .87, (M = 23.90, SD = 4.91). The second subscale is related to one's ability to generate the mental energy required to sustain motivation long enough

for goal attainment, via one's chosen pathway (agentic thinking). Also consisting of four items (e.g. 'I energetically pursue my goals'), Cronbach's α = .84, (M = 23.68, SD = 5.37). Along with four unscored filler items (e.g. 'I usually find myself worrying about something'), each scale is measured using an eight-point Likert type scale (1=definitely false, 8=definitely true).

5. The Strengths Use and Current Knowledge Scale (Govindji & Linley, 2007) consists of ten items asking participants about the things they felt they did best (e.g. 'I know the things I am good at doing', 'I achieve what I want by using my strengths') scored on a Likert-type scale (1=strongly disagree, 7 strongly agree). Higher scores indicate better strength knowledge. Cronbach's α = .80, (M = 51.54, SD = 7.66). An additional item asks respondents to indicate how much of their time they spend using their strengths on a continuum, in 10% increments from 0-100%.

6.The Gratitude Questionnaire (McCullough, Emmons & Tsang, 2002) is a measure of the intensity and frequency with which people experience gratitude. Item examples include 'I have so much in life to be thankful for, and 'I am grateful to a wide variety of people' scored on a seven-point Likert-type scale (1= strongly disagree, 7= strongly agree). Negatively worded items (3 and 6), were reverse scored such that higher scores indicated more frequent expression of thankfulness. Cronbach's α = .84, (M = 34.26, SD = 6.19).

7. The Self-Compassion Scale-Short Form (Raes, Pommier, Neff, & Van Gucht, 2011), is a twelve-item measure of self-kindness, judgement, humanity and self-perceived social inclusion. A Likert- type scale (1= Almost Never, 5 = Almost Always) measured items including 'I try to see my failings as part of the human condition, 'I'm disapproving and judgmental about my own flaws and inadequacies'. Higher scores represent higher global compassion for the self. Cronbach's α = .87, (*M* = 34.76, *SD* = 9.08).

8. The Depression, Anxiety and Stress Scale (Lovibond & Lovibond, 1995), contains three sub-scales designed to measure distress associated with Depression (e.g. 'I couldn't seem to experience any positive feeling at all'), Cronbach's α = .93, (*M* = 4.84, *SD* = 4.77). Anxiety (e.g. 'I was aware of dryness of my mouth'), Cronbach's α = .84, (*M* = 3.28, *SD* = 3.74), and Stress (e.g. 'I found it hard to wind down'), Cronbach's α = .85, (*M* = 6.79, *SD* = 4.05. Three separable scales each consisting of seven items measure each of the three domains. All items were scored using a four-point Likert type scale (0=never, 3=almost always) and averages of the sub-scale scores indicate the degree to which each mood state is endorsed, with higher scores representing more negative emotional states.

Analysis

Data were downloaded directly into the Statistical Packages for the Social Sciences (SPSS) program (version 20). Variables were created, and data screened and cleaned using standard procedures (Pallant, 2011). Sample groups were created based on the following criteria.

Group one, normal weight (BMI=18.5-24.99), Group two, overweight (BMI=25-29.99), Group three, class one obesity (BMI=30-34.99), Group four, class three obesity (BMI=35-39.99) and Group five, class three obesity (BMI=≥40). Pairwise exclusion of missing data was performed and statistical techniques included MANCOVA, ANOVA, Independent samples t-test, Pearson product moment correlation, Standard hierarchical regression and Chi-square test for independence.

Demographics

The sample was predominantly Australian (82%), female (83%), married (60%) and employed (68%). The average age was 39.26 years, (SD=12.43), weight was 79.77 kg, (SD = 21.64), and BMI was 28.28, (SD=6.99). Thirty-two percent met BMI criteria for normal weight, 36% for overweight, 17.5% class one obese, 6% class two obese and 8% class three obese. Seventy four percent of participants were currently trying to lose weight using diet and exercise (72%), diet only (14%), exercise only (6%), surgery (1%), medications (1%), alternative/ natural methods (3%), and no strategies (3%). Regarding self-monitoring behaviour, 34% of participants reported weighing themselves weekly, 30% monthly, 18% daily, 12% one to two times per year, and 6% reported never weighing themselves. When asked to estimate current weight category compared with actual reported BMI, 10% of respondents over estimated, 38% under estimated and 52% correctly estimated their weight status. Participants were then asked to nominate their 'ideal' weight, and when this was compared to actual weight 3% fell below recommended BMI, 33% above, and 64% fell within the recommended healthy weight range.

Preliminary Analyses

Is there an association between *BMI category and gender?*

Results suggest there were no gender effects between BMI groups χ^2 (4, *n* =254) = 7.28, *p* = .122.

Is there a difference in Age between BMI categories?

A one-way ANOVA was conducted to explore the impact of Age on BMI status. There was a statistically significant difference at the p < .05 level in Age for the five BMI groups: *F* (4, 249) = 4.49, *p* = .002. Effect size calculated using eta squared was medium at .07. Post-hoc comparisons using the Tukey HSD test indicated statistically significant differences between mean scores for normal (*M* = 34.87, *SD* = 12.78), and overweight, (*M* = 40.50, *SD* = 12.14), and normal and class 3 obese (*M* = 44.55, *SD* = 11.98) at the p< .05 level.

The relationship between BMI, Age and SWB variables are presented in Table 1 below. The majority of the results were significant at the *p* = .01 level.

Table 1. *Pearson Product-moment correlations between Age, BMI and SWB related constructs*

	AGE	SWLS	GQ-6	SCS-SF	PANAS	DASS21	AHS	SUCKS	FS
BMI	254**	-.238**	-.267**	-.227**	-.053	.289**	-.339**	-.198**	-.371**
Age		-.039	.043	.184**	-.068	-.078	-.063	.043	-.047
SWLS	-.039		.622**	.459**	.131*	-.553**	.632**	.366**	.622*
GQ-6	.043	.622**		.574**	.189**	-.572**	.641**	.511**	.755**
SCS-SF	.184**	.459**	.574**		-.050	570**	.605**	.411**	.590*
PANAS	-.068	.131*	.189**	-.050		.189*	.235**	.143*	.187**
DASS-21	-.078	-.553**	-.572**	-.570**	.189**		-.514**	-.441**	-.619**
AHS	-.063	.632*	.641**	.605**	.235**	-.514**		.651**	.745**
SUCKS	.043	.366**	.511**	.411**	.143*	-.441**	.651**		.650**
FS	-.047	.622**	.755**	.590**	.187**	-.619**	.745**	.650**	

**Correlation is significant at the p=.01 level (2-tailed), * Correlation is significant at the p=.05 level (2-tailed). BMI= Body Mass Index, SWLS= Satisfaction with life scale, GQ-6=Gratitude, SCS-SF=Self-compassion, PANAS=Positive and Negative affect, DASS-21=Depression, Anxiety and Stress scale, AHS=Adult Hope scale, SUCKS=Strength use and Current Knowledge Scale, FS=Flourishing scale.

Main Analyses

Research Question 1

Do BMI categories differ in terms of SWB and related constructs when controlling for Age effects?

A one-way MANCOVA was performed to investigate the relationship between normal, overweight, class one, class two and class three obesity categories, and all measures. Twelve dependent variables were used (including sub-scales for the PANAS, AHS and DASS-21). The independent variable was BMI group and the covariate was Age. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices and multicollinearity (Pallant, 2001). Violation of the assumption for equality of variances was noted for seven of the dependent variables including SWLS, GQ-6, FS, AHS -Agency and Pathways subscales, and Depression and Anxiety subscales, therefore the more robust Pillai's trace test was used to assess significance of multivariate tests. There was a statistically significant difference between normal, overweight, class one, class two and class three groups on the combined dependent variables, F (52, 596) = 1.76, p = .001, Pillai's trace =.53 ; partial eta squared = .13. Given the large number of dependent variables, a more conservative alpha of p = .01 was used to balance the risk of a Type 1 error. The results of Tests of Between- Subjects Effects and significant follow-up univariate analyses with Tukey HSD post-hoc analyses for SWB variables are presented in Table 2 below.

Table 2. *Between-Subjects Effects with follow-up univariate analyses of SWB and related variables.*

Variable	BMI Class	Mean	SD	F ratio	p	Part η²	CI = 99%	
SWLS				F(4,209) = 6.62	0	0.11		
PANAS pos*	N	34.7	7.33	F(4,209)= 5.20	0.001	0.09	0.21	13.51
	C3	27.84	8.32					
PANAS neg				F(4,209) = 4.78	0.001	0.08		
GQ-6*	N	35.56	5.3	F(4,209)= 5.63	0	0.1	0.14	10.42
	C3	30.28	8.6					
SUCKS				F(4,209) = 3.44	0.009	0.06		
SCOM				F(4,209) = 5.09	0.001	0.09		
FS*	N	46.38	6.76	F(4,209) = 7.76	0	0.13	0.49	16.74
	C2	37.77	12.61					
	N	46.38	6.76				2.85	16.76
	C3	36.58	13.22					
	OW	45.26	6.95				1.77	15.58
	C3	36.58	13.22					
AHS agency*	N	24.81	4.59	F(4, 209) = 7.52	0	0.13	1.91	10.44
	C3	18.63	6.81					
	OW	24.91	4.52				2.04	10.51
	C3	18.63	6.81					
AHS pathways*	OW	25.37	3.71	F(4, 209) = 6.15	0	0.1	0.23	9.44
	C2	20.54	6.25					
	OW	25.37	3.71				1.39	9.25
	C3	20.05	6.75					
DASS-21 dep*	N	3.69	4.46	F(4, 209) = 6.66	0	0.11	-9.35	-1.39
	C3	9.06	6.41					
	OW	4.31	4.41				-8.69	-0.81
	C3	9.06	6.41					
DASS-21 anx				F(4, 209) = 4.54	0.002	0.08		
stress				F(4, 209) = 4.33	0.002	0.08		

BMI group: N=normal, OW =overweight, C1=class 1 obese, C2=Class 2 obese, C3= class 3 obese.
*= significant at the p=.01 level. SWLS =
 satisfaction with life, PANAS = positive and negative affect
(pos sub-scale, neg sub scale), GQ-6 = gratitude, SUCKS= strategy use and current knowledge,
SCOM = self-compassion, FS = flourishing, AHS = adult hope (agency sub-scale, pathways sub-scale),
DASS-21 = depression, anxiety and stress sub-scales.

Research Question 2

How well do the SWB and related constructs predict BMI in an Australian population?

A hierarchical multiple regression was used to assess the ability of the SWB and related construct measures to predict BMI, after controlling for the influence of Age. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homeoscedasticity. Age was entered in Step 1, explaining 6.5% of the variance in BMI. After entry of the SWLS, PANAS, GQ-6, SUCKS, SCS-SF, FS, HOPE, and DASS-21 at Step 2 the total variance explained by the model as a whole was 25.5%, F (14, 199) = 4.54, p = .000. The SWB measures explained an additional 19.1 % of the variance in BMI, after controlling for Age, R squared change =.191, F change (13,199) = 3.64, p = .000. In the final model, only two measures were statistically significant with agency recording a beta value (β= -.30, p = .013) contributing 2.3% unique variance, and age (β= .23, p = .001) uniquely contributing 4.4% to the overall variance.

Research Question 3

What are the best predictors of Flourishing (PWB) in this population when the effects of age are controlled for?

A hierarchical multiple regression was used to assess the degree of variance the model explains in Flourishing scores when age is controlled for. Age was entered in Step1, explaining .2% of the variance in flourishing scores. After entry of all measures of well-being at Step 2 the total variance explained by the model as a whole was 88.1%, F (13, 200) = 49.74,

p = .000. The remaining well-being measures explained an additional 77.5% of the variance in flourishing, after controlling for age, R squared change = .77, F change (12, 200) =53.42, p = .000. In the final model the following measures were statistically significant with gratitude recording the highest beta value (β = .26, p = .000) contributing 2.68% unique variance, depression (β = -.19, p = .001) uniquely contributing 1.17% , SUCKS (β = .18, p = .000) contributing 1.63%, followed by agency (β = .17, p = .008) uniquely explaining .79% and finally the positive subscale of the PANAS (β = .14, p = .008) contributing .80% to the overall variance.

Strengths Use

The strengths use measure was included as an adjunct to the SUCKS (strengths knowledge) instrument and assesses perceived strength usage as a percentage between 0-100% in 10% increments. A one-way between groups ANOVA was conducted to explore the differences in percentages of strength use and BMI. There was a statistically significant difference at the p < .05 level in strength use for the five BMI groups: F (4, 217) = 3.28, p = .012. Effect size calculated using eta squared was medium at .06. Post-hoc comparisons using the Tukey HSD test indicated statistically significant differences between mean scores for class 3 obese (M = 6.11, SD = 2.30), and normal, (M = 7.49, SD = 1.69), and class 3 obese and overweight (M = 7.67, SD = 1.87) at the p < .05 level.

Discussion

The results of the present study support our hypothesis of differences in SWB and related constructs across BMI categories in community based Australians.

In comparison with the normal and overweight groups class two and three obese demonstrated significantly lower flourishing scores, indicating these groups may struggle to enjoy supportive, rewarding relationships and have low optimism, self-confidence, engagement and interest in life (Diener et al, 2010). This is perhaps unsurprising given the negative biopsychosocial effects associated with obesity are perhaps better characterised by the state of languishing. Psychological distress, low mood and poor social functioning are associated with languishing, a state in which individuals are not mentally ill, but exhibit signs of low well-being sometimes described as feeling 'hollow' or 'empty' (Keyes, 2007, 2002). Recently, Keyes & Simoes (2012) conducted a longitudinal study on all-cause mortality and well-being. Although obesity was not included as a specific risk factor, evidence did suggest that an absence of positive mental health increased all-cause mortality rates in Americans, regardless of gender, age and type of medical risk factor. Furthermore, flourishing is associated with many of the desired outcomes of obesity treatment including a widening of attention, improvements in behavioural strategies, pursuit of goals, and better physical and mental health (e.g. Fredrickson & Losada, 2005).

Regarding sub-category differences, our results suggest that class three obese also reported significantly lower scores on gratitude in comparison with the normal weight group, perhaps to be expected given gratitude was the strongest variable associated with flourishing in this population. Described as 'an emotional state and an attitude toward life that is a source of human strength in enhancing one's personal and relational well-being', (Emmons & Crumpler, 2000. p.1), the practice of gratitude has been associated with improvements in happiness, life satisfaction, health, relationships and goal attainment, all important correlates of optimal functioning (Emmons & Shelton, 2002). In this study, pathways thinking, recognising individual strengths, and experiencing more positive emotions were also associated with flourishing.

Concerning the relationship between SWB and BMI, all positive psychological variables explained 19 percent of the variance in BMI, after controlling for the effects of age. The strongest individual contributor was agency, the motivational component of hope. Our findings suggest a difference in hope between BMI groups involving both components of the AHS. Class three obese reported lower agentic thinking than both normal and overweight groups, and lower pathways thinking than the overweight group. Lower pathways thinking was also reported by the class two obese in comparison with their overweight counterparts. Collectively, these findings may help to explain why motivation and limited strategy use are commonly cited reasons for weight loss failure in the obese and overweight (Byrne, Cooper & Fairburn, 2003; Byrne, Cooper & Fairburn, 2004).

Within the context of Snyder's Hope theory, those low in pathways thinking are less confident in their ability to generate multiple solutions to problems, resulting in indecisiveness and ill-defined routes serving to hamper success. In addition, low agentic thinking is associated not only with motivational problems, but perseverance in the face of obstacles to goal achievement (Snyder, Feldman, Taylor, Schroeder & Adams, 2000). Perhaps a lack of hope may contribute to the cognitive and behavioural rigidity that characterises treatment resistant populations, including the obese. It may also help to explain a number of other weight related difficulties including eating disorders and mood disturbance (e.g. Fairburn, Cooper, Kirk & O'Connor, 1985; Kelsey, DeVellis, Gizlice, Ries, Barnes & Campbell, 2011).

Compared with normative data, the class three obese reported higher depression, anxiety and stress scores than normal populations, but lower than those observed for clinical populations (Lovibond & Lovibond, 1995). Regarding BMI sub-categories, the class three obese were found to differ significantly from both the normal and overweight groups in depression. This supports previous research suggesting a negative relationship between BMI and mood (Jansen, Havermans, Nederkoorn & Roefs, 2008). Carr, Friedman & Jaffe (2007) explain this relationship further by suggesting that it is the effect weight has on physical health and relationships, not weight itself that serves to mediate BMI and affect. This expanded focus on quality of life, obesity and mood states is welcome, as it allows new theoretical explanations to be applied to the field.

According to Fredricksons' Broaden and Build theory of positive emotions (2004), when positive emotions are generated, this serves to broaden habitual thought-action responses and promote the building of the resources required for optimal functioning. As success is experienced, motivation to continue with these behaviours also increases, resulting in improvements in industriousness and personal happiness. Fredrickson also suggests negative emotions serve to narrow our responses to the environment, and are thought to function as an adaptive strategy to ensure survival. This becomes maladaptive however, when negative moods or situations dominate individual experiences and interfere with our ability to regulate mood and consequently, motivation, both of which are findings in the current study.

Cummins (2013) explains this phenomenon in his theory of Homeostatically Protected Mood. Psychological processes serving to protect a generally positive and stable SWB set-point fail if internal and external buffers (comprising of personality based attributes and personal resources) become overwhelmed by negative challenges such as pain and stress (Cummins, Eckersley, Pallant, Van Vugt & Misajon, 2003). In support of both theories, perhaps our obese two and three groups in particular, are finding their quality of life sufficiently unpleasant and overpowering enough to compromise this homeostasis, adversely affecting their SWB and ability to flourish.

Finally, one further research outcome requires discussion. Class three obese reported significant differences in strength use, when compared with all other groups. As strength use has been associated with improved energy, motivation, self-confidence and probability of achieving goals (Biswas-Diener & Dean, 2010; Peterson, Ruch, Beermann, Park & Seligman, 2007), this finding may be particularly relevant in weight loss therapies targeting the class three obese in particular.

Conclusion

Although causal relationships cannot be inferred from the current data, we believe this study provides preliminary support for the hypothesis that a lack of SWB overall, may contribute to atypical BMI. It is also hypothesised that the treatment needs of specific BMI categories may differ, requiring a more tailored treatment approach. Furthermore, the addition of positive psychological interventions targeting Gratitude, Hope and Strengths training to current weight loss protocols may optimise treatment outcomes beyond those currently achieved.

Limitations

As BMI was self-reported and unable to be verified by the researcher, this could be objectively checked in future studies. In addition, future etiologic studies including larger, international samples are recommended to extend our current findings.

Acknowledgements

CHAPTER FIVE: STUDY TWO

The Positive Psychological correlates of successful weight maintenance

This chapter presents a report of an empirical study which has been accepted for publication. Based on findings from paper two indicating differences between BMI categories and positive psychological constructs, paper three addressed the absence of research exploring the positive psychological correlates of successful weight maintenance in Australia.

A Definition of Weight Maintenance

In general terms, weight maintenance refers to one's ability to keep a weight loss result, achieved through personal or professionally assisted intervention (Elfhag & Rössner, 2005). Confusion regarding *how* this concept should be operationalised is evidenced by the large number of criteria offered in the literature. Definitions include being regarded as a 'winner' or 'loser' based on BMI change post-weight loss (Cuntz, Leibbrand, Ehrig, Shaw & Fichter, 2001) and on variable percentages of body weight lost, sustained over multiple time frames. For example, common indicators of successful weight maintenance include the loss of between five and ten percent of baseline bodyweight over either a five year, two year, one year or six month period (Cussler et al. 2008; Elfhag & Rössner, 2005; Wing & Phelan, 2005). In an effort to improve conceptual clarity, Wing & Phelan (2005) redefined weight maintenance to reflect medical recommendations suggesting modest weight loss improves risk factors for cardiovascular health and diabetes (e.g. Blackburn, 1995; NHMRC, 2013).

Therefore, successful weight maintenance defined as 'having intentionally lost 10% of body weight and kept it off for at least the last 12 months' (Wing & Phelan, 2005), has been adopted for use in this study.

The Weight Maintenance Phase

Weight maintenance is considered to be a distinct 'phase' of weight management (Byrne, Cooper & Fairburn, 2003; Elfhag & Rössner, 2005). The majority of the literature suggests weight maintenance is very difficult to sustain, based on data suggesting relapse rates of between 20-54% for community based populations (Barte, Ter Bogt, Bogers, Teixeira, Blissmer, Mori, & Bemelmans, 2010; Wing & Phelan, 2005), and the bleak observation that around 60% of women will fail to maintain their lost weight within 1-5 years post-treatment, regardless of clinical approach (e.g. Cussler et al. 2008). Low success rates have encouraged research focusing on the identification of variables associated with maintenance behaviour, suggesting that particular behavioural and psychological factors could play a key role in the creation of treatment programs crucial for maintenance success (Byrne, 2002; Wing, 1999; Wing & Hill, 2001).

Behavioural Factors associated with Maintenance Success

Goal setting

There have been mixed results regarding the helpfulness of setting a specific goal weight. For example, factors including the degree to which a weight loss goal is realistic (based on current weight, health and individual set-point criteria), have been shown to influence maintenance outcomes, especially if failure is perceived resulting in the possible abandonment of subsequent maintenance behaviour (Cooper & Fairburn, 2001; Elfhag & Rössner, 2005). However, research has also shown that even unrealistically optimistic beliefs regarding ideal goal weight have been shown to promote health behaviour (Taylor, Kemeny, Reed, Bower & Gruenewald, 2000).

Weight History

General clinical opinion suggests slow and steady weight loss is superior for long-term benefits, however the observation that greater initial weight loss is associated with better outcomes has also been made (e.g. Astrup & Rössner, 2000). Furthermore, those with a significant history of weight cycling, that is repeated failure to maintain weight followed by subsequent attempts to lose weight again, are more at risk from eating disorders, psychopathology, life dissatisfaction and negative health effects including mortality from coronary heart disease (Brownell & Rodin, 1994).

Diet & Exercise

As discussed in the introduction, weight loss maintenance is improved with reduced calorie intake (Wadden & Osei, 2002), as well as a reduction of particular foods including dairy, meats, fried foods and desserts in favour of fresh fruits and vegetables (Holden, Darga, Olson, Stettner, Ardito & Lucas, 1992; Jeffery & French, 1999). Those better able to avoid snacking behaviour and reduce comfort eating in response to negative mood states are also likely to be more successful in maintaining their weight (Byrne, Cooper & Fairburn, 2003).

Physical activity is also a major factor associated with maintenance success (McGuire, Wing, Klem, Lang & Hill,1999). Thought to impact weight through direct energy expenditure, physical fitness improvement and increases in energy serving to promote maintenance behaviour, exercise is often used as a treatment target for maintenance programs (Fogelholm & Kukkonen-Harjula, 2000; Wing, 1999).

Self-Monitoring Behaviour

Maintenance success has also been shown to improve when individuals are cognisant of themselves and their weight related behaviours (Elfhag & Rössner, 2005). Popular forms of self-monitoring include keeping a food diary to monitor calorie intake, as well as self-weighing to allow early corrective behaviour to take place if weight gain becomes an issue (McGuire, Wing, Klem, Lang, & Hill, 1999).

Psychological Factors associated with Maintenance Success

Psychosocial Support

Successful maintenance involves self-observation and a stable environment including strong personal relationships (Dubbert & Wilson, 1984). Post-weight regain assessments have consistently reported stressors including illness, bereavement and personal and family related problems as factors associated with maintenance failure (Sarlio-Lahteenkorva, Rissanen, & Kaprio, 2000). Support group involvement as well as encouragement from partners and friends has been shown to facilitate maintenance behaviour, although it has been noted that sometimes an over-reliance on others serves to undermine one's ability to take full responsibility (Elfhag & Rössner, 2005).

Coping ability

Coping refers to one's ability to use cognitive and behavioural strategies to manage internal and external demands perceived to exceed normal capabilities (Folkman & Lazarus, 1988). In comparison with regainers, maintainers have been found to manage cravings more effectively, are less self-critical regarding weight lapses (preferring to direct energy towards concrete problem solving), and are less likely to resort to binge eating as a compensatory behaviour (Dohm, Beattie, Aibel, & Striegel-Moore, 2001). In addition, maintainers are more self-efficacious, demonstrating higher confidence in their ability to manage difficult situations in comparison with regainers (Rodin, Elias, Silberstein, & Wagner, 1988).

Mood

A review of the literature reveals mixed outcomes regarding the effect of mood on weight maintenance success. Some research has reported no association between depression and regain, and others suggest low mood is associated with (but not causally related to) maintenance failure (McGuire, Wing, Klem, Lang & Hill, 1999). Psychiatric disorders have also been linked to maintenance failure in some groups. For example Jenkins et al, (2003) conducted a longitudinal study examining the relationship between obese breast cancer survivors and psychiatric illness. Results suggest survivors with psychiatric diagnoses achieved a mean baseline weight loss of 1.2% in comparison with 7.8% loss in subjects with no mental health diagnosis, at 30 month follow-up. Based on similar cross-sectional findings, research suggests that the more severe the depression and pathology, the less motivated one is to maintain weight control behaviour (Elfhag & Rössner, 2005).

Motivation

Motivation for weight loss constitutes a key indicator for successful weight maintenance. Based on a comprehensive literature review, the majority of research dedicated to this topic suggests higher pre-treatment motivation is clearly linked to successful weight loss, however very few studies have explored initial motivation and subsequent maintenance success (Texeira et al, 2004). In some research, regainers have reported lack of motivation serves as a major impediment regarding weight maintenance. This was also evident in our own work (study one) in which obese Australians reported negative mood states, boredom and insufficient reward for effort, leading to a lack of

motivation. Additional factors related to motivation include taking personal responsibility for current weight (as opposed to blaming medical conditions), high levels of self-confidence and personal pride in one's appearance (DePue, Clark, Ruggiero, Medeiros & Pera, 1995). Furthermore, women demonstrating psychological strengths, flexibility and coping ability through tailoring weight control strategies to their lifestyles, were also more likely to maintain their weight loss (Kayman, Bruvold, & Stern, 1990).

Possible benefits of Positive Psychology for Weight Maintenance

In comparison with the behavioural strategies associated with successful maintenance, psychological characteristics are comparatively underrepresented in the literature (Elfhag & Rössner, 2005; Shaw et al, 2005), and to the best of the researcher's knowledge, no research has explored the positive psychological correlates of successful maintenance in the obese.

Considering what we have learned regarding the health and lifestyle practices of obese Australians thus far, results from study one suggest behaviour conducive to weight maintenance included eating breakfast regularly (68%), having organised meal times (55%) and only twenty-three percent reported eating more than three snacks between meals. However, mindless behaviour was also reported with close to 60% of participants eating in front of the television, and 46% reporting episodes of 'reactive' comfort eating. Regarding physical exercise, participants reported engaging in a wide range of physical activities including walking, swimming, going to the gym, zumba and boot camps, with some enjoying

a sense of achievement and 'flow' post-exercise. However, others reported struggling to find the motivation to engage in these behaviours due to a number of factors including pain, self-sabotage and lack of interest, all factors associated with a languishing state.

In the context of motivation, Fredrickson's 'Broaden and Build' theory suggests cultivation of a flourishing state serves to widen our thought-action repertoires sufficiently, promoting a better quality of engagement with the environment (Fredrickson, 2004). This then affects the ratio of positive to negative emotions that in turn predicts subjective judgements of well-being (e.g. Diener, Sandvik, Pavot & Gallagher, 1991). As weight maintenance appears to require the sustained practice of weight-related behaviours, perhaps this helps to explain why relapse rates are so high, and the motivation to continue with maintenance decreases - languishing individuals may lack the sufficient behavioural and psychosocial repertoires to engage in purposeful plans of action.

In contrast, research has shown that people who flourish enjoy higher life satisfaction and well-being (e.g. Csikszentmihalyi, 2000), are more optimistic (Seligman, 2000) and enjoy greater resilience and self-determination (Brown & Ryan, 2003; Ryan & Deci, 2000). Flourishing individuals also focus on strengths rather than weaknesses (Ruini & Fava, 2004) enjoy better quality relationships, better health and have a clear sense of meaningful goals (Brown & Ryan, 2003; Eid & Larsen, 2008). In the context of successful weight maintenance, these benefits are highly relevant.

The aim of this research was to capture some behavioural and positive psychological characteristics of community based Australians successful in weight maintenance. This was undertaken in the service of cultivating a better understanding of potential treatment targets promoting weight maintenance, and to extend the current maintenance and positive psychology literatures.

Statement of Authorship

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Principal Author

Name of Principal Author (Candidate)	Sharon Robertson		
Contribution to the Paper	I was responsible for the conception and primary authorship of the paper. I created the online survey, conducted the recruitment, collected, analysed and interpreted the data. I was also corresponding author and primarily responsible for responses to reviewer comments and article re-submission.		
Overall percentage (%)	75%		
Signature		Date	21/02/2015

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

  i.   the candidate's stated contribution to the publication is accurate (as detailed above);
  ii. permission is granted for the candidate to include the publication in the thesis; and
  iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Dr Matthew Davies		
Contribution to the Paper	Initial conceptualisation and design of study. Comments on draft article. 10%		
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Name of Co-Author	Professor Helen Winefield		
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116

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CHAPTER SIX: STUDY THREE

A mixed method feasibility and tolerability study of a brief, group based positive psychology intervention for obese women.

Preamble

In the context of our final objective, the following positive psychology intervention was based on results from the preceding studies. A brief summary serving to re-orient the reader will be presented, followed by the rationale for the planned intervention.

Brief Summary of Preceding Results

Traditional treatments for health related conditions usually focus on treating negative symptoms. In an effort to balance and extend this understanding, research applying a positive psychological approach has recently identified Subjective Well-Being (SWB) and its correlates as potential contributors to improved cardiovascular, immune and metabolic health (Chida & Steptoe, 2008; Diener & Chan, 2011). In addition, a high level of Psychological Well-being (PWB) has also been shown to serve as a protective factor for common physical and mental health comorbidities (e.g. Keyes, 2004).

Consistent with findings from our qualitative work, the hypothesis that the obese were languishing was supported. Major themes including 1) Obstacles to feeling good about current weight, 2) Obstacles to weight loss, 3) Motivational forces, 4) Strategy and 5) Self-view were identified as being prevalent and of interest in this population. Interpretation of these results suggested participants demonstrated low environmental mastery, personal growth, self-acceptance and autonomy affecting PWB. Life-Satisfaction (SWB) within the weight loss domain was also lacking, attributed to dissatisfaction due to physical discomfort, health problems and frequent negative mood states. Furthermore an absence of some aspects of Social well-being (SLWB) including social integration, self-actualisation, and self-acceptance was also observed.

As a follow-up to these findings, we conducted a cross-sectional study investigating the relationship between SWB and Body Mass Index (BMI), across five weight categories (N = 260). Differences in life satisfaction, frequency of negative affect, anxiety, stress, strengths knowledge and self-compassion were not reported between groups. However, the category two and three obese were found to demonstrate significantly lower scores on flourishing in comparison with the normal and overweight. The class three obese also demonstrated higher depression, and lower scores on agency, gratitude, positive affect and strength use in comparison with the normal and overweight. Furthermore, predictors of flourishing in this population included gratitude, strengths, hope and positive affect, explaining 77% of the variance in flourishing scores after controlling for age effects. Results provided preliminary support for the hypothesis that a lack of well-being may contribute to atypical BMI.

The findings also had implications for prospective intervention targets, as the treatment needs of obese categories appeared to differ.

In our third paper, we investigated the positive psychological correlates of successful weight maintainers (having intentionally lost 10% of body weight and kept it off for at least the last 12 months) using the same dataset ($N = 250$). Maintainers were found to engage in more frequent diet, exercise and self-weighing behaviours. In addition, agency was the strongest predictor of BMI in this population. Despite maintainers reporting less satisfaction with their current weight than non-maintainers, they were only found to differ in degree of motivation (Hope) and frequency of positive mood states. Surprisingly, they were no happier or satisfied with life despite having achieved clinically significant weight loss (Robertson et al, 2015b). This led us to the hypothesis that perhaps the physical benefits achieved through maintenance may be insufficient to achieve a state of flourishing, leading to a lack of motivation contributing to relapse in some individuals. It was also hypothesised that for some languishing individuals, instead of weight loss leading to happiness, improving happiness may lead to weight loss.

Potential benefits of PPI's with an obese population

Initially, well-being therapies targeted the residual (rather than acute) phases of affective disorders including depression, anxiety and generalised anxiety with some success (Fava, Rafanelli, Cazzaro, Conti & Grando, 1998; Fava & Ruini, 2003; Ruini & Fava, 2004).

For example, Fava et al (1998) randomly assigned sub-clinical participants to one of two treatment groups 1) cognitive behavioural or 2) well-being therapy based on Ryff's conceptual model (1989). Consisting of six sessions focusing on diarised episodes of positive situations and the identification of cognitive errors serving to block well-being, findings suggested both therapies were effective, however significant improvement in the PWB sub-scales purpose in life and self-acceptance were only observed in the well-being condition.

Over the next decade the focus on individual techniques widened, resulting in a proliferation of well-being related therapies including positive psychotherapy, the promotion of optimistic thinking, mindfulness, practicing gratitude, positive writing and happiness interventions, were used to target common affective disorders including depression (Reed & Enright , 2006; Seligman, Rashid, & Parks, 2006; Seligman et al 2005; Smith, Compton & West, 1995; Wing, Schutte & Byrne, 2006; Zautra et al, 2008). In their meta-analysis of fifty-one studies investigating the efficacy of positive interventions for depression, Sin & Lyubomirsky (2009) suggested positive feelings, thoughts and behaviours were successfully cultivated in depressed populations, resulting in a medium effect size for both well-being enhancement (r = .29) and symptom alleviation (r = .31). It is important to note that the definition guiding inclusion criteria for the PPI's was based on building psychological strengths, not 'fixing' pathology or deficiencies (Sin & Lyubomirsky. 2009).

Recently, Donaldson, Dollwet & Rao (2014) conducted a broad systematic review identifying gratitude, strengths, mindfulness and hope as key predictors of well-being based on 339 studies, the majority of which were cross-sectional (77%) and quantitative (78%). As

only 14% of studies employed a longitudinal design, the efficacy of positive psychology interventions in the long-term (beyond 12 months), requires further investigation (McNulty & Fincham, 2012; Sin & Lyubomirsky, 2009). Within this study, a review of 161 interventions using varied PPI approaches including mindfulness, strengths, coaching, positive affect and gratitude training suggested significant improvements in emotional and psychological well-being across a wide range of populations and treatment targets. Based on this review two things became apparent 1) PPI's provided a useful vehicle through which well-being could be achieved, at least in the short-term, and 2) PPI's using a combined approach, targeting well-being for the obese were absent from the positive psychology and obesity literatures.

Rationale for the Current Study

Research has demonstrated that well-being is influenced by three main factors including 1) a genetic pre-disposition for happiness 2) demographic factors / life circumstances, and 3) intentional thoughts and actions actively guiding behavioural pursuits (e.g. Lyubomirsky, Sheldon, & Schkade, 2005). It is posited that the third factor is the most responsive to change (Norrish & Vella-Brodrick, 2008), highlighting the possible usefulness of PPI's as adjuncts to traditional treatment programs.

Given our previous work suggests obese categories two and three appear to be most at risk for languishing, demonstrated by lower proficiency in hope, strengths, gratitude and frequency of positive affect than their normal and overweight counterparts, a PPI targeting

these areas specifically may offer preliminary support for this approach. In addition, given that successful weight maintainers differed in the agentic thinking component of hope and frequency of positive affect in comparison with non-maintainers, this intervention may also promote flourishing and maintenance behaviour. As meta-analytic and systematic reviews suggest interventions strengthening hope, gratitude, happiness and strengths knowledge are among those most successful in promoting well-being, we believe this 'package' of interventions best reflects the needs of our target population, serving to support our final objective. The original study design incorporated a follow-up plan for three, six, nine and twelve months post-intervention (specifically to meet the definition of successful maintenance), however due to time lost over the course of the preceding studies, only the three month follow-up period was viable. Furthermore, women were targeted specifically, based on prevalence data (NHMRC, 2013; WHO, 2015), and to improve homogeneity of the group.

Although SWB and PWB overlap in some respects (e.g. Boehm & Kubzansky, 2012; Huta & Ryan, 2010), both approaches also highlight unique aspects of well-being found to be relevant to obese populations. Based on converging results from our previous studies, well-being was adversely affected by low levels of social integration and acceptance, higher depression and lower agency, gratitude, positive affect and strength use in comparison with the normal and overweight. Furthermore, areas for improvement regarding PWB included personal growth, acceptance and autonomy.

In an effort to provide consistency within and across this body of work, we will be employing measures of SWB, PWB and Social Well-Being to extend our initial findings conceptually and quantitatively. In addition to measures of SWB (Satisfaction with Life Scale, Positive and Negative affect scale) and Psychosocial prosperity (Flourishing Scale), we chose to use Peterson, Park & Seligman's (2005) Orientations to Happiness (OTH) scale to measure the degree to which the obese endorse pleasure (hedonia), engagement (a sense of flow, or 'being in the moment fully') and meaning (eudaimonia) throughout the intervention. As initial weight gain and maintenance failure have been attributed to a lack of happiness and meaning in life, and high levels of hedonia and eudaimonia contribute to optimal levels of positive feeling and functioning (e.g. Henderson & Knight, 2012; Huta & Ryan, 2010; Schueller & Seligman, 2010), we felt the use of this measure may be relevant to obesity in this population.

The OTH has been utilised in recent studies exploring the efficacy of an internet program designed to promote well-being (Mitchell, Stanimirovic, Klein & Vella-Brodrick, 2009) and orientations to happiness during everyday experiences (Grimm, Kemp & Jose, 2015). Both studies suggest the OTH is a valid, reliable and useful outcome measure of pathways to well-being achievement. To the best of our knowledge the OTH has not yet been applied to research in obese populations. To avoid repetition, course materials including participant handouts, power-point presentations, facilitator session notes and evaluation measures are all presented in Appendix 4.

Statement of Authorship

Title of Paper	A mixed method feasibility and tolerability study of a brief, group based positive psychology intervention for obese women
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Publication Details	

Principal Author

Name of Principal Author (Candidate)	Sharon Robertson		
Contribution to the Paper	I was responsible for the conception and primary authorship of the paper. I planned and conducted the screening process, materials for group based sessions, facilitator training and data collection. I was also corresponding author and primarily responsible for responses to reviewer comments and article re-submission.		
Overall percentage (%)	75%		
Signature		Date	31/07/2015

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

    i.   the candidate's stated contribution to the publication is accurate (as detailed above);

    ii.   permission is granted for the candidate to include the publication in the thesis; and

    iii.   the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Dr Matthew Davies		
Contribution to the Paper	Initial conceptualisation of study. Assistance with interpretation of reliable change index and clinical significance analyses. Quality control throughout writing process 15%		
Signature		Date	31/07/2015

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Contribution to the Paper	Assistance with the final polishing of the manuscript in readiness for journal submission. 10%		
Signature		Date	31/07/2015

Abstract

Obesity affects the health and well-being of millions of people, especially women. Current treatment strategies are struggling to treat the complex physical, psychological and emotional correlates of obesity, and new approaches are required to improve weight loss outcomes. This study is the first to apply a brief positive psychological intervention teaching Hope, Strengths and Gratitude to women with class two and three obesity in a non-clinical community sample. Four participants were assessed using a mixed-methods approach at baseline, post module, post course and at 3-month follow-up to establish the feasibility, tolerability, teachability and impact of the intervention on a number of outcome variables including weight, subjective, psychological and social well-being and mood states. Results based on both participant and facilitator feedback indicates the program was teachable, feasible and tolerable. In addition, preliminary data based on reliable and clinically significant change analyses suggest some women may experience short-term improvements in weight loss, positive mood states, flourishing and satisfaction with life, as well as a reduction in depression, anxiety and stress. These results provide preliminary support for our hypothesis that for some people, the promotion of positive psychological health may be necessary to sufficiently broaden and build behaviour conducive to weight loss success. Future studies identifying factors helpful in sustaining initial treatment gains, using larger samples and experimental designs are required to confirm our preliminary findings.

Introduction

Over the last 30 years, the prevalence of obesity has increased dramatically. Based on World Health Organisation (WHO) data for 2014, six hundred million adults were obese (15% of women and 11% of men), equating to around 13% of the world's adult population (WHO, 2015). The negative health effects of obesity including cardiovascular disease, diabetes and some cancers have been widely reported (e.g. Guh, Zhang, Bansback, Amarsi, Birmingham & Anis, 2009) and are responsible for increased rates of morbidity and mortality (WHO, 2015). The psychosocial correlates of obesity are also well documented, including low levels of life satisfaction, impaired tasks of daily living, and mental health problems including depression and anxiety (Corica et al, 2008).

Despite advances in surgical, pharmacological, and psychosocial approaches, relapse is a common outcome of most currently available treatments (e.g. Elfhag, & Rössner, 2005). Given the increasing recognition that obesity is a complex and multi-faceted problem (Grilo & Pogue-Geile, 1991), researchers are now seeking to apply new approaches to facilitate weight loss, to prevent weight regain, and to improve quality of life for people struggling with weight related issues. Positive Psychology may constitute such an approach.

Defined as the "scientific study of what goes right in life" (Peterson, 2006, p. 4), positive psychology seeks to balance and enhance our traditional approach to managing disease, distress and dysfunction. Challenging the assumption that short-term symptom relief can sustain meaningful improvements in health and well-being (Ruini & Fava, 2004),

this framework serves to identify and strengthen those things leading to optimal functioning through engagement in a meaningful, enjoyable and full life.

Well-being in positive psychological terms is a broad multidimensional construct representing 'the good life' and includes two main pathways (Delle Fave, Brdar, Freir, Vella-Brodrick & Wissing, 2011). The hedonic 'pleasure' path known as happiness and /or subjective well-being (Diener, Lucas & Oishi, 2002; Pavot & Diener, 2008) is concerned with how one evaluates life overall, and comprises two main elements: 1) emotion (the presence of positive, and absence of negative emotions) and 2) cognition (judgement of satisfaction with life). In addition the eudaimonic 'living well' path, also known as psychological well-being (PWB), is concerned with cultivating personal growth and a deeper meaning in one's life (Ryan & Deci, 2001; Ryff & Keyes, 1995). Although research combining these approaches is still relatively new, results do suggest the presence of high levels of hedonia and eudaimonia contribute to optimal levels of positive feeling and functioning, also known as flourishing (Fredrickson & Losada, 2005; Henderson & Knight, 2012; Huta & Ryan, 2010; Keyes, 2007; Kashdan, Biswas-Diener & King, 2008).

An example of this combined approach is Peterson, Park & Seligman's (2005) Orientations to Happiness model (OTH) exploring concepts of pleasure (positive emotion), engagement (optimal functioning through concentration and deep enjoyment of personal pursuits) and meaning (purposeful activity that may transcend individual needs and benefit others). A life found to be higher in all three orientations (especially engagement and

meaning) has been found to be more satisfying than a life lower in all dimensions (Peterson, Park & Seligman, 2005).

Research has shown that at the individual level, well-being is influenced by three main factors including 1) a genetic pre-disposition or 'set-point' for happiness, 2) demographics including marital status, financial stability and education, and 3) intentional thoughts and actions providing motivation for behavioural pursuits (e.g. Lyubomirsky, Sheldon, & Schkade, 2005). Of these factors, the last is thought to be the most responsive to change (Norrish & Vella-Brodrick, 2008). Fredrickson (1998, 2004) posits in her Broaden and Build Model that when people experience positive emotion, this serves to encourage flexibility regarding cognition and behaviour. The subsequent increase in goal directed behaviour then creates a positive feedback loop encouraging further action and positive mood, and this 'broaden and build' approach has been found to improve biopsychosocial resources and improve health (Fredrickson, 2001; Fredrickson, Cohn, Coffey, Pek & Finkel, 2008; Fredrickson & Levenson, 1998). Consequently results such as these have led to the development of a number of positive psychology interventions (PPI's) providing a vehicle through which well-being may be enhanced.

In a recent systematic review of the positive psychological literature, Donaldson, Dollwet & Rao (2015) identified 339 studies in which key predictors including gratitude, strengths, mindfulness and hope were investigated with well-being serving as the primary outcome variable. Within this study, results based on a review of 161 interventions using varied PPI approaches suggest significant improvements in emotional and psychological

well-being. These included character strengths training with adolescents (Proctor, Tsukayama, Maltby, Eades & Linley, 2011), cognitive solution-based coaching (Green, Oades, & Grant, 2006), mindfulness training (Collard, Avny & Boniwell, 2008), affect change (Burton & King, 2004) and practicing gratitude (Seligman, Steen, Park & Peterson, 2005). To date, PPI's targeting well-being for obese women in a non-clinical setting are absent from the positive psychology and obesity literatures.

The Present Study

Given evidence suggesting physical and mental health are inversely related to BMI, we chose to design and implement a tailored PPI in an attempt to improve well-being in obese class two and three women. Women were targeted specifically based on prevalence data, and to reduce possible discomfort given the generally intimate nature of small group dynamics and sensitivity regarding weight issues (Wadden & Stunkard, 1985). The PPI was developed responsibly, based on three important criteria proposed by Parks & Biswas-Diener (2013, pp. 4-5) including 1) The primary goal of the intervention is to build some "positive" variable or variables, 2) Empirical evidence exists that the intervention successfully manipulates the above target variable(s) and 3) Empirical evidence exists that improving the target variable will lead to positive outcomes for the population in which it is administered. Intervention variables were chosen based on results from our previous research with obese populations (Robertson et al, 2015a, 2015b), and PPI efficacy based on the systematic review as discussed.

The first target for intervention is hopefulness. Hope, defined as a cognitively based positive emotional state includes the ability to produce routes to desired goals (known as pathways), and to generate the motivation required to use those routes (known as agency). Increased hopefulness improves cognitive flexibility and motivation through use of a broad range of cognitive and behavioural strategies, and has been found to promote optimal health and functioning (Lopez, Floyd, Ulven & Snyder 2000; Snyder, Feldman, Taylor, Schroeder & Adams, 2000). Snyder's state-based (as opposed to trait-based) measure of hope was utilised in this study based on the suggestion this characteristic is flexible and has potential for development. A small number of intervention studies have adopted this state-based approach, including Luthans, Avery & Patera (2008) who report improvement in agency thinking after their brief, computer-based hope intervention. In addition, Cheavens, Feldman, Gum, Michael & Snyder (2006) also reported improvements in agentic thinking, as well as lower depression and anxiety in a community based group program teaching goal-pursuit skills over 8-weeks, in comparison with wait-list controls. Given results employing state-based hope measures with community samples are encouraging and currently underrepresented in the literature, we chose to adopt this approach in the current study.

Strengths are positive personality traits, and strengths training provides a means to cultivate our potential to achieve optimal functioning through discovering and practicing our unique abilities (Parks & Biswas-Diener, 2013; Peterson & Seligman, 2004). Constituting the second variable of interest, strengths, measured using the Values In Action classification system is made up of 24 measurable character strengths (e.g. creativity, appreciation of beauty and excellence, humour) organised within six classes of virtue (wisdom and knowledge, courage, transcendence, temperance, justice, and humanity). It must be noted

that the identification and use of strengths has received some criticism, based on the idea

that some individuals may lose motivation to develop strengths, believing they are too fixed

to be changed (Grant & Dweck, 2003; Louis, 2011, Parks & Biswas-Diener, 2013). In addition,

Haidt (2002) raises the important concern that an exclusive focus on strength development

(as opposed to weaknesses) may not necessarily constitute 'what's best' for the individual.

Despite these criticisms, the benefits of strength identification and training have been

investigated, including the relationship between satisfaction with life and VIA character

strengths via three internet based studies (N = 5,299) conducted by Park, Peterson &

Seligman (2004). Findings suggest curiosity, love, zest, gratitude and hope were strongly

related to satisfaction with life. Furthermore, improvements in individual strength use and

knowledge have been found to positively influence both hedonic and eudaimonic well-being

through improved goal achievement, social well-being, affect and the encouragement of

personal growth and meaning in life (Linley, Nielsen, Gillett & Biswas-Diener, 2010; Park &

Peterson, 2009; Peterson & Seligman, 2004; Seligman, Steen, Park & Peterson, 2005;

Quinlan, Swain and Vella-Brodrick, 2012).

Our third intervention variable is Gratitude. Described as 'an emotional state and an

attitude toward life that is a source of human strength in enhancing one's personal and

relational well-being' (Emmons & Crumpler, 2000, p.1), gratitude practice has been

associated with improvements in positive affect and cognition, life satisfaction, health and

goal attainment (Emmons & Shelton, 2002; Toussaint & Friedman 2009; Donaldson et al

2015). However, it must also be noted that the well-being effects generated by gratitude

interventions can vary based on mood and gratitude activity. For example, Sin, Della Porta & Lyubomirsky (2011) suggest writing a gratitude letter when mildly to moderately depressed may reduce immediate levels of well-being. Furthermore, Emmons & McCullough (2003), and Lyubomirsky, Sheldon & Schkade, (2005) found well-being effects were reduced when a gratitude intervention (keeping a gratitude journal) was over practiced, suggesting once per week was optimal for well-being benefits.

To our knowledge, this is the first study to apply the current combination of variables in a PPI for obese women in a non-clinical community setting. Given the area of research is new, we have chosen to use a mixed-methodology to promote a greater understanding not only of participant's self-perceived behaviours, but their actual behaviours evidenced by qualitative and quantitative analyses of homework assigned throughout the intervention. In addition, data was collected from the facilitator of the course in an effort to improve treatment quality and delivery (detailed information regarding the intervention are presented in the 'Methods' section). In summary, this PPI was designed to specifically target hope, strengths and gratitude in an effort to improve well-being through broadening and building thought-action strategies and perhaps as a by-product of this process, achieve weight loss. Specifically, this study has four main aims;

1. Based on participant and facilitator feedback is this intervention for category two and three obese women feasible, tolerable and teachable?

2. Can this brief PPI achieve reliable and significant changes in Hope, Strengths and Gratitude in class two and three obese women?

3. Can this PPI positively impact weight loss, subjective, psychological and social well-being ?

4. Are intervention gains present at three month follow up?

Method

Participants

A total of 4 participants were recruited from Adelaide, South Australia. Fifteen people responded to the advertisement placed in a local newspaper seeking volunteers interested in improving happiness and quality of life. Criteria included: (1) aged between 18-65, (2) female (3) BMI currently above 30, (4) No medical condition directly responsible for current weight, (5) availability over a 16 week period. Fifteen potential participants were then given a telephone interview, and if inclusion criteria were met, offered the customised link to the secondary screening process assessing mood (DASS-21). Eleven people were excluded from participating based on failure to meet the initial inclusion criteria, and / or scoring in the severe and above category for Depression, Anxiety or Stress (DASS-21).

Participants excluded on mental health grounds were contacted and given details for both ACIS (Adult crisis Intervention Service) and a walk in mental health clinic.

The final sample was Caucasian, employed (50%) or studying (50%) and in a relationship (50%). All participants had achieved a minimum of 12 years education. The average age of participants was 33.7 years (SD=15.2). Three of the sample met criteria for class 3 obesity, (BMI=≥40), and one for class 2 obesity (BMI=35-39.99). The study took place at the University of Adelaide and was approved by the Human Research Ethics Committee, University of Adelaide (H-2013-093 RM 17755).

Design

This study was an uncontrolled pre-post design with multiple dependent variables and a twelve week follow up. In line with recommendations by Denzin (1970), Morse (1991) and Patton (2001, 1999) a simultaneous between-methods triangulation approach in which quantitative and qualitative data were collected and analysed concurrently, was used to determine feasibility, tolerability, teachability and statistical findings from both the participant and facilitator perspectives. Within this study, both paradigms were considered to be of equal importance, however the function of qualitative data was not to generate specific themes (e.g. thematic analysis), but used in the service of validating findings through the promotion of greater description and interpretation of data.

Procedure

The authors developed a protocol introducing a single positive psychological concept weekly, over a four week period. Each session lasted approximately one hour and was facilitated by an experienced clinical psychologist (LC), trained specifically by first author (SR) for the role. Program integrity was checked via 'test sessions' in which the facilitator rehearsed each module with SR assuming the 'participant' role. Weight (kg) was measured prior to each session and at the follow-up interview using the same Conair brand Weight Watchers digital scale each time. A number of qualitative and quantitative measures (described below) were assessed at baseline (Time 1), post single intervention (weekly), (Time 2), post-course completion, (week five), (Time 3), and 12 weeks post-intervention (Time 4). To reduce the risk of researcher and response biases the therapy and data collection processes were separate, and participants were reassured their comments would remain anonymous. Figure 1 below summarises participant flow and the treatment protocol followed.
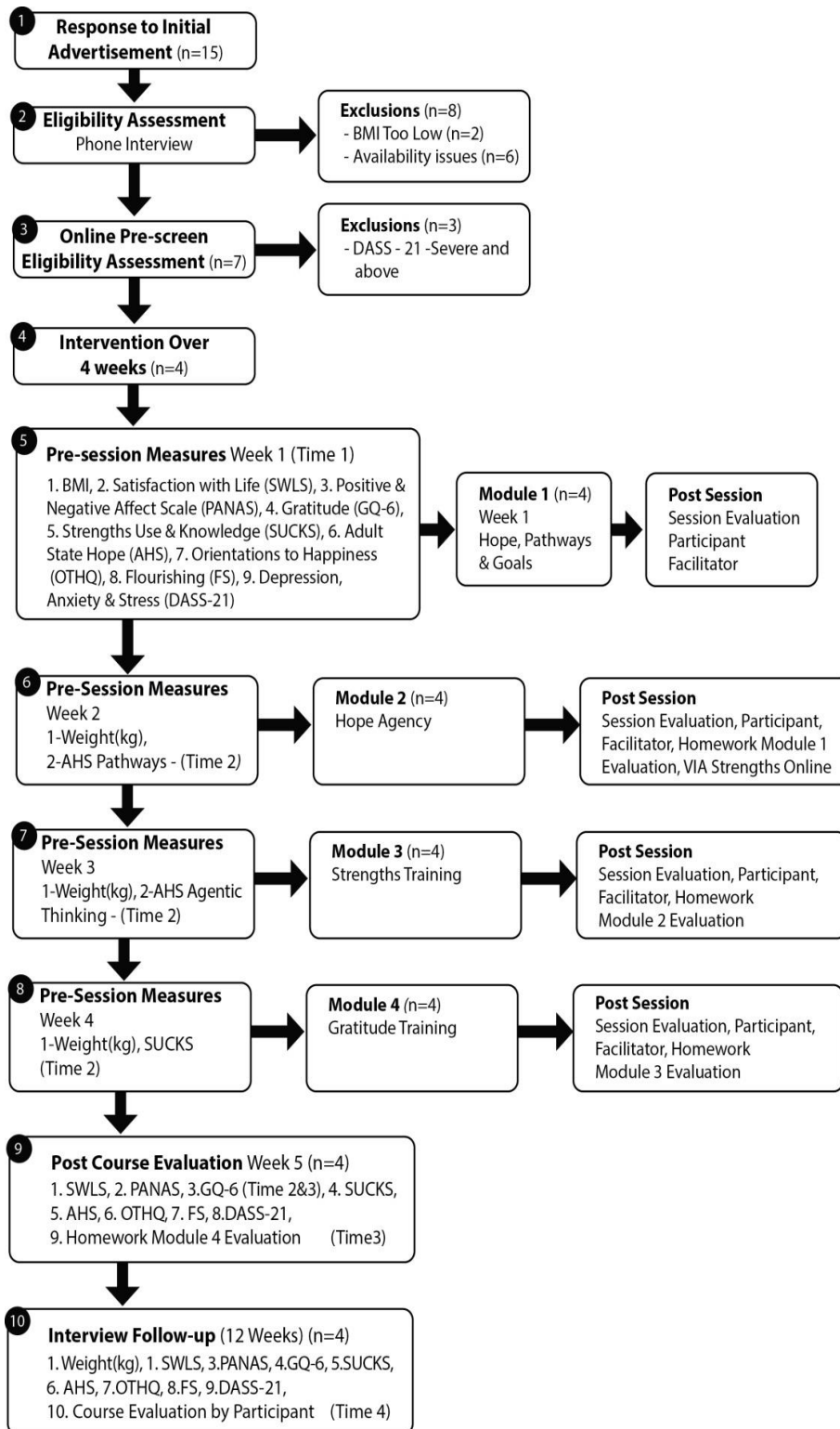
Figure 1. Recruitment and Intervention process for the Positive Psychology

Intervention for obese women in a non-clinical community sample.

Intervention

The four modules were adapted from existing treatment protocols and the author's (S.R & M.D) clinical experience with private patients seeking assistance for weight loss. Each week the facilitator presented a customised power-point presentation to accompany group discussion, with handouts and session notes being provided for each participant in the course.

Module 1 (Week 1)

Hope – Pathways and Goals training.

Based on Hope therapy protocols (Lopez, Floyd, Ulven & Snyder, 2000) this module focused on teaching participants what hope was, why developing hope was helpful, and how to develop hope using techniques designed to increase goal directed thinking, concrete plans for goal attainment and encourage flexibility and confidence in one's approaches. Participants worked through an example in session of how to generate suitable pathways to a reliable and achievable goal after selecting an area of life that was both important, and currently unsatisfactory (e.g. intimate relationships, health, personal growth). Goals were broken down into small steps and multiple pathways to goal achievement were generated. It is important to note that participants were asked not to choose weight loss as their specific goal, however they could choose (within the health domain) to engage in behaviours related to the pursuit of physical health. The homework task was to follow through with the goal

directed behaviour of their choice with the understanding that they had two weeks in which to complete their goal.

Module 2 (Week 2)

Hope – Agentic thinking

This second module aims to build on the previous session (goals and pathways) by adding the motivational component of hope. The facilitator demonstrated a combination of techniques based on Hope therapy (e.g. positive visualisation, Lopez et al, 2000) and Cognitive Behavioural Therapy (CBT) to help participants identify potential threats to their goal achievement. This included identifying negative thinking styles and generating more flexible agentic thoughts through exploration of task interfering and task orienting cognitions. This was included to promote motivation and reduce perceived barriers to goal achievement and is often used in clinical settings (Burns, 1992). A case study involving a famous person was then used to illustrate that pushing through adversity has its rewards. Homework was to apply agentic thinking and positive visualisation strategies to assist completion of the goal set in week one. Participants were also asked to complete an online strengths questionnaire in readiness for the next session.

Module 3 (Week 3)

Strengths Training

The third module introduced participants to the concept of their personal strengths and how to use them effectively. Education around differences between strengths and learned behaviours, the benefits of strength use, and as an adaptation to the popular 'use your strengths in a new way' exercise (e.g. Mitchell et al. 2009), we chose to build upon previous learning and apply strengths to a new valued personal goal. Session materials were sourced from Positive Psychology coaching (Biswas-Diener & Dean, 2010), Strengths Finding (Linley, Willars & Diener, 2010) and the Values In Action (VIA) website (https://www.viacharacter.org/). Each participant received a personalised signature strength profile explaining their twenty four strengths, related virtues, and ideas on how their top three signature strengths could be well-utilised in daily life. The group was guided through the process of applying strengths to the valued goal worksheet, and were given individual assistance in tailoring their signature strengths to specific goals. Homework involved actioning strengths in the service of completing a new and valued goal, based on previous modules.

Module 4 (Week 4)

Gratitude Training

Gratitude training consisted of defining the gratitude concept, and the physical and mental health benefits of gratitude practice. In an effort to provide a number of possible options for

gratitude practice, the group were provided with session materials derived from existing positive psychological interventions including (1) The Gratitude visit / letter involving paying a visit or writing to someone who has had a positive impact on your life (e.g. Seligman et al, 2005), (2) The Gratitude Journal / Diary in which one can write about things one is genuinely appreciative of serving as an adaptation to the 'three good things' intervention (Geraghty, Wood & Hyland, 2010; Seligman et al, 2005), (3) Random acts of kindness in which one chooses to show kindness to a stranger or loved one with no expectation of reward (Buchanan & Bardi, 2010) and (4) The Gratitude Jar, an adaptation of the 'count your blessings' exercise in which instances of gratitude are written on a piece of paper and placed in a jar to represent a visual reminder of one's blessings in life (Emmons & McCullough, 2003). Each participant was given an introduction to, and detailed examples of how to practice each gratitude technique. Upon session completion, each participant received a gratitude jar with a personalised note from their facilitator expressing gratitude for their contribution to the program, serving to model the process. Homework involved practicing a gratitude exercise of their choice as often as they wanted over the next week.

After each module, participants evaluated both the facilitator and session on a number of attributes (described below). Participants were then given a specific homework task to be completed over the next week, based on the positive psychological skill they had just learnt. Prior to commencement of the next module, participants were re-assessed using the specific quantitative measure upon which their homework had been based (to ascertain module efficacy, seven days post-intervention), and completed homework from the previous

session was given to the facilitator. Given the staggered design of the weekly homework tasks, Gratitude homework was completed and submitted online as the group sessions had already ceased. Therefore Gratitude data collected on this occasion (week five) represent both Time two (post-intervention) and Time three (post-course evaluation) scores.

Measures

A number of measures were used to assess the potential impact of the intervention. Group attendance was used to assess feasibility. Tolerability data was collected via feedback forms completed by both group and facilitator post-session (Time two), post-course (Time three) and at follow-up (Time four) and are described below. A number of quantitative measures were used to assess the impact of the intervention based on pre-treatment (Time one), post-weekly intervention (Time two), post-course (Time three) and 12 week follow up (Time four) scores. Body Mass Index (BMI) was obtained at session one using a measuring tape, and Weight Watchers scales to determine height to weight ratio using the following standardised formula (BMI =bodyweight in kg divided by body height in metres^2). Weight was not assessed in week five as sessions had ceased and data reported online could not be verified by the researcher.

Mixed–Method Measures

Post-session Module Quality (Facilitator)

The facilitator completed a seven item questionnaire using a Likert type scale (1= Disagree to

5 = Agree) assessing quality of course content based on a number of criteria.

These included 1. Easy to teach, 2. Worksheets were helpful and practical, 3. Group

understood core concept and skill taught, 4. Suitably trained to teach course content, 5.

Participants suitably engaged, 6. Clear rationale for homework task given, and 7. Session

finished on time. An additional comments box was also provided to capture qualitative

information.

Personal Performance (facilitator)

The facilitator also completed an appraisal of self-perceived teaching performance using the

same Likert scale, addressing four criteria. 1. Confidence, 2. Connection with the group, 3.

Module easy to follow, and 4. Comfortable teaching module content. An additional

comments box was also provided to capture qualitative information.

Module Quality (participants)

Participants completed a module evaluation using a Likert type scale (1= Disagree to

5=Agree) exploring the following eight criteria. 1. Helpful, 2. Interesting, 3. Learned

something new, 4. Importance of skill for improved quality of life, 5. Understood facilitator, 6. Confident in applying what was learned, 7. Confident regarding homework task and 8. Would recommend module to family / friends. Qualitative information was captured in the comments box provided at the end of the survey.

Post session homework ratings (participants session 1-4)

Participants rated their ability to practice the skill they had learnt during the last session over the past week. Two open ended questions asked 1. What practice did you do over the last week? (if any), and 2. How would you describe your progress / lack of progress and why? Based on practice, participants were asked to rate two more items 1. How difficult was it to practice this new skill? (Likert scale 1=Very easy to 5 = Very difficult), and 2. How useful was the new skill? (Likert scale 1=Very helpful to 5= Very unhelpful). An additional open ended question asked if any major life events had occurred sufficient to affect mood and / or behaviour over the last week. Post-session evaluation for module four was collected online in week five, as group sessions had ceased.

Course Evaluation at twelve week follow-up

Participants attended an exit interview conducted by lead researcher (SR). Post-course evaluation included answering open ended questions including 1. Write down what you remember about the course, 2. Define pathways and goals, agentic thinking, strengths and gratitude in your own words, 3. Indicate if you used any / all of these skills over the last 12 weeks describing how and why that skill was used, and 4. Indicate what factors (if any)

interfered with your ability to practice these skills over the last 12 weeks. Participants then

rated the following eight items using a 5 point Likert scale (1=Disagree to 5 = Agree). Course

was 1. Helpful, 2. Interesting, 3. Learned something new, 4. Understood importance of skill

related to quality of life, 5. Facilitator easy to understand, 6. Confidence in applying skill, 7.

Confident in continued use of skill, and 8. Would recommend course to others.

Quantitative Measures

All measures have demonstrated acceptable reliability and validity based on standard

criteria (e.g. DeVellis, 2012).

1 .The Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) consists of five

items measuring the cognitive component of Subjective Well-Being providing a global

judgement of life satisfaction (e.g 'The conditions of my life are excellent').The participants

rated themselves using a 7 point Likert-type scale (1= strongly disagree, 7= strongly agree).

Scores range from 5 to 35. Higher scores indicate higher levels of general satisfaction with

life.

2. The Positive Affect and Negative Affect Schedule (Watson, Clark & Tellegen, 1988) is the

emotional component of SWB, and is divided into two sub-scales. The Positive Affect sub-

scale (range 10-50) consists of ten adjectives related to positive affect (e.g. excited,

enthusiastic) and the Negative Affect sub-scale (range 10-50) ten adjectives related to

negative affect (e.g. irritable, afraid). A five-point Likert-type scale (1=very slightly or not at

all, 5= extremely) was used to rate the degree to which participants felt this way in the present moment.

3.The Flourishing Scale (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi & Biswas Diener 2010) consists of eight items measuring feelings of competence, engagement in positive relationships and living a purposeful and meaningful life (e.g. 'As I get older I find myself more able to appreciate the people, events and situations that have been part of my history'). A 7-point Likert-type scale (1=Strongly disagree, 7=Strongly agree) was used to indicate degree of flourishing in life. Scale range between 8 and 56, and higher scores are associated with a higher degree of flourishing in life.

4. The Gratitude Questionnaire (McCullough, Emmons & Tsang, 2002) is a measure of the intensity and frequency with which people experience gratitude. Item examples include 'I am grateful to a wide variety of people' scored on a seven-point Likert-type scale (1= strongly disagree, 7= strongly agree). Scale scores range from 6 to 42. Negatively worded items (3 and 6), were reverse scored such that higher scores indicated more frequent expression of thankfulness.

5.The Strengths Use and Current Knowledge Scale (Govindji & Linley, 2007) consists of ten items asking participants about the things they felt they did best (e.g. 'I know the things I am good at doing', 'I achieve what I want by using my strengths') scored on a likert-type scale (1=strongly disagree, 7 strongly agree). The scale ranges between 10 and 70, and higher scores indicate better strength knowledge. An additional item asks respondents to indicate

how much of their time they spend using their strengths on a continuum, in 10% increments from 0-100%.

6.The Adult State Hope Scale (Snyder, 2000) consists of 6 items and defines hope as a cognitively based positive emotional state, determined by two key components. The first, known as pathways thinking, refers to one's perceived capacity to generate productive pathways to achieve one's goals. This subscale consists of three items (e.g. 'I can think of many ways to reach my current goals') summed to produce a pathways score. The second subscale is related to one's ability to generate the mental energy required to sustain motivation long enough for goal attainment, via one's chosen pathway (agentic thinking). Also consisting of three items (e.g. 'At the present time I am energetically pursuing my goals') then summed to produce a sub-score. Each scale is measured using an eight-point Likert type scale (1=definitely false, 8=definitely true) with total scale scores ranging from 6 to 24.

7.The Orientations to Happiness Questionnaire (Peterson, Park & Seligman, 2005) consists of 18 items using a five-point Likert type scale (1=not like me at all, 5=very much like me). Three separable scales each consisting of six items measure three OTH domains including pleasure (e.g. 'Life is too short to postpone the pleasures it can provide'), engagement (e.g. 'I seek out situations that challenge my skills and abilities') and meaning (e.g. 'I have a responsibility to make the world a better place'). Participants rate their agreement with each domain and the average of each of the three sub-scales indicates OTH domain endorsement. Higher scores indicate higher endorsement of that specific OTH.

8. The Depression, Anxiety and Stress Scale (Lovibond & Lovibond, 1995), contains three sub-scales designed to measure distress associated with Depression (e.g. 'I couldn't seem to experience any positive feeling at all'), Anxiety (e.g. 'I was aware of dryness of my mouth'), and Stress (e.g. 'I found it hard to wind down'). Three separable scales each consisting of seven items (scale range 0-21) measure each of the three domains. All items were scored using a four-point Likert type scale (0=never, 3=almost always) and averages of the sub-scale scores indicate the degree to which each mood state is endorsed, with higher scores representing more negative emotional states.

9. Weight was measured by SR using the same Weight Watchers digital scales on each occasion and conducted in a private room. Each participant removed their shoes and any heavy outer jackets prior to weighing.

Data Analysis

In order to ascertain potential program impact, two methods related to low-n measurement were adopted for this study and based on procedures recommended by Christensen, & Mendoza (1986), and Jacobson & Truax (1991). The first measure Reliable Change (RC) represents the degree to which any changes in scores are sufficient enough to rule out measurement error, at the 95% confidence level. The standard error of difference (SE_{diff}) calculated using pre-post scores and the reliability (alpha) of the measure (based on normative data), are used to calculate a reliable change score. If this is found to exceed +/- 1.96, then the change is considered to be reliable.

The second measure, clinically significant change is concerned with the degree to which change is clinically meaningful or important based on score comparisons with appropriate social and/or clinical groups. Regarding the latter, three criteria related to clinical change can be applied; A) Pre-post change in scores of at least 2 standard deviations from the original mean regardless of what is considered a 'desirable' sample, B) change moving participants to within 2 standard deviations of a 'desirable' range, regardless of original score, and C) is measuring the probability that the individual has moved out of their distribution, and into the more 'desirable' population, representing movement to the 'normal' side of the halfway point between criterion A and B. In this study criterion C is considered most appropriate as our post-intervention aim was to increase the likelihood that participants would move into the 'normal' socially meaningful comparison group, based on normative referential data from other non-clinical samples. Criterion A was also used when the pre-intervention mean scores were actually higher than the normative means for our participants, allowing a within-group comparison for each participant based on their change scores. The reliability and normative data necessary for both analyses were based on carefully matched comparison data (e.g. country of origin, age, clinical status) where possible, and source acknowledgement and components of relevant formulae are presented in Tables 1 and 2. For a comprehensive guide to use of the specific formulae used see Evans et al, (1998).

Results

Feasibility

All participants attended the four sessions and completed the 12 week post-course follow up.

Tolerability

The following is a summary of Mean satisfaction ratings by module (expressed as a percentage), based on scale scores for group participants. Module One Pathways (91%), Module Two Agency (97.5%), Module Three Strengths (97%), and Module Four Gratitude (100%).

Teachability

The following presents a summary of Mean scores (expressed as a percentage), of module integrity and personal performance based on facilitator evaluation. Module One Pathways (100%), Module Two Agency (98.6%), Module Three Strengths (98%), and Module Four Gratitude (100%).

For ease of interpretation, results will be grouped into three sections. The first section presents group and facilitator post-module evaluations for Hope, Strengths and Gratitude training (completed upon module conclusion), the homework evaluation, post-module quantitative measure completed seven days after the intervention (T2), and post-course measure of intervention variables (T3). Section two presents a summary of all quantitative

outcome variables post-course (T3). Section three presents a summary of all data collected

at 12 week follow-up (T4). A summary of all quantitative data concerned with the

intervention (Table 1) and outcome variables (Table 2) are presented overleaf.

Table 1. *Reliable and Clinically Significant Change of intervention variables by participant at post-module (T2), post-course (T3) and Follow-up (T4).*

Variable	Subject	T1 Pre-score	M	SD	Normative M	SD	Alpha	SE	Rcrit	C	T2 *	T2 (+/-)	T3 *	T3 (+/-)	T4 *	T4 (+/-)
Hope (paths)	k	7.33	5.41	0.96	6.03	1.24	0.83	0.56	1.1	5.68		(+.33)	*	(-.33)		0
	d	7.33		0.96				0.56	1.1	5.68		(-.67)	*	(-.33)		(-2.33)
	j	3.33		1.04				0.61	1.19	5.69		(+.33)		(+.66)		(+1.33)
	v	3.66		0.87				0.51	0.99	5.66	*	(+.67)	*	(+2.33)		(+1.33)
Hope (agency)	k	6.33	4.49	0.92	5.86	1.16	0.52	0.9	1.77	5.09		0		0		(+.33)
	d	4.33		0.08				0.08	0.15	4.57		(-.67)	*	(+1.33)		(-3.00)
	j	3		0.74				0.73	1.42	5.02		(-.34)		(+.33)		(+.33)
	v	4.33		0.08				0.08	0.15	4.57	*	(+1.00)	*	(+3.33)		0
Strengths	k	48	41	3.5	51.41	7.66	0.8	2.21	4.34	44.26	*	(-5)	*	(-9)		(-16)
	d	33		4				2.53	4.96	44.57	*	(+14)	*	(+21)	*	(+14)
	j	40		0.5				0.32	0.62	41.63	*	(+9)	*	(+8)	*	(+7)
	v	43		1				0.63	1.24	42.2	*	(+19)	*	(+13)	*	(+8)
Gratitude	k	34	29.75	2.12	34.35	5.03	0.77	1.44	2.82	31.11		(-1)	n/a	n/a		(-3)
	d	28		0.87				0.59	1.16	30.42	*	(+13)	n/a	n/a	*	(+4)
	j	24		2.87				1.95	3.82	31.42		(+5)	n/a	n/a	*	(+8)
	v	33		1.62				1.1	2.15	30.87		(-6)	n/a	n/a		(-5)

Se change= standard error of change score based on standard deviation (SD) and alpha level from normative data sources

AHS, SUCKS (Robertson et al, 2015a), GQ-6 (Strelan, 2007).

Rcrit= reliable change criterion calculated by Se (standard error) change score multiplied by 1.96.

Criteria C cut-off score required for significant change. * = reliable and clinically significant change.

(+ / -) indicates positive and negative direction of score change.

Table 2. *Reliable and Clinically Significant Change of outcome variables by participant at post-course (T3) and Follow-up (T4).*

Variable	Subject	T1 Pre-score	SD	Normative M	SD	Alpha	SE	Rcrit	C/A	T3 RC	(+/-)	T4 RC	(+/-)
**DASS-21 (depression)	k	3	2.25	2.57	3.86	0.9	1.01	1.97	5.68	*	(-3)		(+3)
	d	6	0.75				0.34	0.66	6.69	*	(-3)		(+13)
	j	10	1.25				0.56	1.1	6.29		(-2)		(+3)
	v	11	1.75				0.78	1.53	5.96		(-2)		(+6)
**DASS-21 (anxiety)	k	2	2.12	1.74	2.78	0.79	1.37	2.69	4.3		(-2)	*	(+4)
	d	3	1.62				1.05	2.06	4.59		0		(+16)
	j	9	1.37				0.89	1.74	4.76		(-1)		(+4)
	v	11	2.37				1.54	3.01	4.17		(-2)		(+6)
**DASS-21 (stress)	k	10	1.5	3.99	4.24	0.89	0.7	1.38	10.64	*	(-7)		(-1)
	d	10	1.5				0.7	1.38	10.64	*	(-3)		(+10)
	j	15	1				0.47	0.92	11.28		(-3)		(+3)
	v	17	2				0.94	1.84	10.11		(-9)		(-1)
FS	k	38	0.62	43.89	8.7	0.92	0.25	0.49	37.22	*	(+10)		(-3)
	d	33	1.87				0.75	1.47	38.01	*	(+5)		(-8)
	j	33	1.87				0.75	1.47	38.01		(-2)		(-1)
	v	43	3.12				1.25	2.45	38.63	*	(+5)	*	(+8)
SWLS	k	18	1.62	24.52	6.13	0.86	0.86	1.68	16.79	*	(+4)		(-2)
	d	18	1.62				0.86	1.68	16.79	*	(+8)		0
	j	10	2.37				1.25	2.46	17.47		(+4)		(-2)
	v	13	0.87				0.46	0.9	15.96	*	(+17)	*	(-1)

Se change= standard error of change score based on standard deviation (SD) and alpha level from normative data sources.

Normative sources DASS-21 (Crawford et al, 2011), FS (Robertson et al 2015a), SWLS (Vella-Brodrick, Park & Peterson, 2009).

Rcrit= reliable change criterion calculated by Sechange score multiplied by 1.96. Criterion indicates score required for clinical significance.

(+ / -) indicates positive and negative direction of score change. * * = negatively 'tuned' meaning higher scores indicate worsening of symptom.

Table 2 (cont). *Reliable and Clinically Significant Change of outcome variables by participant at post-course (T3) and Follow-up (T4).*

Variable	Subject	T1 Pre-score	T1 M	SD	Normative M	Normative SD	Alpha	SE	Rcrit	C/A	T3 RC	T3 Score	T4 RC	T4 Score
OTHQ (pleasure)	k	3.33	2.45	0.44	3.13	0.89	0.82	0.26	0.52	2.67		(-.33)		(-.17)
	d	2.5		0.02				0.01	0.02	2.46		(-.34)		(-.34)
	j	2.33		0.06				0.04	0.07	2.49		(-.50)		(-.67)
	v	1.66		0.39				0.23	0.46	2.65	*	(+1)	*	(+1.17)
OTHQ (engagement)	k	2.83	3.49	0.33	2.89	0.65	0.72	0.25	0.48	A 4.15		(-.50)		(-.17)
	d	3.16		0.16				0.12	0.23	A 3.81		(-.66)		(+.50)
	j	3.5		0.01				0.01	0.01	A 3.51	*	(+.50)	*	(+.16)
	v	4.5		0.5				0.37	0.73	A 4.49		(-2.34)		(-1)
OTHQ (meaning)	k	3	2.7	0.15	3.21	0.88	0.82	0.09	0.18	2.77	*	(-1.17)	*	(+.66)
	d	2.66		0.02				0.01	0.02	2.71	*	(+.67)	*	(+.50)
	j	3		0.15				0.09	0.18	2.77		0		(-.50)
	v	2.16		0.27				0.16	0.32	2.82		0		(+.17)
PANAS (positive)	k	26	23.25	1.37	35.21	6.85	0.85	0.75	1.47	25.24		(+12)	*	(+4)
	d	20		1.62				0.89	1.74	25.53	*	(+22)		(-7)
	j	24		0.37				0.2	0.4	23.86	*	(+3)		(-5)
	v	23		0.12				0.07	0.13	23.45	*	(+10)		(+1)
*PANAS (negative)	k	19	27.75	4.37	17.29	5.7	0.86	2.31	4.53	23.21	*	(-6)		0
	d	27		0.37				0.2	0.38	27.11	*	(-4)		(+2)
	j	28		0.12				0.06	0.12	27.53		(+5)		(+6)
	v	37		4.62				2.44	4.79	23.06		(-3)		(-6)

Se change= standard error of change score based on standard deviation (SD) and alpha level from normative data sources

Normative data sources OTHQ, PANAS (Vella-Brodrick, Park & Peterson, 2009).

Rcrit= reliable change criterion calculated by Se (standard error) change score multiplied by 1.96.

Criteria C/A cut-off score required for significant change. RC * = reliable and clinically significant change.

(+ / -) indicates positive and negative direction of score change.

Section 1

Qualitative group and facilitator feedback, and quantitative results by module.

Module 1 – Hope Pathways and goals

Participants

This module was well received in general. One participant felt she had already been taught this key concept in other self-help courses.

Facilitator

(L) reported feeling well-prepared, however found it difficult to differentiate between pathways and sub-goals based on examples provided by the group.

Homework task

To follow pathways generated in session to achieve a realistic, achievable and important goal chosen by each participant over the next two weeks.

Personal goals included eating more fruit and vegetables for breakfast, avoiding soft drink, preparing a weekly shopping plan and preparing nutritious snacks to reduce temptation to eat fast food, and engaging in research to locate community based services to join. Overall this task was described as being easy and helpful, and one participant reported work stress had adversely affected her mood and behaviour over the last week.

Quantitative

Post-intervention scores (T2) on the pathways sub-scale of the AHS suggest no reliable changes and clinical significance was only achieved by 50% of the group based on their scores being higher than the normative mean, creating a ceiling effect. Post-course (T3) results suggest 100% reliable change, and 75% clinical change, however in controlling for the ceiling effect only one participant achieved a clinically significant difference in pre-post-course intervention pathways scores.

<u>*Module 2 – Hope Agentic thinking*</u>

Participants

Two participants provided qualitative feedback regarding this module. Both reported finding the concept of neuroplasticity and 'retraining the brain' very interesting and helpful regarding goal achievement.

Facilitator

(L) Reported feeling she should have spent more time reviewing goals and pathways progress from the previous session, however was concerned that this would impact adversely on time spent teaching the current module.

Homework task

Practice managing the mind when it becomes unhelpful for goal achievement using your choice of the cognitive based skills presented in session and designed to boost agentic thinking.

Two participants reported improving motivation to achieve their goals using specific cognitive strategies. These included the idea that 'thoughts aren't facts about you' and choosing to persevere with goal oriented tasks when mood interfered.

The homework task was rated as being very difficult and neither helpful nor unhelpful (n=1) and easy and helpful (n=3). Three participants reported experiencing life events adversely affecting mood and behaviour during the last week. These included stress related to university, physical illness, a sick animal and kitchen renovations.

Quantitative

The Agency intervention resulted in mixed outcomes at T2. Only one participant achieved both reliable and clinically significant improvement in agentic thinking post-module. Post-course, 50% of the group achieved a reliable and clinically significant increase in agentic thinking, and the remaining group members achieved neither.

Module 3 – Strengths training

Participants

All participants reported finding this module interesting and helpful. One group member found it difficult to focus on her strengths as she was more familiar with her weaknesses. Two participants reported feeling happier after the session than when they had first arrived.

Facilitator

(L) Reported feeling challenged by the course content at times as she felt she lacked the more in depth knowledge required to fully assist group members to apply strengths to goals

This may have been due to the power point slides being slightly different to the accompanying manualised treatment protocol.

Homework task

To apply personal strengths derived from the Values In Action questionnaire (VIA) to the planning and completion of a new personal goal.

All participants described using their respective strengths to achieve personal goals. Honesty regarding feedback, humour to cheer up friends and acts of kindness were regularly performed. Appreciation in the form of admiring nature, and bravery requiring assertive communication in the workplace also occurred. Love of learning through research and personal judgement leading to a sense of intense personal pride was also reported. Overall the group rated this task as being very easy and very helpful. Pain and the anniversary of a loved one's death were reported to have impacted mood and behaviour over the last week.

Quantitative

Post-intervention scores (T2) suggest both reliable and clinically significant change for 100% of the group post-intervention, however one group member achieved clinical significance due to a ceiling effect. Post-course strengths scores indicate both reliable and clinically significant gains were maintained by 100% of the group.

<u>*Module 4 – Gratitude training*</u>

Participants

This session was positively received by all participants. One participant aligned gratitude with her own recently discovered strength – appreciation of beauty and excellence. Others described enjoyment through the realisation that they have much to be grateful for in life, and those things they routinely took for granted.

Facilitator

(L) Reported feeling better prepared regarding course content, and better supported by the course materials.

Homework task

To practice gratitude using any of the techniques modelled in session.

All group members reported practicing gratitude over the past week. There was an increased awareness regarding 'good things', and verbal expressions of gratitude were common. In addition one participant kept a gratitude journal, and one regularly contributed to her gratitude jar and used this as a visual reminder that things were going well in life. This task was rated as very easy and very helpful and nil major life events affecting mood and behaviour were reported.

Quantitative

Based on post intervention data (T2), only one participant achieved both reliable and clinically significant improvement and 50% achieved reliable but non-significant changes

based on pre-intervention data. Time 3 (post-course) results are the same as Time 2 due to the timing of the intervention and online post-course feedback as previously discussed.

Section 2

Summary of Quantitative results by outcome variable at post-course (T3)

Mood

Depression

All participants demonstrated reliable changes, and 50% of the group achieved both reliable and clinically significant improvements in depressive symptoms.

Anxiety

Seventy-five percent of participants experienced a lowering of anxiety scores, however only one achieved a clinically significant change and no participants experienced a reliable change in post-course anxiety scores.

Stress

Regarding stress, all participants achieved a reliable decrease in scores, 50% of which were also clinically significant.

PANAS

Positive sub-scale

All participants achieved gains in frequency of positive affect post-course. Seventy five percent of them achieved both reliable and clinically significant improvement.

Negative sub-scale

Regarding frequency of negative mood states, 50% of participants experienced a reliable and clinically significant decrease, 25% no change and the remaining participant a reliable but non-significant change.

Subjective, Psychological and Social Well-Being

Satisfaction with Life

Post-course scores indicated that 75% of the group achieved both reliable and clinically significant improvement in satisfaction with life.

Flourishing

In comparison with baseline data, 75% of the group achieved both reliable and clinically significant change in flourishing scores.

Orientations to Happiness

Pleasure

Data suggests only 25% of the group achieved a reliable and significant improvement in pleasure scores with the remaining 75% achieving reliable but non-significant decreases in pleasure post-course.

Engagement

Given our group mean was higher than the normative mean on this measure, criterion A was used to asses change scores. Results suggest all participants achieved reliable change, with

75% of the group experiencing lower scores, however one participant did achieve a clinically significant improvement.

Meaning

The group achieved mixed results with 25% experiencing reliable and clinically significant improvement, one achieving no change and the remaining 50% achieving mixed results.

Section 3

Summary of exit interview data at twelve weeks (T4)

Summary of module memorability

Participants rated gratitude (n=4), goal setting (n=3), strengths (n=2), and agency (n=2) as the most memorable aspects of the course. All participants were able to describe pathways, strengths and gratitude concepts correctly using their own words, however only 50% of the group could do so regarding agency.

Summary of skills post PPI

All participants reported using pathways and goal setting over the last twelve weeks. Specifically, this skill was used to improve social participation (n=1), weight loss (n=2), and employment seeking (n=1). Gratitude was also popular and was used to express appreciation for a job well done in the workplace (n=1), increase awareness of positive experiences (n=3), and make regular contributions to the gratitude jar (n=2).

All participants demonstrated an awareness and use of their strengths. This skill was applied to seek information (*curiosity*), pay attention to the natural beauty of the environment (*appreciation of beauty and excellence*), amuse others (*humour)*, offering help to friends (*kindness*), and giving authentic feedback (*honesty)*. Over the twelve week period only one participant reported actively applying agentic thinking strategies. Specifically, this involved identifying obstacles to goal achievement and maintaining motivation to actively pursue personal weight loss goals.

Factors reported to interfere with PPI practice
==

All participants reported experiencing some form of life stressor /s over the last twelve weeks. These included environmental factors such as work and financial concerns and moving house as well as personal relationship issues, physical illness, chronic pain and self-reported apathy.

Summary of PPI satisfaction data at follow-up
===

Final participant post-course satisfaction scores (expressed as a percentage), indicated a Mean rating of 96% at follow-up.

Summary of Outcome variables

Mood
====

DASS-21

Depression

At follow-up all participants experienced reliable but non-significant increases in depression scores.

Anxiety

Data suggests a deterioration in the group as 25% achieved both reliable and significant worsening of anxiety, and 75% reliable but non-significant worsening of symptoms.

Stress

There were mixed results regarding improvements and deterioration in stress scores, as 50% achieved reliable change, and 75% lacked clinical significance.

PANAS

Positive sub-scale

At follow-up only one participant had maintained treatment gains, and the remaining 75% achieved mixed results.

Negative sub-scale

Seventy-five percent of the group had experienced negative mood more frequently, achieving reliable but non-clinically significant changes overall.

Subjective, Psychological and Social Well-being

Satisfaction with Life

Follow-up data suggests all satisfaction with life scores had decreased, and 50% of the group had achieved reliable but non-significant change scores.

Flourishing

Data suggest only one participant had maintained treatment gains, with 50% achieving

reliable but non-significant decreases in flourishing, and 25% neither reliable nor significant

changes in flourishing.

Orientations to Happiness

Pleasure

At follow-up, the same individual maintained her treatment gain, achieving reliable and

clinically significant change. The remaining 75% demonstrated mixed results.

Engagement

Twenty five percent of the group had maintained treatment gains, and the remaining group

members achieved mixed results.

Meaning

Data suggests 50% of the group achieved both reliable and significant improvement, and the

remaining 50% achieved neither.

<u>Weight</u>

Overall, the group achieved modest weight loss over the 16 week period. Figure 2 below

presents a visual representation of weight loss course for individual participants at pre-

intervention (T1), post modules (T2-4), and follow-up (T5). Overall, K achieved .2 kg weight

loss, D achieved 5.5kg loss, J lost 4.0kg and V gained 2.5kg over the course of the

intervention. Of particular interest was that 75% of the group continued to lose weight over

the follow-up period resulting in .8kg loss for K, 3.9kg loss for D, and J achieved a 2.8kg loss.

Weight

	Time 1	Time 2	Time 3	Time 4	Time 5
K	95.2	96	95.9	95.8	95
D	127.9	127.1	126.8	126.3	122.4
J	151.4	150.4	148.3	150.2	147.4
V	144.2	144.7	144.9	144.9	146.7
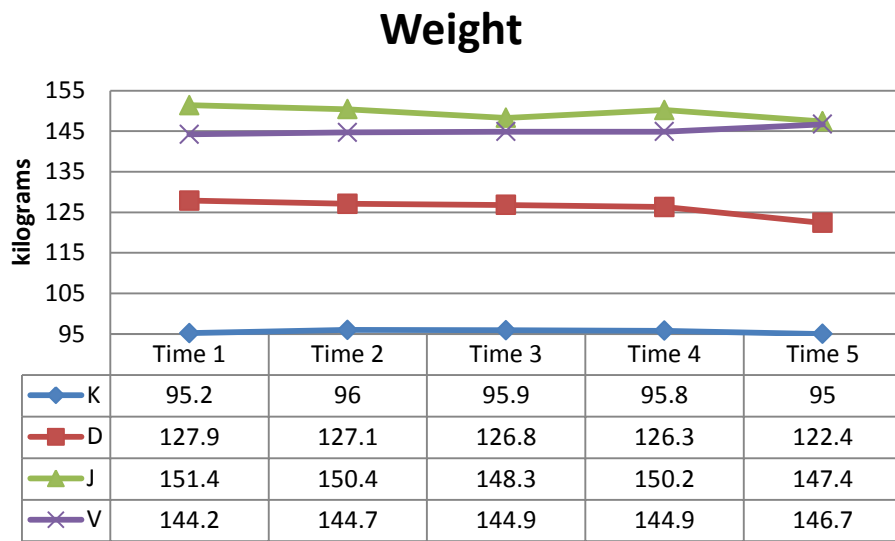
Figure 2. Weight (in kilograms) at pre-intervention (T1), post-module (T2-4), and

follow- up (T5) by participant.

Strengths use

An additional measure was used to compliment the Strength knowledge questionnaire

(SUCKS) to ascertain if strength use changed over the course of the intervention. Results

suggest strength use increased by 10% post-intervention, and the group maintained a 20%

improvement in strength use at follow-up. Individual scores are presented in Figure 3 below.

Strengths Use

	Time 1	Time2	Time 3	Time 4
k	60	50	60	60
d	60	80	70	80
j	50	80	60	90
v	50	50	60	70
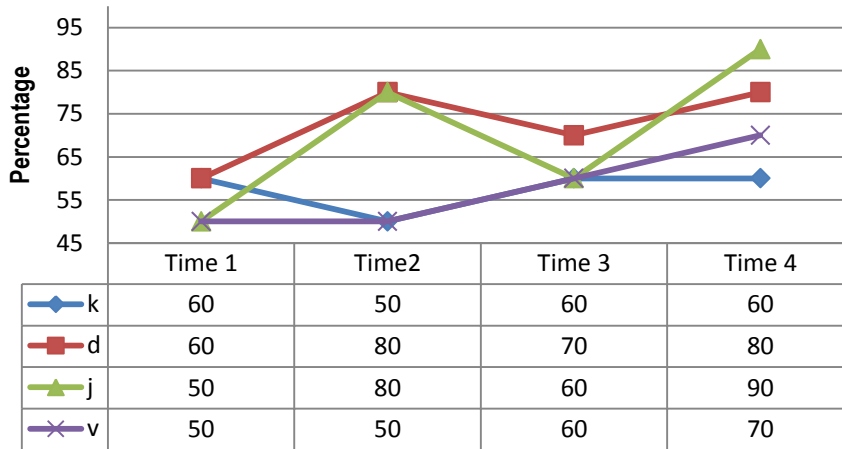
Figure 3. Percentage of strength use at pre-intervention (T1), post-module (T2), post-

course (T3), and follow-up (T4) by participant.

Discussion

Due to the uncontrolled design and self-selection bias, the following results are presented

with caution and in order of primary aims of the study.

Aims One and Two

Evaluation of feasibility, tolerability, teachability and primary outcomes of the positive

psychology intervention for obese women.

Based on 100% attendance at all stages of the sixteen week program, this intervention appears feasible with the target population. Regarding tolerability, participants rated their satisfaction with course modules highly, ranging between 91-100%, with strengths, gratitude and agency modules the most highly rated.

The Pathways module attained the lowest satisfaction score and both qualitative and quantitative feedback suggests this concept was less novel, helpful, interesting and applicable in comparison with the other modules. Participants rated the facilitator as difficult to understand, and this was confirmed by the facilitator's own observations regarding her difficulty identifying the difference between alternate routes and sub-goals, an unforeseen problem during training. Given that half the group already had higher pre-intervention pathways scores than the normative sample, this may indicate familiarity with the concept serving to decrease attention and enthusiasm for the skill being taught. Despite this, one participant did achieve significant and reliable improvement in post-intervention pathways thinking. In addition, the homework task was rated as being 'easy' and 'helpful', and appeared to meet training objectives as varied personal goals including the pursuit of healthier living appeared realistic, achievable and enjoyable for all participants.

The agentic thinking component of hope training was also well received, however participants self-reported a lack of confidence in applying agentic thinking skills, due in part to finding the facilitator a little hard to understand. Despite this, the session was rated as interesting and very helpful, and homework feedback suggested half the group actively

applied a specific cognitive strategy to boost agentic thinking and promote goal directed

behaviour over the last week. A number of physical and environmental stressors were

reported to be present during the post-intervention phase, perhaps explaining why only one

participant achieved a reliable and clinically significant improvement post-intervention.

However post-course (Time 3) data suggests 75% of the group achieved improvements in

agency, 50% of which were both reliable and significant. As previous research suggests

agency may play a mediational role between life purpose and satisfaction (Cotton Bronk, Hill,

Lapsley, Talib, & Finch, 2009) and meta-analytic findings report pathways thinking can

greatly intensify the positive effects of psychotherapeutic interventions beyond agency gains

alone (Snyder & Taylor, 2000), the benefits of cultivating hope in obese populations appears

warranted.

Strength training was also found to be interesting and helpful for the majority of the

group, however one participant found it difficult to acknowledge her strengths comfortably,

as she was more familiar with her weaknesses. This finding mirrors those found in coaching

research suggesting a personal focus on strengths may be perceived to be 'arrogant', and is

more commonly experienced by men (Biswas-Diener & Dean, 2010). The facilitator felt

under-prepared for this session, due in part to unfamiliarity with the strengths and virtues

concepts beyond the training, and she would have liked to have had a deeper knowledge to

better answer group questions. Despite this lack of confidence, 50% of the group reported

feeling 'happier' immediately after the session, an effect similar to that reported by

Seligman et al (2005) regarding transient improvements in post-intervention happiness, also

reported by the placebo controls. Our results suggest both reliable and clinically significant

change for 100% of the group post-intervention, in addition to a ten percent increase in

strengths use. Each participant reported applying signature strengths to achieve personal goals, demonstrating a good understanding and confidence in the application of these techniques. Despite episodes of low mood and physical pain, post course (Time 3) strengths scores indicate both reliable and clinically significant gains were maintained by 100% of the group.

Gratitude training was the final module of the course. The facilitator reported nil difficulties in understanding and teaching this module. In addition, all participants expressed enjoyment and a good understanding regarding what gratitude is, and how it can be practiced. This was evidenced by homework feedback suggesting all participants used at least one technique modelled in session, and no adverse life events were reported over the post-intervention week. Although causal explanations are not possible within this study design, we do wonder if either the gratitude training and / or the combination of skills learnt over the intervention may have promoted a 'broaden and build ' effect contributing to a reduction in reactivity to stressors, as this was the first time the group had reported no adverse events interfering with mood or behavioural activation. Further experimental research would be helpful in isolating specific intervention effects. Regardless, despite increases in gratitude scores for 75% of the group, post-module (Time 2 /3) results suggest only one participant achieved both clinical and reliable change.

Aim Three

Evaluation of mood, subjective, psychological and social well-being and weight outcomes associated with the positive psychology intervention post-course (Time 3).

Mood

Post-course evaluation of mood change indicated some encouraging improvements in mood for most participants. At the end of the well-being intervention, around half the group experienced reliable and significant reductions in depression, and frequency of negative mood states. In addition, the majority achieved reliable and significant increases in frequency of positive mood. Seligman et al (2005) reported a similar improvement in happiness and reduction of negative affect at the same time point (one month), across five happiness interventions delivered online. Regarding anxiety, 75% of the group recorded a decrease in scores, however only one participant achieved both reliable and significant change. Given that multiple stressors including work demands, physical pain and bereavement were reported throughout the intervention period, it was encouraging to see that all participants achieved a reliable decrease in stress scores, with half the group achieving clinical significance. As depression, anxiety and stress are known correlates of increased BMI (e.g. Corica et al, 2008) and both SWB and PWB serve to buffer against these effects (e.g. Diener & Chan, 2011) this is an important finding also worthy of further exploration.

Subjective, Psychological and Social Well-being

The majority of participants achieved significant improvements in broad areas of well-being. Satisfaction with life representing a global cognitive appraisal regarding one's life improved reliably and clinically for the majority of the group. The same outcome was also found for the broad measure of psychosocial flourishing, indicating an improved sense of competence

in a number of important areas including meaningful relationships, self-respect, engagement and interest in life, optimism and feeling capable regarding personal pursuits, over the course of the intervention (Diener et al, 2010).

When specific orientations to happiness were explored the results were mixed. A proportion of our participants originally rated their engagement with life more highly than the comparison group (possibly due to a social desirability or demand effect), however reliable decreases in engagement scores occurred thereafter, perhaps better representing the true mean of the group. Pleasure was also found to decrease reliably over the course of the intervention for the majority, yet as with the engagement domain, one participant did achieve a clinically significant improvement. A sense of deep meaning in life also achieved mixed results, with no change in pre-post scores for 50% of the group, and one participant achieving a reliable and clinically significant improvement. In addition, despite modest changes in all three orientations, treatment gains in subjective well-being including satisfaction with life, increased positive and decreased negative affect were still observed. As research utilising Australian and American samples have found all three orientations to happiness (especially engagement and meaning) are predictive of subjective well-being beyond fixed personality and demographic factors (Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011), it may be pertinent for future research to pursue a more in depth understanding of the relationship between orientations to happiness, the cognitive and affective components of life satisfaction, and body mass index in the service of improving weight loss outcomes.

Weight

Based on data from the weekly weigh-in over the course of the intervention, half of the group lost weight without this variable being targeted directly. Weight loss ranged from zero to five and a half kilograms, however one participant gained 2.5kg by follow up, perhaps due to this participant being younger and having experienced the stress of bereavement (both factors associated with relapse). Of particular interest was that 75% of the group continued to lose weight over the follow up period ranging from .8 to 3.9kg loss. As relapse rates regarding initial weight loss and maintenance are a common problem, this result is encouraging. It serves to provide preliminary support for our hypothesis that the promotion of positive psychological health (including mood, subjective and psychosocial well-being) via interventions such as this, may be necessary for some people to sufficiently broaden and build behaviour conducive to weight loss. Further exploration of these ideas using experimental designs to control for confounds would be a particularly valuable contribution to the obesity and positive psychology literatures.

Aim Four

Evaluation of Intervention impact regarding all variables at twelve week follow up

(Time 4).

Twelve weeks after program completion, participants still rated the intervention very highly, with a mean satisfaction score of ninety-six percent. Areas for improvement were identified and included some aspects of the facilitator's delivery of program content, as well as the need for improved confidence in, and application of Hope, Strengths and Gratitude with

sufficient frequency to ensure new habit formation. That being said participants demonstrated good recall regarding key concepts with gratitude and goal setting being the most memorable aspects of the program. Strengths, Gratitude and the pathways component of hope were practiced by all participants over twelve weeks, however agency practice was only reportedly used by one participant.

The group experienced reliable deterioration in mood including depression, anxiety and frequency of negative affect. In addition, half the group experienced improvement, and the other half deterioration in stress suggesting post treatment gains were not maintained. Similarly mixed results regarding frequency of positive affect were reported with only one person maintaining treatment gains overall. A possible explanation for this deterioration may lie in the external stressors reportedly interfering with skill practice. These suggested both personal and environmental factors including work and financial pressure, physical illness, chronic pain, relationship difficulties, and self-reported apathy. Given apathy suggests a lack of motivation, and only one participant reported using agentic thinking strategies over the 12 week follow up period, perhaps more emphasis could be placed on the need for continued practice as this skill assists the promotion of goal directed behaviour. In addition, as Seligman et al (2005) suggest, the degree to which an individual continues skill based practice serves to mediate intervention efficacy.

Well-being was also subject to deterioration with half the group experiencing reliable but non-significant decreases in flourishing and only one group member maintaining her treatment gains. Life satisfaction was also reliably reduced for 50% of the group. Orientations to happiness scores were mixed, however treatment gains were maintained by

one member of the group in the pleasure and engagement domains. The only domain to improve at follow-up was meaning, as 50% of the group reported a reliable and significant change. Our findings differ from those reported in an Australian study investigating the efficacy of a strengths intervention delivered online as part of a randomised controlled design (Mitchell et al, 2009). The authors reported significant changes in the engagement and pleasure subscales as well as the cognitive components of well-being, however unlike our findings, no significant changes in meaning or mood were detected.

Conclusion

This study appears to be the first to apply a tailored positive psychology intervention to obese women in a non-clinical population. It provides evidence to support the feasibility, tolerability and teachability of the brief program, based on nil attrition and high satisfaction ratings provided by both the facilitator and participants. In addition, preliminary data suggests some obese women may experience short-term improvement in weight loss, depression, anxiety and stress, as well as increases in frequency of positive mood states and improvements in flourishing and satisfaction with life. Strength use and gratitude were the most popular and successful skills taught in terms of achieving reliable and significant change, however this effect was reduced three months later. The current results provide preliminary evidence that Hope, Strengths and Gratitude training may positively impact mood and behaviour and promote short-term goal achievement for some class two and three obese women. Potential benefits include weight loss, and improvements in subjective and psychological well-being, both correlates of good health. Future studies identifying

factors helpful in sustaining initial treatment gains, using larger samples and experimental designs are required to confirm our preliminary findings.

Limitations

There are a number of limitations with the current study including generalisability of results beyond our small group, the uncontrolled study design and possible social desirability and / or demand effects. In addition, we are unable to make specific inferences regarding the well-being intervention as many factors could have contributed to the overall findings. Regardless, we were able to detect reliable and clinically significant changes in a number of variables found to be related to improved health and well-being at both post-intervention and follow up.

Acknowledgements

CHAPTER SEVEN : GENERAL CONCLUSION

Overview

The aim of this thesis was to contribute to our understanding of a) the potential utility of applying positive psychology constructs to the obesity problem, and b) the applicability of a positive psychology intervention to improve well-being in this difficult-to-treat population. Three independent but related studies were undertaken to meet our primary objectives including 1) extending and balancing our current understanding of the 'lived' experience of obesity and weight loss attempts interpreted using a positive psychological framework, 2) exploration of the relationship between key positive psychological constructs, BMI categories and maintenance status and 3) the development and application of a targeted positive psychology intervention (PPI) in the service of promoting weight loss and maintenance via improved well-being. One qualitative, two quantitative and one mixed-methods study were conducted to produce four papers. Results suggest the obese were languishing and that targeted positive interventions including hope, gratitude and strengths may prove viable adjuncts to traditional strategies encouraging weight loss and maintenance behaviour in obese individuals.

Review of Studies

Paper one (study one) was designed to assess the potential usefulness of a positive psychological approach, indicating the presence or absence of well-being constructs in the weight loss experiences of obese Australians. A qualitative analysis (N =22), interpreted with

reference to Subjective Well-being (SWB), Psychological Well-Being (PWB) and Social Well-Being (SLWB) suggested the majority of participants were languishing, that is lacking positive emotions and psychosocial functioning throughout their weight loss experiences. The qualitative design allowed for an authentic and detailed representation of the obesity experience, and highlighted domain specific differences regarding satisfaction with life, within and outside of the weight loss domain. Based on the thematic analysis, five main themes including 1) Obstacles to feeling good about current weight, 2) Obstacles to weight loss, 3) Motivational forces, 4) Strategy and 5) Self-view, and nineteen sub-themes were identified as being prevalent and of interest in this population.

The experience of being obese was described as negative due to low mood, physical discomfort and the impact of weight on valued tasks of daily living. Health problems, self and other sabotage as well as complex environmental demands were found to adversely affect the sustained weight loss efforts required to achieve desired outcomes. In addition, most participants lacked self-confidence and compassion for the self. These findings supported previous qualitative and quantitative research suggesting the experience of being obese was predominantly negative (e.g. Carr, Friedman & Jaffe, 2007; Corica et al, 2008, Thomas et al, 2008). However, the application of the positive psychological framework enabled us to extend and balance this common notion with evidence suggesting well-being related variables were also present. For example well-being outside of the weight loss domain was recognised, as participants also expressed optimism, gratitude, strengths recognition and hope in life. Furthermore, the presence of positive relations with significant others and purpose in life, as well as social coherence

and contribution served to indicate some elements of psychosocial flourishing. The application of the positive psychological framework assisted in the identification of potentially important pathways leading to optimal functioning in the obese.

Paper two (*study two*) served to quantitatively verify and extend our preliminary findings, providing a vehicle through which we could identify potential differences in positive psychological variables including satisfaction with life, positive and negative affect, hope, flourishing, gratitude, self-compassion and strengths across weight categories including normal, overweight and classes one to three obese. Results from this cross-sectional study (N = 260) suggested 19% of the variance in BMI was accounted for by age and well-being variables, with age and agency (the motivational component of hope) the strongest unique predictors. In addition, psychosocial prosperity was indicated by low depression, more frequent positive affect, gratitude, strengths and agency in this obese Australian population. In support of our hypothesis that BMI is negatively related to well-being, the category two and three obese achieved significantly lower scores on flourishing, and the class three obese demonstrated higher depression, and lower scores on agency, gratitude, positive affect and strength use in comparison with the normal and overweight. In line with research suggesting the treatment needs of obese sub-types differ regarding depression (Jansen et al, 2008) and health related quality of life (Kolotkin et al, 2002), our findings also suggest that positive psychological interventions may need to be tailored to meet the specific needs of obese sub-types.

Paper three (study two) extended our previous findings by comparing the well-being characteristics of successful weight maintainers (intentional loss of at least 10% body weight for at least 12 months) and non-maintainers in a national sample, using the same dataset. In consideration of health and well-being data collected in study one, participants appeared to practice behaviours conducive to weight maintenance (Wing & Hill, 2001) including eating regular meals, reducing snacking behaviour and engaging in a wide range of physical activities promoting health and fitness. However potential threats to maintenance were also reported in this study including mindless, comfort and avoidant eating behaviours and a self-reported lack of motivation to continue 'doing the right things'. Cross-sectional findings (N =250) in paper three suggest small differences in well-being as maintainers reported more frequent positive mood states and agentic thinking than non-maintainers (both areas in which the class three obese were found to struggle in paper two). Also consistent with previous literature, maintainers engaged in more frequent diet, exercise and self-weighing behaviours than non-maintainers. The combination of well-being variables accounted for 23% of the variance in BMI, with agency again the strongest predictor. Of interest was the observation that despite 74% of participants being in the normal and overweight ranges, and the majority having chosen realistic goal weights based on BMI, a somewhat higher percentage of maintainers (77%) than non-maintainers (72%) reported dissatisfaction with their current weight. Results indicated that maintainers were no more satisfied or happy in life than their non-maintainer counterparts, perhaps because achieving normal or overweight status was perceived to be more important than weight maintenance status in this study. We also hypothesised that perhaps the physical benefits achieved through maintenance may be insufficient to achieve a state of flourishing, leading to a lack of motivation contributing to relapse in some individuals.

Paper four (*study three*) was based on the preceding series of studies and the idea that strengthening specific predictors of well-being via a targeted positive psychological intervention (PPI) may promote flourishing, and as a by-product of this process facilitate weight loss. Therefore we conducted a pilot study (*N* =4) using a mixed methodology investigating the potential benefits of a brief PPI teaching Hope, Strengths and Gratitude to women with class two and three obesity. Participants were assessed at baseline, after each module, post course and at 3-month follow-up to establish the feasibility, tolerability, teachability and impact of the intervention to influence a number of outcome variables including Subjective, Psychological and Social Well-Being, weight and mood states. The program was successful in terms of being teachable, feasible and tolerable with nil attrition across the sixteen week program, and positive feedback from the participants and facilitator.

Regarding intervention variables specifically, higher than average pre-intervention pathways scores (in comparison with normative data) suggested participants were confident and capable of generating multiple solutions for goal achievement. This was consistent with study one's findings suggesting the obese were very knowledgeable regarding weight loss strategies, however applying them was problematic due to a self-reported lack of motivation among other factors. This was also apparent in the final study as agency (the motivational component of hope) was found to improve post-course, however this effect waned over the twelve week follow-up period. Lack of motivation to practice was attributed to a number of personal and environmental stressors including apathy, work problems, financial concerns, physical illness, chronic pain and relationship issues. As environmental mastery was also found to be lacking in our qualitative analysis (study one), perhaps further research might

focus on improving this area of PWB in obese populations. Given research suggests the cultivation of Hope improves purpose and satisfaction in life (Cotton Bronk et al, 2009) as well as the intensification of the benefits associated with psychotherapeutic interventions (Snyder and Taylor, 2000), Hope may be an important component of future obesity treatments.

Strength training was a successful and popular addition to the positive psychology intervention. Results suggest gains in post-intervention happiness, as well as reliable and clinically significant improvements in strengths for all group members post-course. The group maintained a 20% improvement in strengths use over the twelve week follow-up, perhaps demonstrating personal growth in the PWB domain of self-acceptance as strength training served to cultivate acceptance of the good aspects of the self, rather than an exclusive focus on the bad. As improvements in individual strength use and knowledge have been found to positively influence both hedonic and eudaimonic well-being through improved goal achievement, and to encourage personal growth and meaning in life (Linley, Nielsen, Gillett & Biswas-Diener, 2010; Peterson & Seligman, 2004; Quinlan, Swain and Vella-Brodrick, 2012), strength training appears to be a viable addition to weight loss and maintenance programs.

The practice of gratitude has been associated with improvements in positive affect and cognition, life satisfaction, health and goal attainment (Emmons & Shelton, 2002; Toussaint & Friedman, 2009; Donaldson et al, 2015). Results based on our intervention

suggest gratitude improved post-intervention for half of the participants, and although treatment gains were maintained for those individuals, decreasing levels of gratitude were observed at twelve week follow-up. Based on qualitative data, we do know that gratitude was enjoyable and practiced, however the benefits may have been short lived in response to the presence of significant life stressors. Future research investigating ways to improve the robustness of this aspect of the positive psychological intervention is encouraged in obese populations.

Regarding outcome variables, post-course evaluation of mood suggested half the group experienced reliable and clinically significant reductions in depression, and frequency of negative mood states, and the majority achieved reliable and significant increases in frequency of positive mood. Anxiety and stress were found to decrease in the majority of group members despite the presence of multiple personal and environmental stressors. As depression, anxiety and stress are known correlates of increased BMI (e.g. Corica et al, 2008) this is an important finding, although stress reduction and frequency of positive affect gains were less robust at twelve-week follow-up.

Well-being was represented by a number of measures related to Subjective and Psychosocial functioning. In broad terms participants achieved improvements in life satisfaction (based on the cognitive and mood measures) and psychosocial functioning indicating an improved sense of competence in a number of important areas. These included meaningful relationships, self-respect, engagement and interest in life, optimism

and feeling capable regarding personal pursuits, over the course of the intervention (Diener et al, 2010). However, these effects were not maintained at follow-up. Regarding specific orientations to happiness, results were mixed. The pleasure (SWB) and engagement pathways (flow) did not improve reliably or significantly for the majority of the group, however improvements in meaning (defined as purposeful activity that may transcend individual needs and benefit others, and is associated with PWB) were observed over the course of the intervention for half the group, and maintained at three month follow-up. Given previous research suggests a life found to be higher in all three orientations (especially engagement and meaning) has been found to be more satisfying than a life lower in all dimensions (Grimm et al, 2014; Mitchell et al, 2009; Peterson, Park & Seligman, 2005), future work exploring ways to improve pleasure and engagement pathways to happiness in obese populations may be an important contribution.

Although not targeted directly, weight loss occurred for half the group over the course of the intervention, ranging from 1.2 to 1.6 kg loss. Weight loss continued post-intervention for 75% of the group, ranging between .8 to 3.9kg loss with one participant gaining 1.8kg (perhaps due to bereavement effects). At follow up, in comparison with pre-intervention measures, participants had achieved weight losses between .2 kg to 5.5kg, with one gaining 2.5kg. This finding provided preliminary support for our hypothesis that the promotion of positive psychological health (including mood, subjective and psychosocial well-being) may assist with weight loss and maintenance in obese populations, and although relapse occurred for one participant, our results are encouraging. Further exploration of

these findings using experimental designs to control for confounds and larger samples would be a particularly valuable contribution to the obesity and positive psychology literatures.

In sum, preliminary data suggests that a PPI delivering hope, strengths and gratitude training to obese women may result in short-term improvement in weight loss, depression, anxiety and stress, as well as increases in frequency of positive mood states, flourishing and life satisfaction. As these factors are related to well-being, the strengthening of these variables may serve to optimise biopsychosocial functioning in obese populations. These results provided preliminary support for the idea that 1) positive psychological interventions may be viable adjuncts to traditional strategies in the service of improving outcomes in this often treatment resistant population and 2) promotion of positive psychological health may be necessary to sufficiently broaden and build behaviour conducive to maintainable weight loss success.

A common issue re-presenting across this body of work and the weight loss and maintenance literature in general, is self-reported lack of motivation. This occurs regardless of treatment modality (Teixeira et al, 2004), and in line with previous research, our results suggest negative feelings, frustration, impatience, a sense of pointlessness, self-sabotage and perceived insufficient reward for effort, all impact on the motivation to continue with behaviour necessary for optimal health and happiness (e.g. Thomas et al, 2008). Based on the Broaden and Build model of positive emotions (Fredrickson, 1998, Fredrickson, 2004) we posit that this low mood and resultant lack of motivation serve to promote unhelpful physiological changes and a narrowing of functional behavioural strategies, creating

withdrawal, and actively contributing to the state of languishing in the obese. However, the promotion of positive emotion is thought to facilitate approach behaviour, encouraging a broadening of attention and thought action repertoires serving to motivate behaviour, and build enduring personal resources (Fredrickson, 1998; Fredrickson, 2002; Fredrickson, 2008). Although causal relationships could not be inferred from our current data, there was some evidence to suggest our PPI (at least in the short-term), assisted in the building of positive resources required for health compliant behaviour, happiness and well-being in class two and three obese women. Further research investigating ways in which skill based practice can continue into the maintenance phase of weight management would also be a valuable contribution to the obesity and positive psychology literatures.

Limitations

The present thesis suffered from a range of methodological issues common to other studies bound by time and financial constraints. As already outlined in the four papers, self-reported height and weight, social desirability / demand effects and correlational analyses served to impact generalisability and validity of the results. In addition, due to practical considerations we chose to pursue SWB as opposed to PWB in the second study serving to narrow our focus and perhaps miss important confirmatory data in relation to Ryff and Keyes (1995) six dimensions of Psychological Well-Being. Regarding the final study, the small number of participants and uncontrolled design meant we were unable to make specific inferences regarding the well-being intervention, as many factors could have contributed to the overall results, impacting the validity and generalisability of our findings.

Future Directions

A number of future directions are suggested to build on our preliminary results. Regarding study one, our qualitative investigation suggests potential areas in which the obese were languishing from a PWB perspective included self-acceptance, environmental mastery, personal growth and sense of autonomy. Future research could verify the presence or absence of these dimensions of well-being across weight categories and maintenance status in obese populations using quantitative methodologies. Social well-being was also found to be lacking, evidenced by the absence of self-reported social actualisation, integration and acceptance. Again this could be verified using quantitative methods, and interventions could be designed to strengthen this aspect of well-being if found to be relevant for obese populations. Regarding study two, the cross-sectional design and Australian sample of convenience limited generalisability of results, however future studies utilising larger, international samples could replicate and extend our initial findings. Finally, our PPI delivered a novel 'package' of positive psychological variables to a very small, gender biased sample of category two and three obese individuals over a short follow-up period. It would be ideal to run a long term Randomised Controlled Trial testing the effects of each component of the program on outcomes in the service of better understanding the mediators and moderators of the effects observed in our study, to validate this approach. We also wonder if the program could work with males, larger groups and the overweight and class one obese. In addition, would the initial treatment gains observed throughout the intervention be maintained if the program was combined with behavioural strategies including diet and exercise? We hope this body of work will inspire new research

combining the positive psychology, obesity and maintenance literatures in the service of promoting well-being, and improved health outcomes in obese populations.

Concluding Statement

The present thesis acknowledges the World Health Organisation's definition of mental health as:

> …a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community. (WHO, 2001, p.1).

The primary aim was to balance and extend our current understanding of weight loss and maintenance from a positive psychological perspective in the service of improving health and well-being in the obese. The research undertaken was based on the premise that if the obese were languishing in life, a focus on promoting well-being as opposed to symptom reduction may be a novel, and useful approach for this traditionally resistant population. The resultant body of work served to meet our three primary objectives including 1) extending and balancing our current understanding of the 'lived' experience of obesity, interpreted using a positive psychological framework, 2) exploration of the relationship between key positive psychological constructs, BMI categories and maintenance

status and 3) the development and application of a targeted positive psychology intervention (PPI) in the service of promoting weight loss and maintenance via improved well-being. Based on the triangulation of results between and within studies, a number of findings have the potential to promote health and well-being in the obese.

First, the recognition that the state of languishing may be an important contributor to the failure of current biopsychosocial approaches. Second, this finding has implications for current treatment foci as obese populations may require a more balanced approach considering the health and psychological benefits of well-being to promote flourishing, and successful weight loss and maintenance behaviour. Third, the treatment needs of languishing individuals may differ across weight categories requiring specifically targeted interventions to achieve successful outcomes. Fourth, the understanding that the health benefits achieved via the recommended 10% weight loss may be insufficient as a stand-alone measure of success in weight maintenance, and the facilitation of flourishing in this population may serve to assist with motivation to continue with maintenance behaviour, and reduce risk of relapse. Finally, specifically targeted Positive Psychological Interventions (PPI) promoting well-being may provide short-term improvements in the positive mental health, happiness and weight loss outcomes of community based, category two and three obese, making PPI's a potentially useful adjunct to current treatment strategies. Further investigation and refinement of these preliminary findings may promote sustainable weight loss and reduce the burden of disease and illness currently experienced by six hundred million individuals worldwide.

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Appendix 1

Positive Psychology Applied to Weight Loss

PUBMED LOGIC GRID

Quality of Life[Mh] OR quality of life[tiab] OR BMI [Mh]] OR BMI [tiab] OR Happiness[Mh] OR happiness[tiab] OR well being[mh] OR well being[tiab] OR life satisfaction[mh] OR life satisfaction[tiab] OR positive emotion[mh] OR positive emotion[tiab] OR hope[mh] OR hope[tiab] OR psychological well being[mh] OR psychological well being[tiab] OR authentic happiness[mh] OR authentic happiness[tiab] OR optimism[mh] or optimism[tiab] OR subjective well being[mh] OR subjective well being[tiab] OR optimal functioning[mh] OR optimal functioning[tiab] AND Obesity[mh] OR obesity[tiab] OR diet therapy[Mh] OR diet therapy[tiab] OR Obesity/drug therapy[Mh] OR Obesity/drug therapy[tiab] OR Obesity/epidemiology[Mh] OR Obesity/epidemiology[tiab] OR Obesity/genetics[Mh] OR Obesity/genetics[tiab] OR Obesity/prevention and control[Mh] OR Obesity/prevention and control[tiab] OR Obesity/psychology[Mh] OR Obesity/psychology[tiab] OR Obesity/statistics and numerical data[Mh] OR Obesity/therapy[Mh] OR Obesity/therapy[tiab]OR Body Weight/adverse effects[Mh] OR Body Weight/adverse effects[tiab] OR Body Weight/prevention and control[Mh] OR Body Weight/prevention and control[tiab] OR Body Weight/psychology[Mh] OR Body Weight/psychology[tiab]

PSYCINFO LOGIC GRID

DE "Positive Psychology" OR TI 'positive psychology' OR DE "BMI" OR TI 'BMI' DE"Psychology" OR DE "Optimism" OR DE "Positivism" OR DE "Well Being" OR DE "Optimism" OR DE "Positivism" OR DE "Well Being" OR AB "Positive Psychology" OR TI "Psychology" OR AB "Psychology" OR TI "Optimism" OR AB "Optimism" OR TI 'Positivism" OR AB "Positivism" OR TI "Well Being" OR AB "Well Being" OR DE "life satisfaction" OR TI "life satisfaction" OR AB "life satisfaction" OR DE positive emotions OR TI "positive emotions" OR AB"positive emotions" OR DE happiness OR TI "happiness" OR AB "happiness" OR DE hope OR TI"hope" OR AB"hope" OR DE psychological well being OR TI "psychological well being" OR AB "psychological well being" OR DE authentic happiness OR TI "authentic happiness" OR AB "authentic happiness" OR DE subjective well being OR TI "subjective well being" OR AB "subjective well being" OR DE optimal functioning OR TI "optimal functioning" OR AB optimal functioning"

 AND

DE Weight Loss OR DE "Body Weight" OR DE "Weight Control" OR DE "Weight Gain") OR MM "Obesity" OR MM "Obesity (Attitudes Toward)") OR(DE "Obesity" OR DE "Overweight" OR DE "Body Mass Index" OR DE Diets OR TI"diets" OR AB"diets" DE Obesity (Attitudes Toward) OR TI "Obesity" OR AB "Obesity" OR TI "Overweight" OR AB "Overweight" OR TI "Weight Loss" OR AB "Weight Loss" OR TI "Weight Control" OR AB "Weight Control" OR TI "Weight Gain" OR AB "Weight Gain" OR TI "Attitudes Toward Obesity" OR AB "Attitudes Toward Obesity"

APPENDIX 2a

Researchers at The University of Adelaide are seeking volunteers aged between 18 and

65 years to participate in a study exploring the weight loss experiences of obese adults.

If you are currently obese (Body Mass Index 30 or above) and have actively tried to lose

weight in the past 12 months, you are invited to participate in this research. Please

contact the primary researcher Sharon Robertson on _____ for further information.

APPENDIX 2b

Screening Questions

1. Are you actively trying to lose weight at the moment?   Y   N

2. If not, did you make a weight loss attempt in the last 12 months?   Y   N

3. Are you familiar with the term Body Mass Index? Would you be willing for me to check your BMI is in the correct range for participation in this study? (BMI calculator)

4. Do you have a medical / psychological condition that is directly responsible for your weight condition?

   This includes;

   - Pregnancy   Y   N
   - Prader-Willi Syndrome   Y   N
   - Bardet-Biedl Syndrome   Y   N
   - Cohen Syndrome   Y   N
   - MOMO syndrome   Y   N
   - Depression, Anxiety, Stress, (other)   Y   N

'This research is designed to explore your experience of weight loss. We need to understand more about this so we can design better programs to help people lose weight and keep it off for good. Would you be willing to participate in a face to face interview with me (researcher) to answer some questions about your most recent weight loss experience? It is anticipated interviews will last between 1-2 hours and can take place either at the University of Adelaide, or if more comfortable in your own home. Interview sound will be recorded however you will remain anonymous'.   Y   N

Name:

Address:

Contact Number:

Interview location: University   Home

Preferred day / time...

'An information pack will be sent to you detailing your rights as a potential participant in this research. Please read this through carefully so you can make an informed choice. I will call you shortly to arrange a time for the interview to take place. Thank you for your interest'.

THE UNIVERSITY *of* ADELAIDE

Participant Information Sheet

'Flourishing or Languishing? The Well-Being of obese, community based Australians

You are invited to participate in research designed to improve our understanding of the weight loss experience.

This research has become necessary because despite our best efforts to try to assist with weight loss, relapse is still a big problem. We would like to find better ways to assist people to not only lose a healthy amount of weight, but to keep it off in the long-term. To help us achieve this we need to know more about what the experience of weight loss is like from your perspective.

Participation in this study is completely voluntary, and you have the right to withdraw at any time. If you do choose to withdraw please be aware that any future treatment or involvement in weight loss programs or research will not be prejudiced in any way.

If you do choose to become involved you will be asked to participate in an interview with the primary researcher. The interview process is informal and can take place either at a room located at the University of Adelaide, or your own home if more convenient. The interview can last between 1 and 2 hours and will consist of a basic weight loss history and a series of open questions designed to explore your most recent weight loss experience. To assist with interview transcription and note keeping, the interviewer will record the whole interview on a digital recorder, however please be assured this information will be treated in a confidential manner.

While information gained during the study may be published, you will not be identified and your personal results will not be divulged. Confidentiality will be ensured by keeping all research data in a locked cabinet, in a locked room in the Psychology Department, at the University of Adelaide.

There are no direct benefits to you for participating, however we hope our results will help researchers design better weight loss interventions to assist with long-term weight loss.

Should you want to obtain the results of this study, or require any further information either before, during or after the study you may contact the primary researcher Sharon Robertson directly at sharon.robertson@adelaide.edu.au

Alternatively, the primary supervisor Dr Matthew Davies will also be available to answer any questions you may have about this research. He can be contacted directly on 83035259 or m.davies@adelaide.edu.au

This study has been approved by the University's Human Research Ethics Committee. Please see the attached independent complaints form if you wish to speak to someone not directly involved.

Thank you for taking an interest in this research, your participation is appreciated,

Sharon Robertson

PhD Candidate

University of Adelaide.

APPENDIX 2d   HUMAN RESEARCH ETHICS COMMITTEE

STANDARD CONSENT FORM

FOR PEOPLE WHO ARE PARTICIPANTS IN A RESEARCH PROJECT

1.   I, …………………………………………………………*(please print name)*

   consent to take part in the research project entitled:

   'Flourishing or Languishing? The Well-Being of community based obese Australians'

2.   I acknowledge that I have read the attached Information Sheet entitled:
   ……………………………………………………………….....................................

3.   I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.

4.   Although I understand that the purpose of this research project is to improve the quality of medical care, it has also been explained that my involvement may not be of any benefit to me.

5.   I have been given the opportunity to have a member of my family or a friend present while the project was explained to me.

6.   I am aware that a digital recording of my interview will be made for transcription purposes, and that this will remain the property of the University of Adelaide.

7.   I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.

8.   I understand that I am free to withdraw from the project at any time and that this will not affect medical advice in the management of my health, now or in the future.

9.   I am aware that I should retain a copy of this Consent Form, when completed, and the attached Information Sheet.

   …………………………………………………………………………………..

            (signature)   *(date)*

WITNESS

I have described to   ………………………………………………..*(name of subject)*

the nature of the research to be carried out. In my opinion she/he understood the explanation.

Status in Project**:** ………………………………………………………………….

Name: ………………………………………………………………….

   …………………………………………………………………………..

            (signature)   *(date)*

APPENDIX 2e

The University of Adelaide

Human Research Ethics Committee (HREC) *This document is for people who are participants in a research project.*

CONTACTS FOR INFORMATION ON PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The following study has been reviewed and approved by the University of Adelaide Human Research Ethics Committee:

Project Title:	'Flourishing or Languishing? The Well-being of obese, community based Australians'
Approval Number:	Project no. H-240-2011 RM no. 0000012409

The Human Research Ethics Committee monitors all the research projects which it has approved. The committee considers it important that people participating in approved projects have an independent and confidential reporting mechanism which they can use if they have any worries or complaints about that research.

This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see http://www.nhmrc.gov.au/publications/synopses/e72syn.htm)

1. If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the project co-ordinator:

Name:	**Dr Matthew Davies Lecturer and Principal Supervisor, School of Psychology**
Phone:	**08 83035259**

2. If you wish to discuss with an independent person matters related to:

   - making a complaint, or

   - raising concerns on the conduct of the project, or

   - the University policy on research involving human participants, or

   - your rights as a participant,

   contact the Human Research Ethics Committee's Secretariat on phone 83036028

APPENDIX—WEIGHT MANAGEMENT PLAN FOR ADULTS

This plan is intended to be a flexible tool. Some parts may be completed by a practice nurse.

Patient details

Name...

....

DOB.................................. Sex...

Address ....

....

....

....

Suburb...

State .... Postcode ....

Phone ....

Occupation ....

....

Marital status ....

Dependents...

....

....

....

....

File Number...

Date of Assessment ....

1. Obesity assessment

Weight measurement can be a sensitive issue. Discuss with patient whether measurements should be taken. If so, when, and whether patient wishes to be told results of the measurement.

Height.. m

Weight..kg

Body mass index...kg/m^2

Waist circumference...cm

2. Co-morbidity assessment
(where indicated)

Blood pressure

(systolic) .... (diastolic) ....

Fasting plasma analysis

Triglyceride ....

Cholesterol..

Insulin...

Glucose ....

Presence of *acanthosis nigricans*   ☐ Yes   ☐ No

Liver function tests

Details ....

....

Endocrinology tests

Details ....

....

Orthopaedic problems   ☐ Yes   ☐ No

Details ....

....

Respiratory conditions   ☐ Yes   ☐ No

Details ....

....

Gastrointestinal problems   ☐ Yes   ☐ No

Details ....

....

Reproductive morbidities   ☐ Yes   ☐ No
(e.g. menstrual irregularities)

Details ....

....

Heat intolerance   ☐ Yes   ☐ No

Details ....

....

Excess sweating   ☐ Yes   ☐ No
and intertrigo

Details ....

....

Breathlessness on exertion   ☐ Yes   ☐ No

Details ....

....

Tiredness   ☐ Yes   ☐ No

Details ....

....

Musculoskeletal discomfort   ☐ Yes   ☐ No

Details ....

....

3. 'Readiness to change' assessment

a) Has the patient sought   ☐ Yes   ☐ No
   weight loss on his or
   her initiative?

....

....

....

b) On a scale of 1-10 (10 = high), how important
   is it for him/her to lose weight?

....

....

....

c) On a scale of 1-10 (10 = high), how confident is
   s/he that s/he can lose weight if s/he really tries?

....

....

....

d) What stage of readiness to change
   is the patient at?

   ☐ pre-contemplation   ☐ action

   ☐ contemplation   ☐ maintenance

   ☐ decision   ☐ transformation

e) How much weight does the patient
   expect to lose? What other benefits
   does s/he anticipate?

....

....

....

4. Risk factor assessment

Weight history of parents and siblings

....

....

....

Weight history of individual

....

....

....

Life stage pregnant, menopausal, ageing

....

....

....

Life events e.g. stress, marriage, giving up sport,
quitting smoking

....

....

....

Family, work and social environments

....

....

....

Medical conditions and treatments
(including dosage)

....

....

....

Ethnicity

....

5. Lifestyle assessment

Eating breakfast	☐Yes	☐No
Organised meals times	☐Yes	☐No
Always hungry	☐Yes	☐No
More than 3 snacks between meals	☐Yes	☐No
High intake of soft drinks or fruit juice	☐Yes	☐No
More than 2 hours of television viewing and other small-screen entertainment per day	☐Yes	☐No
Eating in front of TV	☐Yes	☐No
Is food used as a reward?	☐Yes	☐No
Is food used as a comfort?	☐Yes	☐No
Smoker	☐Yes	☐No

a) Type of work, degree of activity

....

....

b) Current physical activity

....

....

....

c) Smoking history

Current   ☐Yes   ☐No

No. per day ....

Ex-smoker   ☐Yes   ☐No

Time quit...

d) Type of food eaten at meals, between meals

Breakfast..

....

Lunch..

....

Dinner...

....

Snacks...

....

6. Level of intervention

Assessment of main causes of overweight:
(comment on one or more)

a) Diet..

....

b) Physical activity.....................................

....

c) Stress..

....

d) Psychological issues...............................

....

e) Other...

....

....

Recommend diet diary?

☐ Yes   ☐ No   ☐ Not at this satge

Recommend pedometer?

☐ Yes   ☐ No   ☐ Not at this satge

Is specialist assessment required?

☐ Yes   ☐ No   ☐ Not at this satge

Referral to...

....

....

7. Management strategy

Was advice given to:

Reduce dietary energy intake   ☐ Yes   ☐ No

Details..

....

....

....

Increase planned and   ☐ Yes   ☐ No
lifestyle activity

Details..

....

....

....

Decrease sedentary behaviour   ☐ Yes   ☐ No

Details..

....

....

....

Modify behaviour and   ☐ Yes   ☐ No
habits associated with eating
and activity

Details..

....

....

....

8. Goals

a) Short term

....

....

....

....

....

....

a) Long term

....

....

....

....

....

....

....

9. Care team

Name..

Contact details...

Speciality...

Name..

Contact details...

Speciality...

Name..

Contact details...

Speciality...

Referral: ☐ Yes   ☐ No

Name..

....

10. Review

Review date...

Agreed to...
(Patient's Signature)

THE UNIVERSITY of ADELAIDE

THE DON'T 'WEIGHT' TO BE HAPPY STUDY

YOU ARE INVITED
TO PARTICIPATE IN A STUDY LOOKING AT HOW HAPPINESS AND WEIGHT MAY BE LINKED

Specifically, we need to understand how good feelings like joy and fulfillment might impact body size.

To discover how this works in real life we need your help!

This research is important because obesity is increasing and our current strategies to help people lose weight aren't as effective as we'd like.

We need to understand more about what helps to keep people in a healthy weight range, and how to minimise weight regain

Eligible participants are:

- Australian residents
- Aged between 18 and 65
- Not currently pregnant
- Not suffering from a metabolic condition relating to weight

If you would like to participate, you can do this entirely online by answering a number of simple questions. This should take no longer than 20 minutes to complete.

Thank you for taking an interest in our research, your participation is very much valued.

Sharon Robertson
PhD Candidate
University of Adelaide

The Don't "Weight" to be Happy Study
www.dontweighttobehappy.com
The University of Adelaide

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The University of Adelaide

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Participant Information and agreement

Don't 'Weight' to be Happy!

You are invited to participate in a study looking at how happiness and weight may be linked.

Specifically we need to understand how good feelings like joy and fulfillment might impact body size.

To discover how this works in real life we need your help.

This research is important because obesity is increasing and our current strategies to help people lose weight aren't as effective as we'd like. We need to understand more about what helps to keep people in a healthy weight range, and how to minimise weight regain.

If you are happy to participate you can do this entirely online by answering a number of simple questionnaires - this should take no longer than 20 minutes to complete.

Participation in this study is completely voluntary, and you have the right to withdraw at any time. While information gained during the study may be published, you will not be identified and your personal details will not be divulged. Your information will be anonymous and held on an encrypted server until the data is downloaded and analysed. The researcher is the only person who will view the information you have provided.

There are no direct benefits associated with your participation in this study. You can obtain results of this study once it becomes available for publication by leaving us an e-mail contact address.

This study has been approved by the University of Adelaide's Human Research Ethics Committee. If you have any queries or concerns about the project please contact either Dr Matthew Davies, (principal supervisor) matt.daviesweb@gmail.com or Sharon Robertson, (PhD candidate) sharon.robertson@adelaide.edu.au Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study, or your rights as a participant you may contact the Secretary, Human Research Ethics Committee on 8313 6028, email hrec@adelaide.edu.au

The University also provides an independent complaints protocol if required.

In indicating your acceptance below, you have given your consent to participate in this study.

Thank you for taking an interest in our research, your participation is very much valued.

Sharon Robertson

PhD Candidate

The University of Adelaide

*1. I Agree to Participate in the 'Why Weight for Happiness Study'

○   Yes

○   No

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Don't 'Weight' to be Happy!

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Q1 | Edit Question ▼ | Edit Question Logic (5) | Move | Copy | Delete

1. To determine if you can be included in our research we need to ask you a few screening questions.

Some medical conditions are directly responsible for weight gain. Please read the following list and check the box next to the condition if it currently relates to you.

- ◯ Pregnancy
- ◯ Prader-Willi Syndrome
- ◯ Bardet-Biedl Syndrome
- ◯ Cohen Syndrome
- ◯ MOMO Syndrome

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Q2 | Edit Question ▼ | Move | Copy | Delete

2. How old are you in years?

[   ]

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Q3 | Edit Question ▼ | Edit Question Logic (1) | Move | Copy | Delete

3. Are you an Australian resident currently residing in Australia?

⚪ YES

⚪ NO

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Q4 | Edit Question ▼ | Move | Copy | Delete

4. Please indicate the following:

Height without shoes in Centimetres (cm) [   ]

Current weight in Kilograms (Kg) [   ]

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Q5 | Edit Question ▼ | Add Question Logic | Move | Copy | Delete

5. Please indicate your gender

⚪ Male   ⚪ Female

+ Add Question ▼ | Split Page Here

Q6 | Edit Question ▼ | Add Question Logic | Move | Copy | Delete

6. Please describe your current relationship status

⚪ single   ⚪ divorced / separated

○ dating   ○ widowed

○ de facto / married

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Q7 [Edit Question ▼] [Add Question Logic] [Move] [Copy] [Delete]

7. Where are you from?

○ Australia   ○ Europe   ○ Asia   ○ Africa   ○ America   ○ Other

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Q8 [Edit Question ▼] [Add Question Logic] [Move] [Copy] [Delete]

8. Are you currently

○ Employed   ○ Unemployed   ○ Retired   ○ Pensioner   ○ Other

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Q9 [Edit Question ▼] [Add Question Logic] [Move] [Copy] [Delete]

9. Please indicate your answer to the following:

Have you intentionally lost at least 10% of your total body weight, and kept it off for the last 12 months?

○ Yes   ○ No

10. Are you currently trying to lose weight?

◯ Yes ◯ No

11. Please indicate what strategies you are using to lose / maintain your current weight;

☐ Dietary change only

☐ Exercise change only

☐ Diet and exercise

☐ Stomach banding

☐ Medication from Doctor

☐ None

Other (please specify)

[   ]

12. How would you rate your current weight?

◯ Extremely Underweight   ◯ Slightly Overweight

◯ Very Underweight   ◯ Very Overweight

◯ Slightly Underweight   ◯ Extremely Overweight

◯ Normal Weight

13. Please indicate how regularly you weigh yourself;

◯ Never

- ○ 1-2 times per year
- ○ Monthly
- ○ Weekly
- ○ Daily

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Q14 | Edit Question ▼ | Move | Copy | Delete

14. What would be your ideal weight in kilos?

[   ]

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Q15 | Edit Question ▼ | Move | Copy | Delete

15. Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item. Please be open and honest in your responding.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
In most ways my life is close to my ideal.	○	○	○	○	○	○	○
The conditions of my life are excellent.	○	○	○	○	○	○	○
I am satisfied with life.	○	○	○	○	○	○	○
So far I have gotten the important things I want in life.	○	○	○	○	○	○	○
If I could live my life over, I would change almost nothing.	○	○	○	○	○	○	○

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282

Q16 Edit Question ▼ Move Copy Delete

16. This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate to what extent you feel this way in the present moment. Use the following scale to record your answers.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. interested	○	○	○	○	○
2. distressed	○	○	○	○	○
3. excited	○	○	○	○	○
4. upset	○	○	○	○	○
5. strong	○	○	○	○	○
6. guilty	○	○	○	○	○
7. scared	○	○	○	○	○
8. hostile	○	○	○	○	○
9. enthusiastic	○	○	○	○	○
10. proud	○	○	○	○	○

Q17 Edit Question ▼ Move Copy Delete

17. Continued.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
11. irritable	○	○	○	○	○
12. alert	○	○	○	○	○
13. ashamed	○	○	○	○	○
14. inspired	○	○	○	○	○
15. nervous	○	○	○	○	○
16. determined	○	○	○	○	○
17. attentive	○	○	○	○	○
18. jittery	○	○	○	○	○
19. active	○	○	○	○	○
20. afraid	○	○	○	○	○

Q18 Edit Question ▼ | Move | Copy | Delete

18. Using the scale as a guide, please indicate how much you agree with the following statements.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I have so much in life to be thankful for	○	○	○	○	○	○	○
2. If I had to list everything that I felt grateful for, it would be a very long list.	○	○	○	○	○	○	○
3. When I look at the world, I don't see much to be grateful for.	○	○	○	○	○	○	○
4. I am grateful to a wide variety of people.	○	○	○	○	○	○	○
5. As I get older I find myself more able to appreciate the people, events and situations that have been part of my life history.	○	○	○	○	○	○	○
6. Long amounts of time can go by before I feel grateful to something or someone.	○	○	○	○	○	○	○

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284

19. Read each item carefully. Using the scale shown below, please select the response that best describes you.

	Definitely False	Mostly False	Somewhat False	Slightly False	Slightly True	Somewhat True	Mostly True	Definitely True
1. I can think of many ways to get out of a jam	○	○	○	○	○	○	○	○
2. I energetically pursue my goals	○	○	○	○	○	○	○	○
3. I feel tired most of the time	○	○	○	○	○	○	○	○
4. There are lots of ways around any problem	○	○	○	○	○	○	○	○
5. I am easily downed in an argument	○	○	○	○	○	○	○	○
6. I can think of many ways to get the things in life that are important to me	○	○	○	○	○	○	○	○
7. I worry about my health	○	○	○	○	○	○	○	○
8. Even when others get discouraged, I know I can find a way to solve the problem	○	○	○	○	○	○	○	○
9. My past experiences have prepared me well for my future	○	○	○	○	○	○	○	○
10. I've been pretty successful in life	○	○	○	○	○	○	○	○
11. I usually find myself worrying about something	○	○	○	○	○	○	○	○
12. I meet the goals that I set for myself	○	○	○	○	○	○	○	○

[+ Add Question] [▼]

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20. The following questions ask you about your strengths, that is, the things that you are able to do well or do best.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
1. I know my strengths well.	○	○	○	○	○	○	○
2. Other people see the strengths that I have.	○	○	○	○	○	○	○
3. I know the things I am good at doing.	○	○	○	○	○	○	○
4. I have to think hard about what my strengths are.	○	○	○	○	○	○	○
5. I know when I am at my best.	○	○	○	○	○	○	○
6. I always try to use my strengths.	○	○	○	○	○	○	○
7. I achieve what I want by using my strengths.	○	○	○	○	○	○	○
8. Using my strengths comes naturally to me.	○	○	○	○	○	○	○
9. I find it easy to use my strengths in the things I do.	○	○	○	○	○	○	○
10. I am able to use my strengths in lots of different ways.	○	○	○	○	○	○	○

21. Indicate how much of your time do you spend using your strengths?

○	○	○	○	○	○	○	○	○	○	○
00%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

287

+ Add Question ▼

Q22   Edit Question ▼   Move   Copy   Delete

22. Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

Almost Never   Almost Always

1. When I fail at something important to me I become consumed by feelings of inadequacy.
○   ○   ○   ○   ○

2. I try to be understanding and patient towards those aspects of my personality I don't like.
○   ○   ○   ○   ○

3. When something painful happens I try to take a balanced view of the situation.
○   ○   ○   ○   ○

4. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
○   ○   ○   ○   ○

5. I try to see my failings as part of the human condition.
○   ○   ○   ○   ○

6. When I'm going through a very hard time, I give myself the caring and tenderness I need.
○   ○   ○   ○   ○

7. When something upsets me I try to keep my emotions in balance.
○   ○   ○   ○   ○

8. When I fail at something that's important to me, I tend to feel alone in my failure
○   ○   ○   ○   ○

9. When I'm feeling down I tend to obsess and fixate on
○   ○   ○   ○   ○

287

everything that's wrong.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.	○	○	○	○	○		
11. I'm disapproving and judgmental about my own flaws and inadequacies.	○	○	○	○	○		
12. I'm intolerant and impatient towards those aspects of my personality I don't like.	○	○	○	○	○		

Q23 Edit Question ▼ Move Copy Delete

23. Below are eight statements with which you may agree or disagree. Using the scale provided, indicate your agreement with each statement by choosing the appropriate score

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. I lead a purposeful and meaningful life.	○	○	○	○	○	○	○
2. My social relationships are supportive and rewarding.	○	○	○	○	○	○	○
3. I am engaged and interested in my daily activities.	○	○	○	○	○	○	○
4. I actively contribute to the happiness and well-being of others.	○	○	○	○	○	○	○
5. I am competent and capable in the activities that are important to me.	○	○	○	○	○	○	○
6. I am a good person and live a good life.	○	○	○	○	○	○	○
7. I am optimistic about my future.	○	○	○	○	○	○	○
8. People respect me.	○	○	○	○	○	○	○

Q24   Edit Question ▼   Move   Copy   Delete

24. Read each item carefully. Using the scale shown below, please select the number that best describes how you think about yourself right now. Please take a few moments to focus on yourself and what is going on in your life at this moment.

	Definately false	Mostly false	Somewhat false	Slightly false	Slightly true	Somewhat true	Mostly true	Definitely true
1. If I should find myself in a jam, I could think of many ways to get out of it.	○	○	○	○	○	○	○	○
2. At the present time, I am energetically pursuing my goals.	○	○	○	○	○	○	○	○
3. There are lots of ways around any problem that I am facing now.	○	○	○	○	○	○	○	○
4. Right now I can see myself as being pretty successful.	○	○	○	○	○	○	○	○
5. I can think of many ways to reach my current goals	○	○	○	○	○	○	○	○
6. At this time, I am meeting the goals that I have set for myself.	○	○	○	○	○	○	○	○

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Nearly finished!!

Q25   Edit Question ▼   Move   Copy   Delete

25. Please read each statement and indicate how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any

289

statement.

	Never	Sometimes	Often	Almost Always
1. I found it hard to wind down.	○	○	○	○
2. I was aware of dryness of my mouth.	○	○	○	○
3. I couldn't seem to experience any positive feeling at all.	○	○	○	○
4. I experienced breathing difficulty (e.g, excessively rapid breathing).	○	○	○	○
5. I found it difficult to work up the initiative to do things.	○	○	○	○
6. I tended to over-react to situations.	○	○	○	○
7. I experienced trembling (e.g, in the hands).	○	○	○	○
8. I felt that I was using a lot of nervous energy.	○	○	○	○
9. I was worried about situations in which I might panic and make a fool of myself.	○	○	○	○
10. I felt that I had nothing to look forward to.	○	○	○	○

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Q26 | Edit Question ▼ | Move | Copy | Delete

26. Continued.

	Never	Sometimes	Often	Almost Always
11. I found myself getting agitated.	○	○	○	○
12. I found it difficult to relax.	○	○	○	○
13. I felt down-hearted and blue.	○	○	○	○
14. I was intolerant of anything that kept me from getting on with what I was doing.	○	○	○	○
15. I felt I was close to panic.	○	○	○	○

16. I was unable to become enthusiastic about anything.	○	○	○	○
17. I felt I wasn't worth much as a person.	○	○	○	○
18. I felt that I was rather touchy.	○	○	○	○
19. I was aware of the action of my heart in the absence of physical exertion (e.g, heart missing a beat).	○	○	○	○
20. I felt scared without any good reason.	○	○	○	○
21. I felt that life was meaningless.	○	○	○	○

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FINISHED!

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Q27   Edit Question ▼   Move   Copy   Delete

27. Thank you for completing the Don't 'Weight' to be Happy! survey.

If you would like to enter the draw to win a $100 Coles/Myer voucher then please provide an e-mail address we can contact you on. The winner will be randomly selected and contacted after all data has been collected. GOOD LUCK! :)

Email Address: [   ]

+ Add Question ▼   Split Page Here

Q28   Edit Question ▼   Move   Copy   Delete

28. If you would like to receive the results of this study in the future, please provide your

291

e-mail address below.

Email Address:

+ Add Question ▼ | Split Page Here

Q29 Edit Question ▼ | Add Question Logic | Move | Copy | Delete

29. How did you hear about our study?

○ Newspaper

○ Social Media (facebook)

○ Doctor / G.P. Surgery

○ Word of mouth

Other (please specify)

+ Add Question ▼

Appendix 4a

The Happiness Study

Researchers at the University of Adelaide are seeking volunteers to take part in a new study aimed at improving happiness and quality of life. If you are female, have a BMI 30 and above, are between 18 and 65 years and willing to be involved over a 16 week period, please call Sharon on _____

Appendix 4b

The 'Happiness Study' Telephone Screening Questions

Name_____

Contact phone number _____

1. What is your current age? _____

2. What is your height in cm? _____ weight in kilos _____? BMI _____

3. Are you aware of any current or potential medical and / or psychological condition that may be causing / contributing to your obesity? (e.g.pregnancy, genetic condition/s, medication effects?)

4. This study is looking at how well particular 'happiness techniques' can help to improve positive mood, pleasure and engagement in life over an 18 week period.

a) As a participant you will be required to attend a small group based training session of approximately one hour, weekly, over a four week period beginning in September. Are you available during this time?   Y   N

b) Would you be available for a post course follow up interview approximately twelve weeks after the course completion.   Y   N

c)Do you have access to a computer in order to complete online measures and submit homework tasks?   Y   N

Congratulations, you currently meet the basic requirements for inclusion in our study. In order to assist with final selection, are you willing to fill out some final screening questionnaires online?   Y   N

If Yes please provide your best e-mail contact address
_____

And proceed to the following link 'www.happinesstudy.com to complete final selection measures.

Final selection will take place in December. You will be contacted and advised of your status and the full study protocol then. You will also have the option of being placed on the waitlist if you are initially unsuccessful in the first round of selection.

APPENDIX 4C   **Human Research Ethics Committee (HREC)**

CONSENT FORM

1. I have read the attached Information Sheet and agree to take part in the following research project:

Title:	The 'Why weight for happiness Intervention study'
Ethics Approval Number:	H-2013-093 RM 17755

2. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.

3. I have been given the opportunity to have a member of my family or a friend present while the project was explained to me.

4. Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to me.

5. I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.

6. I understand that I am free to withdraw from the project at any time.

7. I agree to the interview being audio/video recorded.   Yes ☐   No ☐

8. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

Participant to complete:

Name: _____ Signature:_____ Date:_____

Researcher/Witness to complete:

I have described the nature of the research to _____
                                        (print name of participant)

and in my opinion she/he understood the explanation.

Signature: _____ Position: _____ Date:_____

THE UNIVERSITY of ADELAIDE

Session 1

[Slide 1 welcome]

Sharon- will welcome the group, thanking them for their participation and introduce herself as the lead researcher. She will then introduce Liesl as the therapist / facilitator. Liesl is a very experienced clinical psychologist who will be in charge of running each session. Sharon will explain that this study has been designed to teach some positive psychological skills scientists have found to be important for improving health and happiness. This is the first time this program has been run in Australia, so you are a very important part of the obesity research community. Given that you are a small group, your attendance for the 4 sessions, as well as the individual follow up in 12 weeks time, is of the utmost importance to this study. Completers of the full course will receive a certificate of achievement to recognise your contribution to the science community. So, if problems arise regarding your attendance we ask that you contact us on _____ as soon as possible, as this will have a major impact on the group and this study.

My (sharon's) role is to collect some information from you each session. This will include some questionnaires and a summary of how you've been going practicing your new skills over the last week. You will learn a new skill each session, and at the end you get to report on how you think Liesl went teaching you, and what you thought of the session. I will then collect this information at the end of the session and it is confidential, only I have access to the answers you give. I will also do a quick BMI check, privately in the comfort of a separate room and this is also confidential. So all this may seem a little complicated for now, but we will make sure you are comfortable with the process.

Now does anyone have any questions for Liesl or myself?

We will start you off with the questionnaires pack (Sharon to hand out confidential envelopes and questionnaires) with the following instructions. 'Take your time, please ensure you write your name on the top left corner and answer as honestly as you can. Once you have finished please place in the envelope provided and I will collect all the data at the end of the session'. I will collect this at the end of the session. I will now hand over to Liesl.

Session1   **Hope- Pathways and Goals training**

The pursuit of happiness has been critically important to people for centuries. Aristotle once said 'Happiness is the meaning and purpose of life, the whole aim and end of human existence'

Traditionally, clinical psychology has focused almost exclusively on disorder and disease, and whilst helpful, has only explored one half of the problem. As a response to this traditional approach, Positive Psychology has begun to explore the concept of happiness and asks the question 'can we help people to flourish?- that is to lead a meaningful, pleasurable and engaged life. This does *not* mean viewing life through rose coloured glasses or Pollyannaism, happiness defined this way is both realistic and achievable.

Much research has shown that there are many benefits in learning positive psychology based tools to increase your happiness. Before we reveal the benefits, I'd like to ask you (group) what kinds of things do *you* think make us happy human beings?

(i.e. money, ownership, relationships, winning lotto, faith, kindness etc)

Research asking this very question suggests the following;

[Slide 2 GRAPHS]

Money- if you live in a democratic society, living above lower class brings little additional happiness. Even lottery winners have been found to return to their pre-win level of happiness, indicating the effects of life events on happiness are transient.

Youthfulness (Age)- there is a very small relationship between age and happiness. Even when we predict we will be happier in the future, we tend not to be.

Relationships- we are genetically hard wired to need to be connected with others. The better mutual understanding, caring and supportive the relationship, the happier we will be.

[Slide 3]

What's good about being happy?

Research has found that the benefits of Happiness include;

- Longer life, healthier immune systems, lower incidence of heart disease and strokes

- Greater productivity, better relationships, more co-operative and generous behaviour

[Slide 4]

How can I practice Happiness?

Research suggests that happy people DO the following;

- Enjoy and nurture social relationships

- Are comfortable expressing gratitude / thankfulness

- Are kind / helpful to others

- Practice optimism about the future

- Live life in the present moment and savour life's pleasures

- Make physical activity a habit

- Use and focus on their strengths

- Are committed to lifelong goals and personal values

Regarding todays module, we will be focusing on working towards creating meaningful goals using a positive psychological tool based on Hope theory. This technique has been used to achieve happiness, and improve health.

Please bear in mind, those of you who are motivated and put in the effort will benefit the most from positive psychological interventions.

[Slide 5 piechart of intentional activity]

So even if 50% of your happiness is genetically determined- THE REST IS UP TO YOU!!!!

As Aristotle suggests 'Happiness depends on ourselves'.

So, now that I have introduced you to some of the science behind Happiness research, I'd like to teach you about Hope- a key component in Positive Psychology and the first module you will be trained in.

RATIONALE   HOPE-GOALS & PATHWAYS

 [Slide 5 Hope definition and benefits]

Hope is defined as 'goal directed thinking in which people produce effective routes to their goals, stay sufficiently motivated and successfully handle any barriers blocking those goals'. Lots of studies have shown that hope is an important ingredient for improving your happiness, health, self-esteem, motivation and life satisfaction. Now some of you may believe that hope is a feeling, in our study, we want to encourage you to 'think' in hopeful ways.

ASK GROUP- so just out of interest, have there been times when you have achieved your goals in the past? [Invite them to share this experience]. Have there been times when goals haven't been reached? What do you think contributed to this?? OR Liesl give a good example of a goal for the group?? Some of you may already be quite successful in planning and achieving your goals, if this is the case you will do very well in this skill building exercise.

If you have had trouble in the past with achieving weight loss or general goals, it is usually because one of the 3 components required for success may have been under developed or even missing from your experience. This is where HOPE comes in. So, what are the ingredients for success?

When you are choosing a goal to work on;

1. It must be an important goal for <u>you </u>(not other people), it must have a valued outcome.
2. It can't be too easy, or too hard to achieve, but somewhere in the middle.
3. It must be realistic

For this exercise, I want you to think about a goal that you can achieve over the next two weeks.

HAND OUT GOALS AND PATHWAYS WORKSHEETS

Demonstrate the procedure using your values and goals sheet on the powerpoint slide as an example for the group, remember some group members may require individual assistance- the primary focus is to;

> [Slide 6] Properties of goals worksheet

1. Come up with a realistic, achievable and important goal that can be attained over the next two weeks
2. Identify potential obstacles to goal attainment
3. Identify alternative pathways to goal attainment
4. Encourage flexibility and confidence in their approaches

In this session, we will be learning how to set realistic goals, use 'pathways' thinking to identify different routes for success and avoid obstacles that may impact on our success.

Skill Demonstration [Slide 7] Liesl's example

Feel free to ask questions at any time during the session. We will use my example as a guide. Take a look at your handouts you will see a list of domains, meaning different areas of life that people have said may be *interesting to them. You will also notice an importance*

column with a rating from 0-10. Have a go at rating how important each life domain is to you with 0 = not important at all, up to 10 = the most important area for you. Are there any questions? Remember, there is no right or wrong answer, please just rate how important each life domain is for you at the moment.

We will now rate how satisfied we are with these areas of our life. Again, we ask you write down a number between 0 and 10 representing how satisfied you are with that area of your life. Remember 0 = not at all satisfied up to 10= very satisfied. Are there any questions?

Please complete your satisfaction ratings now.

I would now like you to look at your scores, are there any domains that you rated as important but were not very satisfied with? (If not, get the person to choose one domain they would be willing to work on anyway). These are the areas we would like to target with our hopeful thinking and goal achievement strategies.

Pick one area that interests you and you are not completely satisfied with, list this as your selected domain.

Now, think about what it is about this area of your life that might need to change in order to increase your satisfaction with it.

PAUSE- DOES ANYONE NEED ASSISTANCE WITH THIS?

Based on this information, formulate a goal that is realistic (not too hard, not too easy), is important to you and is <u>achievable over the next 2 weeks</u>

Okay, so you now have a specific goal to work on, we are going to focus on finding some pathways to help you reach your goals. Remember, Pathways are the thoughts about *how* we can achieve our goals, and are the second ingredient in successful goal planning.

Ask yourself, what am I prepared to do in the service of working towards achieving this goal?- for example I have chosen to work on my health and fitness, because I was unhappy

with my level of exercise. So I have chosen 'doing more exercise as my goal'- but for this to work I need to really be clear about the What, When and How I am willing to achieve this.

[Slide 8] pathways

PATHWAYS EXAMPLE

Take some time to work out *how* you are going to achieve your goal, *what* you will need to do and *when* you will be doing it.

E.G. 'To meet my goal of more exercise I will aim to increase my exercise over the next two weeks by walking, in the morning so I can end up doing at least 20 minutes each walk.

Please let me know if you need some assistance with this important step.

We now ask you to rate how confident you are about achieving your goal, how much motivation you have towards achieving this goal currently, and assessing what it is about you that will help you to achieve this goal. For me, I am very confident, have about medium motivation and use my own discomfort and family support to help me achieve my goal.

One of the really good things about this exercise is that because *you* have chosen your goals, and decided *how* you are going to achieve them yourself, you are much more likely to want to follow through and this leads to achievement.

Okay, so now we are going to take a look at some of the things that may possibly get in the way of your achievements. It's much better to think about them now rather than after you have started working towards your goal.

[Slide 9]

Potential Obstacles

Thinking about things that might get in the way of your progress isn't being negative, it helps us to be realistic and predict what we may need to be more flexible about doing, to achieve our goals. In my case if my baby doesn't sleep through the night, I may be too tired

to exercise in the morning. If I don't have a back-up plan, then I will probably give up on the walk and feel guilty about it all day. So, another pathway to achieving my goal could be making some time in the afternoon after my husband comes home so I can walk then, or I could take the baby with me in the pusher. This more flexible way of thinking increases my chances of achieving my goal because I now have a plan B.

Another way to test how realistic your goal and pathways are is to imagine what a trusted friend or family member might say about how you are going to achieve your goal- imagine what advice they may offer, for example my husband may suggest that taking the baby with me will slow me down too much, so on days when this may become necessary, I could arrange a baby sitter, or go on an afternoon walk when my husband can then look after the baby for me. At the end of the day, it's whatever I can do to ensure I follow a helpful pathway so I can get the benefit of goal achievement in a valued area of my life.

[Slide 10]

Finally, we know goals are much more likely to be successful if they are broken down into a series of steps- this way it is easier to keep on track and it feels good to move towards achieving your goal.

For my goal- I have chosen to get fitter by walking every day for 20 minutes in the morning. Now I know that at my current level of fitness, I wouldn't be able to do this straight away so I have to break my goal into smaller, easier pieces to avoid getting frustrated with myself and perhaps giving up on an important goal. My goal steps are:

1. Have my gym clothes and runners ready next to the bed each day
2. In week 1, I will set the alarm for 6am, every second day until I get used to getting up this early!
3. I will walk for 10 minutes every second day to start with, then gradually increase the amount of time I walk (measured in minutes) until I reach 20 minutes, every second day

4. In week 2 I will then get up at 6am every day and walk for 20 minutes.

Take a bit of time to work through this part, it's like creating the roadmap required to get to your destination as quickly as possible. I will come to you individually to help you with this part of the training if you need some extra help.

[Slide 11]

You will notice we have included some valuable Do's and Don'ts to help you with this task over the next couple of weeks. The 'making yourself accountable to someone else' has been scientifically proven to increase the likelihood of achieving your goals. So have a read of these as often as you can to concretise what we have been learning this week.

[Slide 12] Final summary

Okay, Congratulations, you have now completed the skills based part of session 1, designed to help you identify your goals, increase hope based pathways thinking to achieve those things that are important to you and improve your health and happiness.

As you are aware, practice makes perfect, so your homework over the next week, is to practice using the pathways that you have now broken down into smaller pieces, and work towards achieving your goal. We have a special folder for you to place your session notes in so you can remind yourself about the skill you have learned in the session today. It also has the emergency number to contact the research team if you are experiencing difficulties with attendance. Again we would like to remind you how important you are to our research, and your continued attendance is very important for the rest of the group and for us to achieve our own research goals.

Please bring your folder with you to each session from now on because we will keep adding new information to them each week.

I will now ask you to fill out the session evaluation form while it is still fresh in your mind, and once you have finished place in the envelope along with your questionnaires for Sharon to collect. She will also need to do your BMI check before you go. Once again, congratulations on your participation in session 1, I look forward to working with you next session on Agency thinking, a great tool shown to increase motivation and happiness.

Session 1   Hope- Goals and Pathways Thinking

Generating Hope through goals and pathways thinking

Domain	Importance (0-10)	Satisfaction Rating (0-10)
1. Academic	5	5
2. Family	10	9
3. Leisure	7	6
4. Personal Growth	9	9
5. Health / Fitness	**10**	**5**
6. Romantic relationships	10	10
7. Social relationships	9	8
8. Spirituality	10	10
9. Work / Career	6	6

My selected domain is: **Health & Fitness**

What would I have to do to increase my satisfaction in this domain?

 Doing more exercise and getting physically fitter

My goal is :

Is my goal realistic?   **Yes**   No   (please circle)

Is my goal achievable?   **Yes**   No

Is my goal important to me?   **Yes**   No

Pathways I can use to achieve my goals

My Goal: To increase my exercise over the next 2 weeks by walking, in the morning at least 20 minutes every day

1. What is my pathway to the goal?- how do I intend to get there?

   To increase my exercise over the next 2 weeks by walking, in the morning at least 20 minutes per walk.

2. How much do I believe I can do this?   (circle)

   A little   medium   **very much**

3. How much motivation do I have now to accomplish my goal?

   A little   **medium**   very much

4. What makes me think I can achieve my goal?

   Remembering how uncomfortable my clothes feel at the moment will motivate me to change this and good family support

5. What might get in the way of achieving my goal?

   My baby not sleeping during the night and me being tired.

6. What will probably happen if I keep on this pathway to my goal?

   I will start to skip my exercise session and get frustrated with my situation

7. What might happen if I change my pathway?

   Probably more likely to achieve my goal, it's ok to be a bit flexible in the service of achieving the goal.

8. What can my back up plan be if this happens?

Making some time in the afternoon after my husband comes home so I can walk then, or I could take the baby with me in the pusher. This more flexible way of thinking increases my chances of achieving my goal because I now have a plan B.

9. What would I tell a friend if she came up with my goal and my pathways?

My husband may suggest that taking the baby with me will slow me down too much, so on days when this may become necessary, I could arrange a baby sitter, or go on an afternoon walk when my husband can then look after the baby for me.

10. Goals work best when they are broken down into smaller steps. How would your goal look in a number of steps?

1. **Have my gym clothes and runners ready next to the bed each day**
2. **In week 1, I will set the alarm for 6am, every second day until I get used to getting up this early!**
3. **I will walk for 10 minutes every second day to start with, then gradually increase the amount of time I walk (measured in minutes) until I reach 20 minutes, every second day**
4. **In week 2, I will then get up at 6am every day and walk for 20 minutes.**

11. How much do I believe I will accomplish my goal now? (circle)

A little   medium   **very much**

Goals and Pathways Checklist to help keep you on track

DO

1. Break a long-term goal into steps or sub-goals

2. Focus on starting a distant goal by concentrating on the first sub-goal

3. Practice making different routes to your goals and select the best one

4. In your mind, rehearse what you will need to do to achieve your goal

5. Mentally rehearse what you will do should you encounter a blockage

6. Blame your strategy, not yourself if your goal cannot be reached

7. If you need a new skill to reach your goal then LEARN IT!

8. Ask someone to hold you accountable (this is very effective!!)

9. Be willing to ask for help if you don't know how to get to your goal

DON'T

1. Think you can reach your big goals all at once

2. Be too quick in producing routes to your goals

3. Be rushed to select the best or first route to your goal

4. Overthink the idea it must be the one 'perfect' route to your goal

5. Stop thinking about other strategies when one doesn't work

6. Blame yourself as untalented or stupid when a strategy fails

7. Be caught off guard when one approach doesn't work

8. Get into friendships where you are encouraged or even praised for not coming up with your own solutions to your problems
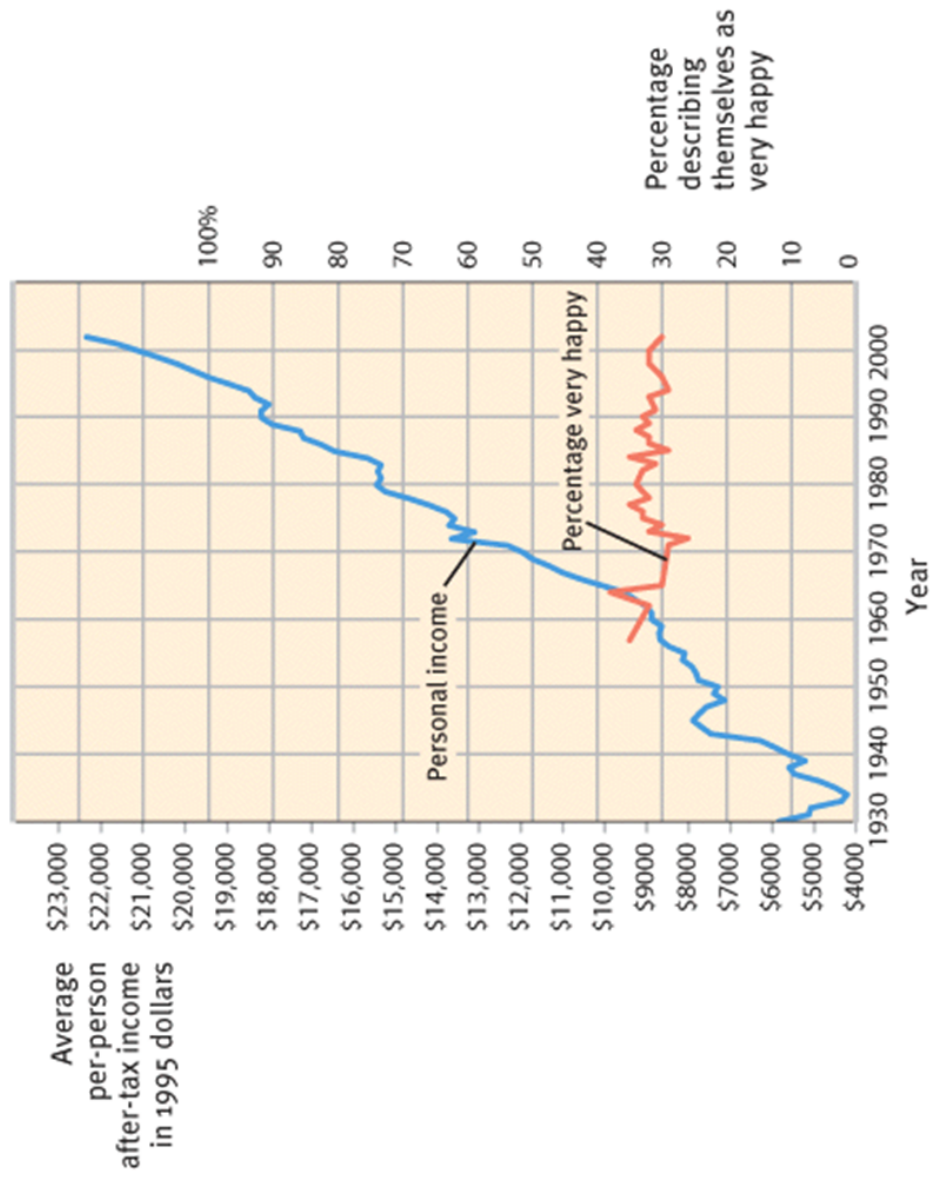
Welcome

To the

Why Weight for Happiness Study

Money?

Age?

There is only a very small relationship between age and happiness. Even when we predict we will be happier in the future, we tend not to be.

Relationships?

We are genetically hard wired to need to be connected with others. The better mutual understanding, caring and supportive the relationship, the happier we will be.
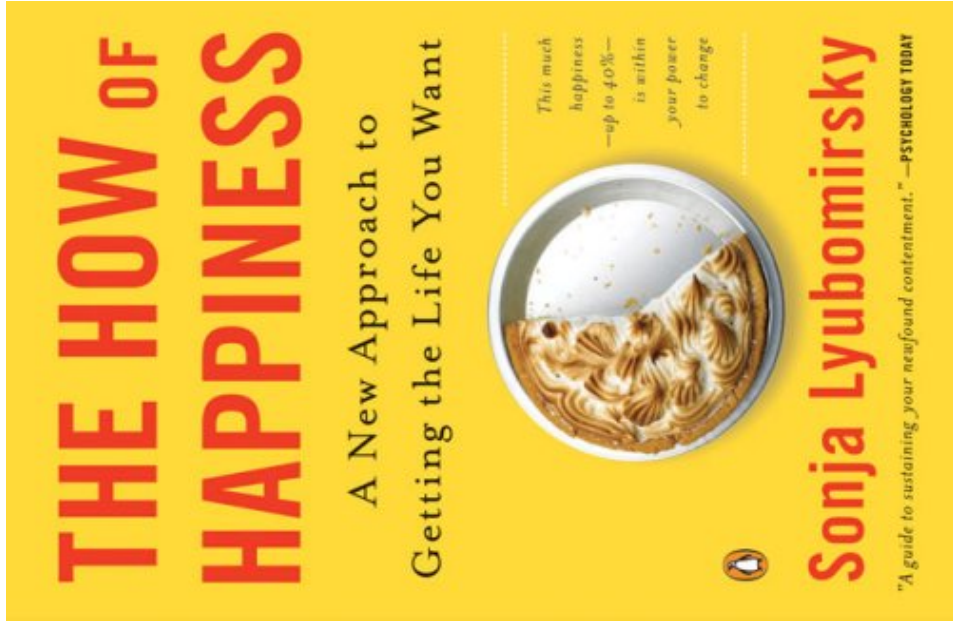
Why bother being happy?

- Better Health
  - Happy people live longer, have better immune functioning, and show a lower incidence of heart disease and stroke

- Happy people are also:
  - More productive
  - Have more fulfilling relationships
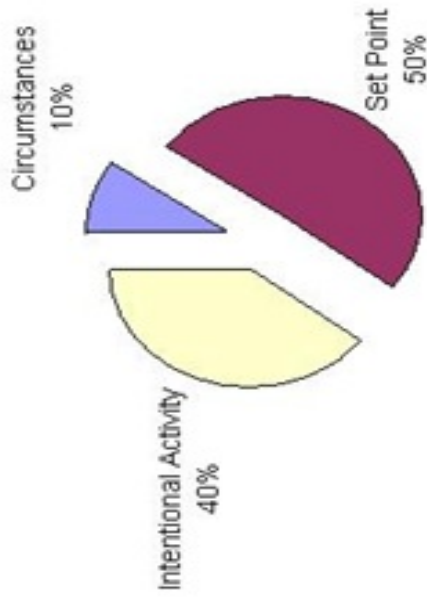 - Are more cooperative and generous

314

How can I practice Happiness?

- Enjoy and nurture social relationships
- Be comfortable expressing gratitude / thankfulness
- Be kind / helpful to others
- Practice optimism about the future
- Live life in the present moment and savour life's pleasures
- Make physical activity a habit
- Use and focus on your strengths
- Commit to lifelong goals and personal values

Can we change our Happiness?

Factors That Determine Our Happiness

Circumstances
10%

Set Point
50%

Intentional Activity
40%

THE HOW OF HAPPINESS

A New Approach to
Getting the Life You Want

*This much
happiness
—up to 40%—
is within
your power
to change*

Sonja Lyubomirsky

"A guide to sustaining your newfound contentment." —PSYCHOLOGY TODAY

Happiness & Hope

Hope = goal directed thinking in which people produce effective routes to their goals, stay sufficiently motivated and successfully handle any barriers blocking those goals'

Hope leads to

Happiness, Health, Self-esteem, Motivation and Improvements in life satisfaction

Goals & Pathways thinking= HOPE

- Come up with a realistic, achievable and important goal that can be attained over the next two weeks

- Identify potential obstacles to goal attainment

- Identify alternative pathways to goal attainment

- Encourage flexibility and confidence in your approaches

Generating Hope through Goals & Pathways thinking

Generating Hope through goals and pathways thinking

Domain	Importance (0-10)	Satisfaction Rating (0-10)
1. Academic	5	5
2. Family	10	9
3. Leisure	7	6
4. Personal Growth	9	9
5. Health / Fitness	**10**	**5**
6. Romantic relationships	10	10

Developing pathways to reach my goals

- **My Goal:** To increase my exercise over the next 2 weeks by walking, in the morning at least 20 minutes every day

- **My Pathway:** To increase my exercise over the next 2 weeks by walking, in the morning at least 20 minutes per walk.

Managing potential obstacles

If my baby doesn't sleep through the night, I may be too tired to exercise in the morning. If I don't have a back-up plan, then I will probably give up on the walk and feel guilty about it all day.

Breaking goals down into smaller pieces

- Have my gym clothes and runners ready next to the bed each day

- In week 1, I will set the alarm for 6am, every second day until I get used to getting up this early!

- I will walk for 10 minutes every second day to start with, then gradually increase the amount of time I walk (measured in minutes) until I reach 20 minutes, every second day

- In week 2 I will then get up at 6am every day and walk for 20 minutes.

Goals and Pathways Checklist to help keep you on track

- **DO**
- Break a long-term goal into steps or sub-goals
- Focus on starting a distant goal by concentrating on the first sub-goal
- Practice making different routes to your goals and select the best one
- In your mind, rehearse what you will need to do to achieve your goal
- Mentally rehearse what you will do should you encounter a blockage
- Blame your strategy, not yourself if your goal cannot be reached
- If you need a new skill to reach your goal then LEARN IT!
- **Ask someone to hold you accountable (this is very effective!!)**
- Be willing to ask for help if you don't know how to get to your goal

Goals and Pathways Checklist to help keep you on track

- **DON'T**
- Think you can reach your big goals all at once
- Be too quick in producing routes to your goals
- Be rushed to select the best or first route to your goal
- Overthink the idea it must be the one 'perfect' route to your goal
- Stop thinking about other strategies when one doesn't work
- Blame yourself as untalented or stupid when a strategy fails
- Be caught off guard when one approach doesn't work
- Get into friendships where you are encouraged or even praised for not coming up with your own solutions to your problems

CONGRATULATIONS

- You have completed module 1 of this course

- Identified a valued life domain and goal

- Generated multiple pathways to achieve your goal

- Planned for obstacles

- Your homework is to apply what you have learned to your goal, and work towards achieving it over the next 2 weeks.

Session Notes 2   **Hope - Agentic Thinking**

[Welcome Back slide 1]

Sharon

Welcome back everyone. I hope you have had a good week. Now, you will probably remember that I need to collect some data from you at the beginning of each session. So, first here are the forms evaluating how you went practicing last session's skill, and then if you can fill out the normal questionnaire pack and place these things in the envelope provided. I will re-visit towards the end of session today for your evaluation sheets and a quick weight check before you leave. So, good to see you all again, I'm sure you will enjoy the new positive psychology skill that Liesl will introduce to you today.

Liesl

Now, does everyone have their folder with them? (If not, grab the spare). Now just a little refresher from last week to get you back into the swing of things. Last week we learned about how to think in more hopeful ways, because science suggests that when we do this we can greatly improve our happiness, health and quality of life, so much so that this may assist you to lose weight.

Now some of you may already be experiencing the effects of more hopeful thinking, that is more energy and wanting to do more, and this is because when you use your pathways to start achieving your goals, you feel good.

ASK GROUP: Just as a little sneak peek at how you are travelling so far, does anyone have any thoughts they might like to share about how they have been going with their pathways and goal work so far? i.e. Did you find this helpful over the last week? Encourage the group to share what they have done in the pursuit of their individual goals- what was helpful? What got in the way? Did anyone have to use their backup plan / pathway?

Also ask if anyone *still struggles to find sufficient motivation*. This is common, so you can use this to advertise that you have a great technique that is related to Hope, to help them <u>generate the motivation they need to attain their goals.</u>

Agentic thinking

[Slide 2 hope = pathways + agentic thinking]

Rationale-We have already introduced you to the concept of Hopeful thinking.
Remember that Hope is an important ingredient for your health and
happiness. You may not know that scientists have found that Hope has 2 parts.
In the first session we learnt about Part 1, generating meaningful goals and the
pathways thinking we can use to achieve those goals. You have spent the last
week working on mastering pathways thinking. This week we are learning
about Part 2, that is agency, or agentic thinking. This skill is responsible for
motivating you to stay on your pathways *long enough* to achieve your goals.

Now this is a very important skill to have. How many times have you, or people
you know complained about not staying enthusiastic enough to keep going
with something? It could be weight loss, study, finding a better job etc. In our
research we have discovered that the skill of agentic thinking is better
developed in people who are successful at long-term weight loss.

So we believe this is an important scientific breakthrough, because the more

goals you achieve, the more successful you feel, the happier and healthier you

are. We can teach you how to achieve this success for yourself.

Skill Demonstration

Okay, so based on your own experiences, what typically gets in the way of you

achieving important goals for yourself?

ASK GROUP: Compile verbal list about common obstacles to progress e.g.- it

gets hard, weather changes, mood changes, lack of support etc.

What do all of these obstacles have in common?...... They represent not just

the 'thing' (e.g. the obstacle -weather, mood) but more importantly *how we*

think about the thing!!!!

I would now like to introduce you to your mind.

The Mind [slide 3 thoughts, feelings and behaviour link]

As you can see, your brain is very complex- it has ensured that we have survived long enough as a species to live at the top of the food chain. However, what you may not know is that the brain is still hardwired in exactly the same way it was since cave man times. So even though our environments have changed dramatically since those days, our biology has not. This has created alot of problems for modern man as we now have many more triggers from the environment to process. It is very important to understand that the brain is hardwired to pay more attention to threatening things in the environment (as these generally get you killed!) rather than the positive things that may also be happening (because these tend to look after themselves). So, what effect does this have for us overworked, stressed out human beings?

To understand from a psychological perspective why this happens, you need to understand the relationship between thinking, feeling and doing. Consider the following example;

[Slide 4 and 5 thoughts, feelings, behaviour link]

Thought: I can't go for a walk now, it's raining (mind perceives threat)

Emotion: anger (thought leads to emotion)

Behavioural response: so I'll just stay home instead (way to avoid threat),

I now feel guilty for not having achieved my goal of getting fitter, so I will eat a packet of Tim Tams to make me feel better! (unsuccessful outcome)

In the 'Bermuda Triangle' of the mind…… your goals may get lost!!

 Given we can't escape our hardwiring, we need to understand that the mind isn't the enemy here, it is simply doing what it has been programmed to do, not only biologically, but by YOU and your life experiences so far. So if you really want to change your behaviour, you are going to have to teach your mind to be more flexible and focus on the things YOU want to do.

So, how can we find ways to teach our minds to relax a little and promote our goal directed behaviour and pathways thinking? We use an ability that we were all born with, but may rarely use- it's called NEUROPLASTICITY .

[slide 6 neuroplasticity]

What is neuroplasticity?

Neuroplasticity refers to changes in neural pathways and synapses due to changes in the environment, thinking, behaviour and emotions.

[Slide 7 benefits of neuroplasticity]

As you can see, in practicing thinking, behaving and feeling in new ways you are actively delaying the onset of disease and improving your performance in life.

So the good news is, despite our old and often unhelpful programming, we can use neuroplasticity (at a biological level) to manage the mind when it is being unhelpful, promote flexibility, and use the energy this creates towards achieving our goals.

Two very important things you should be aware of relating to the 'Bermuda Triangle' of thinking;

1. You cannot stop triggers from the environment

2. You cannot control the fact that you are thinking something in response to that trigger.

What we can learn to be better at is managing the mind when it is behaving in a way that makes goal achievement difficult.

So, how can we use neuroplasticity to do this? Here are some interesting little techniques designed just for this purpose. Did you know…..

[Slide 8 You can't NOT think a thought]

Lets do a little experiment. I would like you TO NOT think about this white polar bear wearing a red bowtie for the next 30 seconds, DON'T THINK ABOUT THE POLAR BEAR. [wait 15 seconds]. So, how did you go? Liesl- some people

will fail immediately, others may have used an avoidance technique, just then

ask them what they were trying not to think about and … there it is the white

polar bear!

[Slide 9 Thoughts aren't facts about you]

We often think just because we have a thought (especially a negative one) it

MUST BE TRUE. Ok, let's put this to the test.

- Automated slide

- If you wouldn't mind repeating after me out loud;

- 1. My name is……….. (their name] click

- 2. I am tired of feeling this way   click

- 3. I am sick of struggling in life   click

- 4. I'm a banana!

- Now just because you had the thought 'I'm a banana' did you

  spontaneously turn into one? No, so here is some evidence to suggest

  that just because you have a thought about something, it doesn't mean

that it is true about you. An extension to this is that even if, on the rare occasion that the thought is true, if it is unhelpful… then it is also a banana thought!

So in context, if we revisit out last Bermuda Triangle example the thought 'I will get wet and upset if I walk in the rain' is not necessarily true…. What if I actually kind of enjoy it? What if getting wet is less important to me than completing my goal? How can I train my brain to realise this is if *I don't keep doing something different*?

[Slide 10 You don't have to obey your thoughts]

- We all grow up believing that because our mind is important we should obey what it says… right? Ok, again, let's test this theory. (To Group) 'I am thinking DON'T HOP, IF I HOP I WILL FALL OVER AND MAKE A COMPLETE FOOL OF MYSELF….I MUST NOT HOP' [hop repeatedly]. What happened? Nothing….. when I disobeyed my mind nothing bad happened. The sky didn't fall, I didn't fall over, I was able to achieve my goal of demonstrating that disobeying thoughts does not have to end in disaster. In the context of using our original example, when my mind

yelled 'Don't walk because you will get wet and become upset' I now

know I didn't have to obey this thought. Nothing bad would have

happened (unless I had decided to walk into oncoming traffic so use

discretion please). Believing you must obey your thoughts (especially

when they get in the way of doing your goals and pathways work) does

not help you to live a happier, more fulfilled life. Choose to do the

opposite when safe to do so and see just what you can REALLY achieve.

The mind won't mind, it is quite happy to support you when you feed it

new information.

[Slide 11 summary]

Read the slide (automated) and then summarise;

To summarise- understanding the limitations of the human mind (ie- the

Bermuda Triangle effect] and using our capacity for neuroplasticity can

help us to behave differently in response to unhelpful thinking getting in

the way of the 'doing'.

We will now apply what you have just learned about managing the mind to the

goal that you have chosen to work on from last session.

TICS & TOCS [slide 13]

Now given most of us are visual learners, I will demonstrate a technique that helps us to identify helpful and unhelpful thinking.

Explain to the group that cognition is a scientific term for 'thinking'. TICS is short for 'task interfering cognitions' meaning thoughts that get in the way of doing (sapping their agency), and TOCS is short for 'task orienting cognitions' meaning thoughts that help us continue towards our goals. Use the slide to demonstrate common TICS and possible TOCS responses.

- Handout TICS / TOCS WORKSHEETS

 I would like you to list the TICS that have the potential to get in the way of the goal you set yourself last week. Think of the typical excuses you might come up with to avoid doing goal directed behaviour. Then I would like you to come up with some TOCS, that is more flexible ways to think about the situation allowing you the freedom to achieve your goal.

- Please let me know if you require any assistance. Each participant should produce a healthy list of agentic thoughts in the service of achieving their goals.

Given many people are great at visualising, there is another technique you can use along with TICS and TOCS to promote your own goal success.

Positive Visualisation

What we mean by this is that we use our minds to picture ourselves DOING something we really want to achieve. This is often what top athletes do when they are training for a big race, and it can be really specific like winning the marathon at the Olympics. Your goals are just as important to you, try this technique first thing in the morning, or last thing at night so you can use the full power of your mind with less distractions.

For example I can imagine waking up and turning the alarm off at 6 am, getting out of bed and putting my walking clothes on, kissing my husband goodbye and opening the front door. I then walk down our front path and begin my walk around the local oval. I notice some dark clouds and a few spots of rain but think to myself ' my walk is more important to me than the discomfort of

getting a little wet. After overcoming this potential obstacle I walk faster, and imagine what it feels like to be achieving my goal despite the weather. It feels good. I want to do this for real!

Now, just a little aside to reinforce the idea that you aren't alone when it comes to motivation issues, even famous people have struggled with this. So here is an example that may inspire you to push through your own adversities, so you can experience the success you deserve.

J.K. Rowling was a divorced single mother living on welfare when she had the idea for the Harry Potter books.

She walked her baby in its stroller until it fell asleep, then rushed to the nearest café to get out as many pages as she could before the baby woke up. She is now the revered master creator of a beloved global franchise and one of the richest women in the world.

She could have dismissed her idea as stupid, she could have said to herself 'Maybe this is something I can do after my kids are all grown up'. Instead she found some flexible pathways and stayed goal focused and the rest as they say is history!

Well done everybody. You have now completed the Hope module of this course, and can now add agentic thinking techniques to improve your motivation to achieve the goal you set yourself last week.

Your homework over the next week is to practice these different techniques to manage your mind when it becomes unhelpful- see what works best for you as you continue to work on your goal set last session. You can use positive visualisation, the banana example when your mind tries to block your progress and try doing your activity even when the mind warns you not to… what do you notice happens as you practice these things??

Give each participant the Handouts and cue card for this session.

There is also one more very important task for you to complete BEFORE next session. In preparation for the strengths training you will be doing next week, please log on to www.viastrengths.org and complete the VIA strengths questionnaire (it will take approximately 20 minutes), printing out the results and bring to the next session with you. We also require you to e-mail us your top 3 strengths and this is a pre-requisite for participation in the next session.

Are there any questions? I will hand out the session evaluation forms now, please don't forget to write your name on the sheet and remember that the details are only seen by Sharon. She will also do a quick weight check before you go home.

WELCOME

Session 2

Agentic Thinking

HOPE

GOAL DIRECTED THINKING
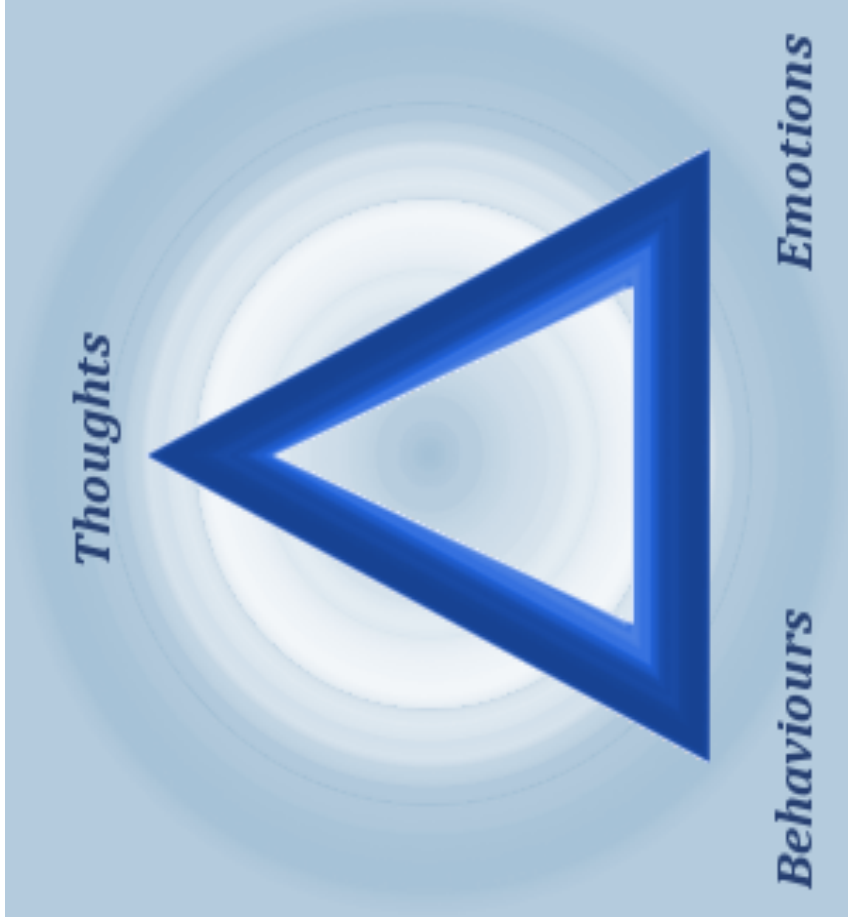
+

EFFECTIVE ROUTES (PATHWAYS)
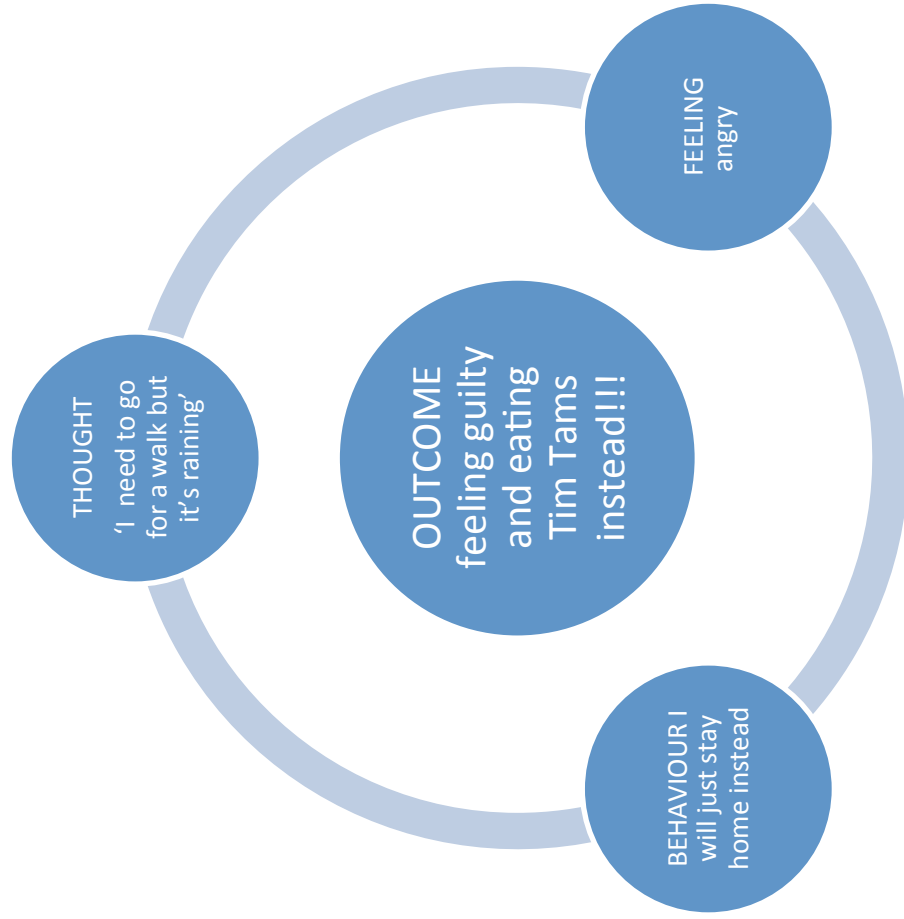
+

SUFFICIENT MOTIVATION (AGENCY)

Welcome to your mind

The 'Bermuda Triangle' of the mind!

Thoughts

Emotions

Behaviours

How GOALS get lost...

THOUGHT
'I need to go for a walk but it's raining'

FEELING
angry

BEHAVIOUR I
will just stay home instead

OUTCOME
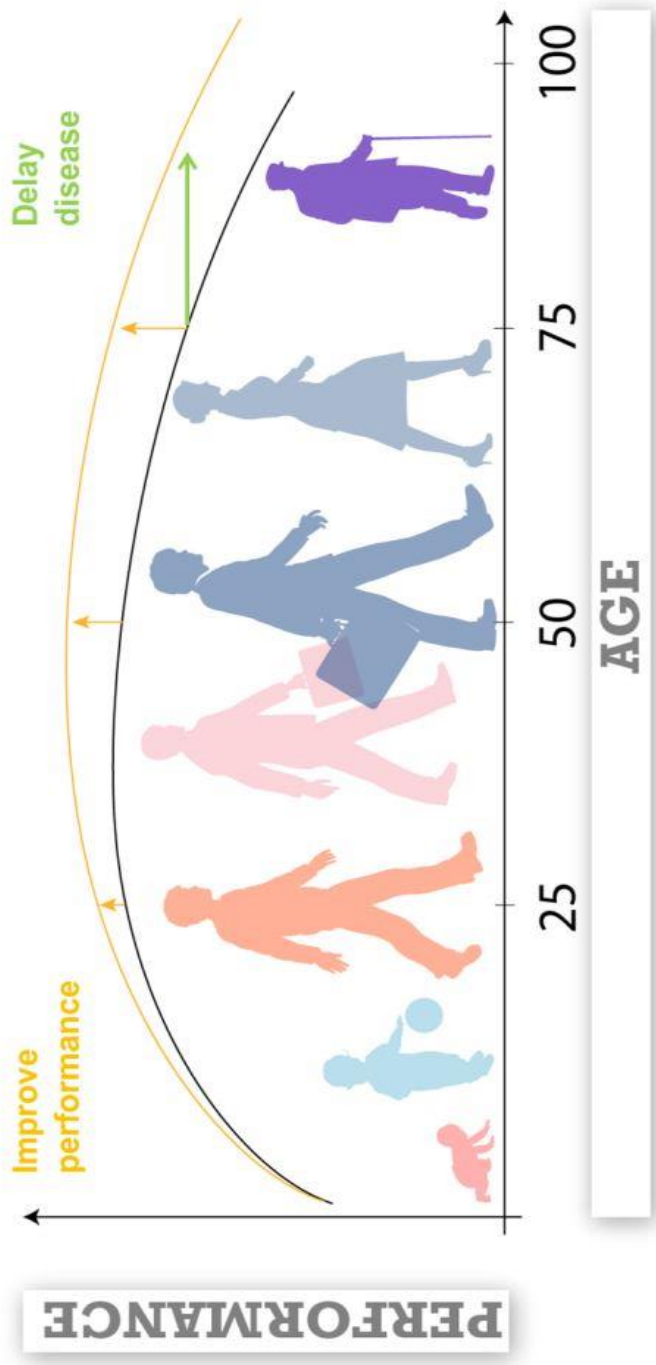feeling guilty and eating Tim Tams instead!!!

Neuroplasticity

Refers to changes in neural pathways and synapses due to changes in the environment, thinking, behaviour and emotions

Benefits of using neuroplasticity

Why brain fitness matters
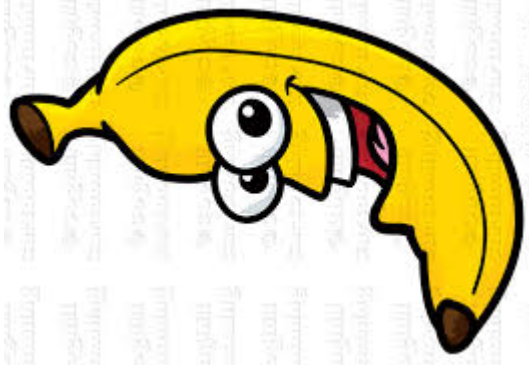
You can't NOT think about something!

Thoughts aren't really FACTS about you

My name is ....

I am tired of feeling this way

I am sick of struggling in life

I'm a BANANA !

What you can control

I can't control everything... but one thing I can *control* is **my Attitude** & I am going to make sure its a... *GOOD ONE!!!*

Improving agency through neuroplasticity

- You can't STOP thinking about something

- Thoughts are not facts about you

- You don't have to obey your thoughts

- Changing your behaviour in response to unhelpful thinking generates the energy you need to achieve your goals

TICS & TOCS

- TICS- Task Interfering Cognitions / thoughts

  (they get in the way of the DOing)

- TOCS- Task Orienting Cognitions / thoughts

  (they promote the DOing)

TICS & TOCS

Task Interfering Cognitions	Task Orienting Cognitions
If I walk in the rain I will get wet and upset.	I don't mind getting wet if it means I can follow through on my fitness goal.
I'm too tired to prepare a healthy meal	I can be tired AND prepare my healthy meal
Exercise is boring	I will walk on a different path today to keep things interesting
What will everybody think about me at the gym?	I can't control what other people think so I will do what I have to do for myself
DRAINS YOUR AGENCY	BOOSTS YOUR AGENCY

Overcoming obstacles and achieving goals

- J.K. Rowling battled single motherhood, being a busy mother and many rejections from publishers before she became a success.

Remember

I can't control everything... but one thing I can *control* is **my Attitude** & I am going to make sure its a... *GOOD ONE!!!*

The VIA Classification of 24 Character Strengths

ViaCharacter.org

WISDOM

CREATIVITY
- Originality
- Adaptive
- Ingenuity

CURIOSITY
- Interest
- Novelty-Seeking
- Exploration
- Openness

JUDGMENT
- Critical Thinking
- Thinking Things Through
- Open-mindedness

LOVE OF LEARNING
- Mastering New Skills & Topics
- Systematically Adding to Knowledge

PERSPECTIVE
- Wisdom
- Providing Wise Counsel
- Taking the Big Picture View

COURAGE

BRAVERY
- Valor
- Not Shrinking from Fear
- Speaking Up for What's Right

PERSEVERANCE
- Persistence
- Industry
- Finishing What One Starts

HONESTY
- Authenticity
- Integrity

ZEST
- Vitality
- Enthusiasm
- Vigor
- Energy
- Feeling Alive

HUMANITY

LOVE
- Both Loving and Being Loved
- Valuing Close Relations with Others

KINDNESS
- Generosity
- Nurturance
- Care & Compassion
- Altruism
- "Niceness"

SOCIAL INTELLIGENCE
- Aware of the Motives/ Feelings of Self/Others
- Knowing what Makes Other People Tick

JUSTICE

TEAMWORK
- Citizenship
- Social Responsibility
- Loyalty

FAIRNESS
- Just
- Not Letting Feelings Bias Decisions About Others

LEADERSHIP
- Organizing Group Activities
- Encouraging a Group to Get Things Done

TEMPERANCE

FORGIVENESS
- Mercy
- Accepting Others' Shortcomings
- Giving People a Second Chance

HUMILITY
- Modesty
- Letting One's Accomplishments Speak for Themselves

PRUDENCE
- Careful
- Cautious
- Not Taking Undue Risks

SELF-REGULATION
- Self-Control
- Disciplined
- Managing Impulses & Emotions

TRANSCENDENCE

APPRECIATION OF BEAUTY & EXCELLENCE
- Awe
- Wonder
- Elevation

GRATITUDE
- Thankful for the Good
- Expressing Thanks
- Feeling Blessed

HOPE
- Optimism
- Future-Mindedness
- Future Orientation

HUMOR
- Playfulness
- Bringing Smiles to Others
- Lighthearted

SPIRITUALITY
- Religiousness
- Faith
- Purpose
- Meaning

357

Group Introduction

Session 3 : Strengths Training

Sharon- Welcome back everyone. I hope you have had a good week. Now, just a reminder we start the session off with you completing your homework sheets and your questionnaires.   HAND OUT.

Please place these in the envelope provided and I will re-visit towards the end of session today for your session evaluation sheets and a quick weight check before you leave. So, good to see you all again, I'm sure you will enjoy today's session on strengths training. Sharon to wait until it has been established that all participants have their VIA strengths with them.

Liesl

Now, does everyone have their folder AND their top three strengths from the VIA website? Now just a little refresher from last week- we finished off our HOPE session, adding agentic thinking designed to make managing an unhelpful mind easier and motivation stronger to get you moving towards your goals.

ASK GROUP: How did they go with achieving their goals? Did they find they could use their pathways and agency thinking effectively? Trouble shoot if there is any confusion. Would anyone like to share their goal journey?

In this session, we are going to use the information you have downloaded for something we call Strengths Training.

Session 3   **Strengths Training**

Every human being was born to be naturally good at something. Simply put, strengths are the best things about you, and when you use your strengths often enough you are energised, you get a buzz. Even better, scientists have discovered that when we use our strengths correctly, we become more focused and successful in life.

In this session we are going to explore your individual strengths and learn how to use them more efficiently.

But before we look at strengths, let's discuss the flip side of the coin, the one you may be more familiar with…. Your weaknesses.

Group Exercise

Liesl to lead the group in a short discussion on what they believe, or they have been told are their weaknesses / failings. The point of this exercise is to hi-light that identifying weakness is much more common than identifying strengths.

Begin by Liesl giving examples of what she is not good at! Ask the group to offer their own examples. Then, ask them what they think they are good at…….. this may be much harder to answer.

[Slide 4 – why we focus on weaknesses]

Did the group notice that it was easier to come up with weaknesses than own up to their strengths? This is common because;

- We have been programmed biologically to search for problems
- Problems demand our attention to be solved
- We want to avoid being considered 'a big head!'
- Most of us do not know what we are really good at
- We have been taught to believe that our weaknesses, not our strengths that are our greatest area for growth- this idea is simply not correct!

Interestingly, it was through organisational psychology working with big business we realised that trying to fix weaknesses was a waste of time and money. We found it was much healthier to accept that people can't be good at everything, and placing them in a team where they can play to their strengths was found to greatly improve morale and productivity.

[Slide 5- Why recognising weakness is important]

It is important to recognise that focusing on your strengths does not mean ignoring your weaknesses. Consider the following example,

Let's pretend you want to ride this bicycle. But unfortunately you have a flat tyre. Let's call that flat tyre your 'weaknesses'. Now clearly, if you choose to ignore this weakness, you will be unable to ride the bike safely (or very far!). So yes, it is perfectly

reasonable to spend some time tending to your flat tyres (weaknesses) in life. Having taken care of your flat tyre, even if it is fixed 100% you must understand that <u>YOU STILL CANNOT GO ANYWHERE!</u> It is your ability to ride the bike (your strengths) that actually helps you to move forward in your life. So, take care of your flat tyres, but you need to get ON the bike to go anywhere meaningful and productive. Therefore it is important to focus on both strengths AND weaknesses to achieve your goals in life.

[Slide 6 – strengths vs learned behaviours]

What Strengths are NOT…….

Strengths come in many forms. The trick is to understand that when they are being used correctly, they GIVE you energy. This is quite different to the things we might be good at (i.e. our jobs), that we receive an external reward for (i.e. money) but that we also find draining over time (i.e. burnout). These things are called *Learned Behaviours* and represent ingrained and automatic behaviours that are easily confused with strengths. I often ask my clients if they won lotto, would they return to their current jobs afterwards? The answer is usually a resounding NO!, so their job is most likely a learned behaviour for them.

Ideally people can combine their strengths and their jobs to get real enjoyment out of life, but for most of us this may not be possible. Given we spend most of our time at work, it is very important that we balance the DRAIN of learned behaviours with GAIN, and that's exactly what using our true strengths can give us.

[Slide 6- Strength Use & Health Benefits]

Research suggests:

- Strength use promotes energy, effectiveness, productivity and a greater sense of meaning in our lives.
- Identifying and using your strengths increases happiness and reduces depression
- Using strengths can help you recover more quickly from illness

How can I best use my strengths?

1. **Understand them**

   So now we know what your strengths aren't- they aren't your weaknesses or your learned behaviours….. what are strengths and how do we use them?
   I would like you all to take out your strengths print out. I will start by explaining where this information has come from, why it's important, and then how we can apply it to you specifically.

[Slide 7-The Values In Action Questionnaire (VIA)]

This survey was developed by leading scientists in the field of Positive Psychology to help you better understand your unique combination of strengths and character. These strengths represent our capacities to help ourselves and others, and when we use them this creates a happier, more authentic and successful life.

You will all notice that your strengths are listed from number 1 to 24. This is because research has identified 24 main strengths found to be common to being 'human'. Your strengths are listed in order of how prominent or developed they are in your profile (based on your answers). Be aware that the strengths lower on your list do not represent weaknesses or deficiencies in that area, they are simply lesser strengths. In this session we will be working with your top 3 strengths, also known as your *signature strengths*. These are strengths of character that usually feel like 'the real me', that you might use often, and serve to create invigoration rather than exhaustion when you use them. Research has shown that such strength development can have a significant impact on your health, relationships, careers, personal growth and quality of life.

[Slide 8- virtues (VIA)]

To help organise and make better sense of the 24 strengths, the VIA also classifies strengths under 6 broad *virtue* categories. Virtues are defined as being part of one's good character, and have shown to be both morally and universally valued throughout history.

The virtues are;

1. Wisdom and Knowledge- Cognitive (thinking strengths) related to gathering and using knowledge.
2. Courage- Emotional strengths when exercised allow you to accomplish goals in the face of opposition.
3. Humanity- Interpersonal strengths involving tending and befriending others.
4. Justice- Civic strengths that underlie healthy community life.
5. Temperance- Strengths that protect against excess.

6. Transcendence- Strengths that forge connections to the larger universe providing meaning.

I am going to handout your own copy of the virtues categories and the strengths they are related to. I want you to look at your top 3 signature strengths, and write down on the handouts provided what your strength is called, what it actually means /looks like in real life, and which of the 6 virtues it belongs to. This will become your 'strength statement'.

[Slide 9- Einstein]

For example: My strength statement would look like this- top strength is 'Love of Learning, it means I enjoy and am good at Mastering new ways of doing things, and belongs to the wisdom and knowledge virtue.

Take some time with the group so they understand both the meanings and manifestations of their strengths AND the virtues to which those strengths belong.

MY TOP 3 STRENGTH STATEMENTS ARE;

1. Strength 1 _____means I enjoy and am naturally good at

    _____

    and belongs to the _____category of virtues.

2. Strength 2 _____means I enjoy and am naturally good at

    _____

    and belongs to the _____category of virtues.

3. Strength 3 _____means I enjoy and am naturally good at

    _____

    and belongs to the _____category of virtues.

Now you are familiar with your strengths, we must make this knowledge productive to gain the positive benefits. The best way to do this is to apply your strengths to particular goals.

This is where all of your previous hard work pays off, because we can now incorporate strengths work with your goals, pathways and agency thinking strategies.

2. Applying your strengths to specific goals

We will now re-visit the goal setting exercise you learned in Module 1, and this time we are going to choose a new goal, and work out how we can use our strengths to help achieve it.

Domain	Importance (0-10)	Satisfaction Rating (0-10)
1. Academic		
2. Family		
3. Leisure		
4. Personal Growth	**10**	**6**
5. Health / Fitness		
6. Romantic relationships		
7. Social relationships		
8. Spirituality		
9. Work / Career		

My selected domain is: **Personal Growth**

What would I have to do to increase my satisfaction in this domain**? I would like to stretch my brain in a new and challenging direction, actively adding to my knowledge base.**

My goal is : **To learn something brand new about something that interests / inspires me**

Is my goal realistic?   **Yes**   No   (circle)

Is my goal achievable?   **Yes**   No

Is my goal important to me?   **Yes**   No

Pathways I can use to achieve my goals

1. What is my pathway to the goal?- how do I intend to get there?

   Set aside some time allowing me to explore some options regarding learning something new

2. How can using my strengths help me to achieve my goal?
   Strength1 **Love of Learning**
   When I apply this strength to my goal, my behaviour would look like;
   Being able to dedicate a good block of time to internet research in helping me to narrow down my interests and settle on a topic that will keep me interested for a while. I know I am naturally enthusiastic about learning new things and adding to my knowledge base so I won't find the research part difficult.

3. How much do I believe I can do this?   (circle)

   A little   medium   **very much**

4. How much motivation do I have now to accomplish my goal?

   A little   medium   **very much**

5. What makes me think I can achieve my goal?

Knowing this is something I have chosen and want to do. Also my past work on goals and pathways and agentic thinking has helped me apply myself and achieve my goals in the past.

6. What might get in the way of achieving my goal? (TICS?)
   Finding the time.

What will probably happen if I keep on this pathway to my goal?

I will probably put housework first and get frustrated that I am not meeting my own needs for personal growth

7. What might happen if I change my pathway? (TOCS?)

   I will need to be flexible regarding when I do my research and fit in around family stuff, and not be a martyr! The world won't end if the house doesn't look perfect, and I will be happy I am working towards my goal.

8. Goals work best when they are broken down into smaller steps. How would your goal look in a number of steps?

   1. **Put kids to bed**

   2. Make myself a cup of tea and get comfortable in the study

   3. Start searching for a topic of interest, kids nutrition, Thermamix maybe?

   4. Find and print off information

   5. Use this to inform parenting and product choices

   6. Find something new to research next week to keep my strength use fresh!

9. How much do I believe I will accomplish my goal now?

   A little   medium   **very much**

[Slide 10 Important facts about strengths use]

- Please note your strengths don't have an on/off switch, they have a volume knob. It is possible to overuse strengths so pay close attention to make sure you are using your strength in the right amount (your situation will determine the appropriateness of their use, and your goals will focus your intensity of their use).

- Use your strengths to compensate for your weaknesses, and even practice combining your strengths to get an even bigger effect.

- Strengths use is always a journey, not the destination. Enjoy practicing and experimenting with your strength use and keep refining the process to keep things fresh. If you can achieve this you will receive the maximum benefits from your strength training.

Congratulations on completing Module 3. ☺

[Slide 11 Overcoming Adversity]

Strength use in real life………

Alexander Graham Bell, Leonardo da Vinci, Thomas Edison, Walt Disney and Winston Churchill are all said to have displayed signs of dyslexia and other learning disabilities.

They did poorly in school. They were told they were stupid, talentless, unteachable, and that they would never amount to anything beyond "mediocre." I think you know they all went on to do some fairly impressive things.

They could have believed the negative voices and been the smallest versions of themselves. But they didn't. What strength of character might they have shown to overcome adversity?

[**Slide 12 Riccochet the surfing dog video**]

HOMEWORK- is to actively apply your strengths to your goals, and work towards achieving them. You will be asked to report on your progress at the beginning of the next and final session.

Thanks everyone, please complete your module feedback forms for today's session and place in the envelope for Sharon to collect. Also, please ensure that you have been weighed before you leave as well. Thank you.

Session 3

Strengths Training

What are Strengths?

- They are the best things about you
- You were born to be good at them
- They energise you during use
- Research suggests they improve;
- HEALTH
- HAPPINESS
- SUCCESS IN LIFE

What about my weaknesses?

Why we focus on weakness

- Our biology programs us to search for problems

- Problems demand our attention to be solved

- No one likes a 'big head!'

- We aren't quite sure what our strengths are

- The old fashioned belief that weaknesses are our greatest areas for growth and self-improvement

374

Why weakness cannot be ignored

Strength Use & Health Benefits

- Higher energy, productivity and sense of meaning in life

- Higher happiness and reduction in Depression

- Quicker recovery from illness

Strengths vs Learned Behaviours

STRENGTHS	LEARNED BEHAVIOURS
Are things you are naturally good at	You may also be good at
They ENERGISE you	They DRAIN you
They are internally rewarding	You perform them for external rewards

The Values In Action Questionnaire (VIA)

- Based on results from thousands of people from around the world
- Organised into 24 character strengths
- We will be working on your Top 3 Signature Strengths
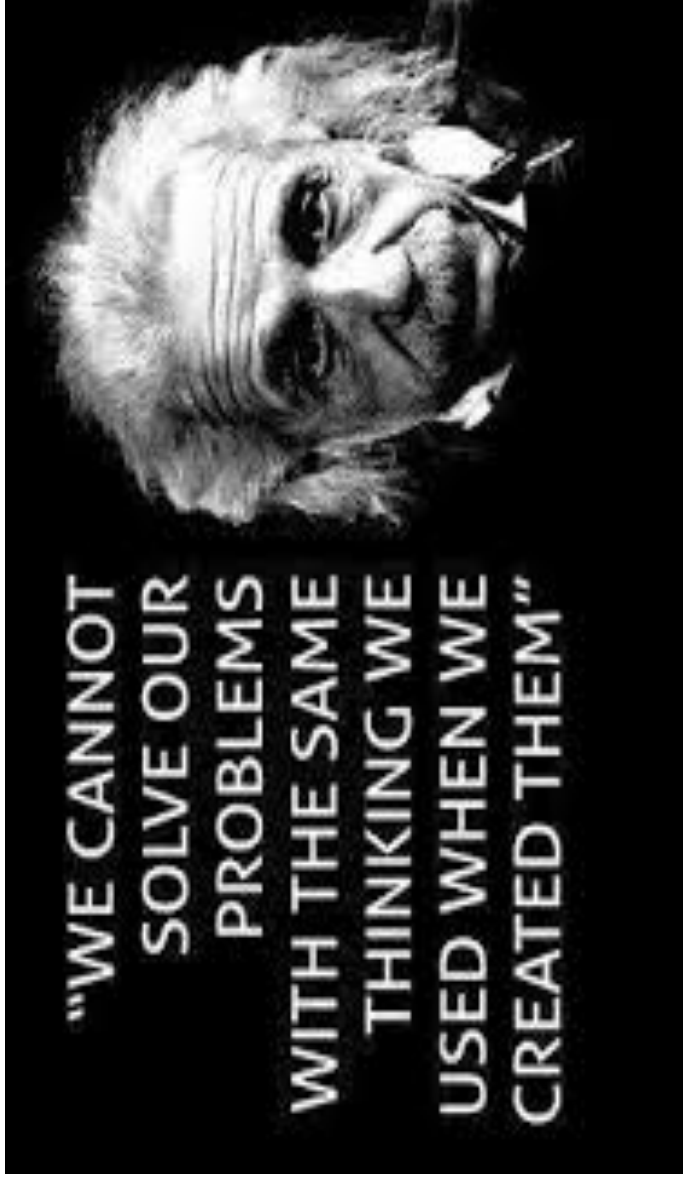
Virtues (VIA)

- Moral and Global value throughout history
- Forms part of your 'good character'
    1. Wisdom & Knowledge
    2. Courage
    3. Humanity
    4. Justice
    5. Temperance
    6. Transcendence
- These categories help to organise the strengths

Personal Strength Statement

- My signature strength is 'Love of Learning'

- It means I enjoy and am good at Mastering new ways of doing things.

- It belongs to the wisdom and knowledge virtue

WISDOM

"WE CANNOT SOLVE OUR PROBLEMS WITH THE SAME THINKING WE USED WHEN WE CREATED THEM"

Overcoming Adversity

I have not failed.
I have just found 10,000 things that do not work.

Thomas Edison

"All the adversity I've had in my life, all my troubles and obstacles, have strengthened me... You may not realize it when it happens, but a kick in the teeth may be the best thing in the world for you."
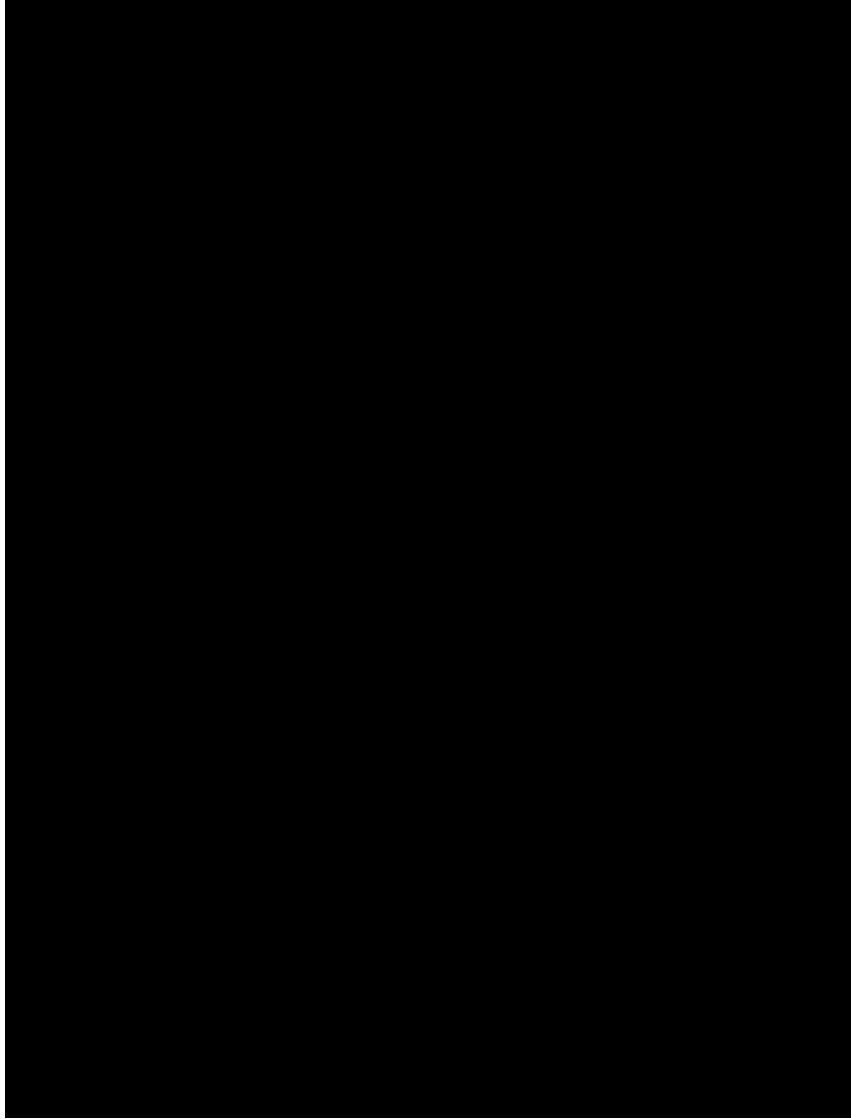
Walt Disney

Rules for Strength Use

- Strengths don't have an on / off switch, they have a volume knob

- Combine your strengths for bigger effects

- Strength use is a journey NOT the destination

- Keep refining your strength use to keep things fresh

Being Authentic

Session 4 : Gratitude

Sharon

Welcome back everyone. I hope you have had a good week. As usual I need to collect your homework from last week. So here are the forms evaluating how you went practicing using your strengths, and then if you can fill out the questionnaire pack and place everything in the envelope provided. I will re-visit towards the end of session today for your evaluation sheets and a quick BMI check before you leave. So, good to see you all again, I'm sure you will enjoy the final positive psychology skill that Liesl will introduce to you today.

Liesl

Welcome back everybody, I hope you've enjoyed the last week and that you have been able to apply your strengths to your goals. You are now able to enjoy the benefits of applying pathways (generating the routes) and agentic thinking (generating the motivation) and strengths (the things you are naturally good at) to any goal that is meaningful to you in the present or the future- These are excellent tools for improving quality of life.

ASK GROUP: Would anyone like to comment on their strengths use over the last week? What were people's experiences??

(short discussion)

The Science of Gratitude

In our final session today we are going to explore the practice and benefits of gratitude.

[Slide 2 gratitude definition]

Gratitude is finding ways to show our appreciation for the people in our lives, the things we have, and for the experiences we share with the world.

[Slide 3 Cicero]

According to Cicero, (A roman philosopher, 106 BC) "Gratitude is not only the greatest of the virtues but the parent of all others."

In the past gratitude has been neglected by psychology, in recent years much progress has been made in studying gratitude and its positive effects. Research has shown a relationship between gratitude and increased well-being, not only for the receiver, but the 'giver as well!'. So let's test this through exploring your own experiences with Gratitude;

Group Discussion

- Have there been times when you have had the courage to thank someone for something they have done, in a way that is genuine?

- Has anyone in the group been on the receiving end of gratitude? What did that feel like for them? (The general consensus should be that it feels good to give and receive genuine gratitude).

[Slide 4- What's good about gratitude?]

Why practice Gratitude?

The simple answer is that it feels good both to give and receive gratitude- here's what the science says about why……

A professor of medical genetics at the University of California studied acts of kindness. His findings suggest that a single act of kindness can result in a flourishing effect, stimulating several more acts of kindness that in turn stimulate more acts of kindness. He called this phenomenon 'upstream reciprocity', much like a domino effect of feel good emotions.

So, where do these feel good emotions come from?

[Slide 5- Neurological effects of gratitude]

Known as the 'Helper's high', the reward and pleasure centres of our brain have been

shown to 'light up' when they are activated by acts of kindness and generosity.

Research suggests that feel good endorphins are released and that this helps to make

us feel happy.

> "When you are kind to another person, your brain's pleasure and reward centres
>
> light up, as if you were the recipient of the good deed—not the giver."

[Slide 6- Effects of gratitude on heart function]

Gratitude or appreciation has measurable effects on heart rhythms. In studies using

the Emwave (a device designed to measure and improve mind, body and emotional

balance) when emotions such as anger and frustration are present in the body, the

heart rhythm pattern indicates 'corticol inhibition or 'chaos', compare this with the

appreciation state in which longer, slower wave patterns are indicating an optimal

state of 'corticol facilitation or 'coherence'.

[Slide 7 Psychological benefits of Gratitude practice]

Many scientific studies have shown that regularly practicing gratitude is related to major improvements in health, specifically;

- More Happiness

- Satisfaction with Life

- Better relationships

- Better sleep

- Better healing ability

So Given that gratitude appears to be a strong determinant of people's well-being, several psychological interventions have been developed to increase gratitude;

Gratitude Practice 1 (Slide 8) Martin Seligman short video

The Gratitude Visit

1.Think of someone from your past who changed your life in some really meaningful way, and you have not yet thanked

2.Write a letter detailing how and why they made such a lasting and helpful impact on your life

3.Ask them if you can pay them a short visit (or if not possible – skype?)

4.Read out your letter of gratitude to them in person

5.You will now have changed their life (and yours)!

Where participants wrote and delivered a letter of gratitude to someone in their life, this showed a rise in happiness scores by 10 percent and a significant fall in depression scores.

Gratitude Practice 2 (Slide 9 The Gratitude Journal)

The Gratitude Journal

1. You can live as if everything that happens (or doesn't happen) in your life is always for your best interests. It doesn't matter if we judge things as good, bad, right or wrong, it is the belief that all experience is a gift of great value. <u>No</u> experience is wasted.

A good way to a practice this is by using the 'Count your Blessings' technique. This entails keeping a Gratitude Journal. Over the next week and beyond, write down 3 things that happened during the day that you are genuinely grateful for. It may be small, like being thankful you woke up next to someone who cares for you, or you notice the gift of good food, the warmth of sun on your skin, or a kindness displayed.

(Slide 10 Gratitude Journal example)

Gratitude Journal

There are many benefits to keeping a Gratitude Journal regularly. Writing down 3 good things that you are grateful for every few days is a great way to help you to practice gratitude regularly enough to experience the benefits.

Gratitude Journal Example

__Day/date__	__Event__	__Why I am grateful__
27/08/2014	I put a handwritten note in my son's lunch box telling him why he is amazing!	It felt right to tell him why he's special, it may have made him feel good for the rest of the day

(Slide 11 Random acts of kindness) video link

Gratitude Practice 3

Random Act of Kindness

1. You can also be more pro-active regarding your gratitude- rather than waiting for something good to happen, you can make it happen! Remember that Gratitude is infectious- by simply smiling at someone, holding the door open for a stranger, putting some coins into an almost expired parking meter or leaving an anonymous smiley face sticker on a colleagues desk are all things that cost little but offer great rewards.

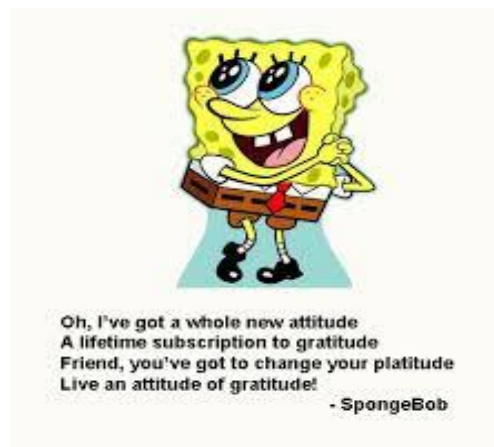## (Slide 12 The gratitude Jar)

Gratitude Practice 4

The Gratitude jar

A rewarding thing to do is to keep a Gratitude jar. When you notice something good

happening (e.g. a pleasant conversation, happy thought, uplifting experience for you or
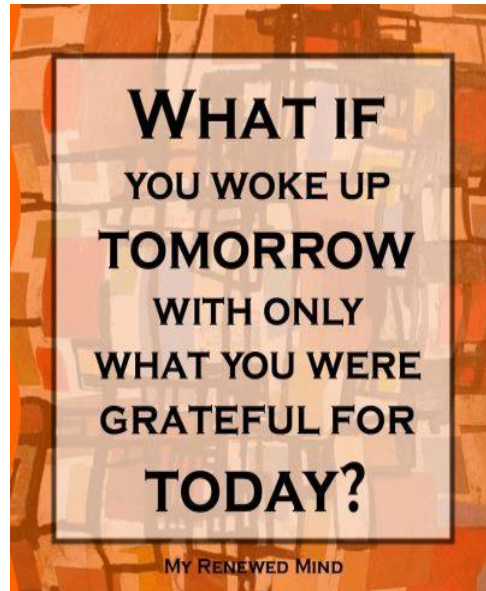
someone else) write it down on a scrap of paper and place it in a jar. In times of

sadness, or every New Year's Eve, open your Gratitude Jar and enjoy the many

moments of happiness you have gathered. This also serves as a visual reminder that

good things (as well as the bad) are also happening in your environment.

You can also make the important decision to enjoy your day *before* something good

happens. For example, you could say to yourself before you get out of bed '*I intend to

appreciate and give thanks for today, no matter what happens'.* This way you are using

power of your intention to get the most out of your day……and cultivating a strong

'Attitude of Gratitude!'

Oh, I've got a whole new attitude
A lifetime subscription to gratitude
Friend, you've got to change your platitude
Live an attitude of gratitude!
- SpongeBob

Using any or all of these techniques you can train yourself to practice gratitude when

you experience something positive or good. Just noticing these things makes a big

difference regarding what you pay attention to, and this in turn changes your neural

pathways so the practice of Gratitude can become a helpful habit.

Here is a reminder that puts all of this into perspective!

Gratitude and the arts

If you enjoy music- Alanis Morrissette's song 'Thank U' had an interesting beginning…

Morissette explained: "I felt that I lived in a culture that told me that I had to consistently and constantly look outside myself to feel this elusive bliss. And I achieved a lot of what society had told me to achieve and I still didn't feel peaceful. I started questioning everything, and I realized that actually everything was an illusion and it was scary for me because everything I had believed in was dissolving in front of me and there was a death of sorts, a really beautiful one ultimately, but at first a very scary one, and so I stopped. I stopped for the first time and I was overcome with a huge sense of compassion for myself first, and then naturally that translated into my feeling and compassion for everyone around me and a huge amount of gratitude that I

had never felt before to this extent. And that's why I had to write this song, 'Thank U,' because I had to express how exciting this was and how scary it was and all of these opportunities for us to define who we are."

Here is the link to the music video-http://www.youtube.com/watch?v=wIPQU-WWw-I

If you are a movie buff, the film 'Pay it Forward' embodies the principles of Gratitude. There are also many inspirational videos on you tube to keep you motivated to make the world- yours and mine, a much better place……..

Show inspirational video in session to end.

Link here.

(Slide 13 Thank you)

Sharon and Liesl

Now speaking of gratitude we would like to start off your gratitude practice by presenting you with a gratitude jar, containing something about you that Liesl and I have noticed and been grateful for over the last 4 sessions. Give to each participant.


Sharon

Now because this is our final session until our follow up in 12 weeks, we will be asking you to fill out your homework summary forms online, rather than in person. We will

send you an SMS reminder with the online link next week so Sharon can collect the final data regarding how your Gratitude practice went. Sharon will also weigh you before you go home today.

We can't stress enough how important your involvement in this study is up until the very end. After study completion in 12 weeks time, you will receive your Certificate of Achievement.

Thanks ☺
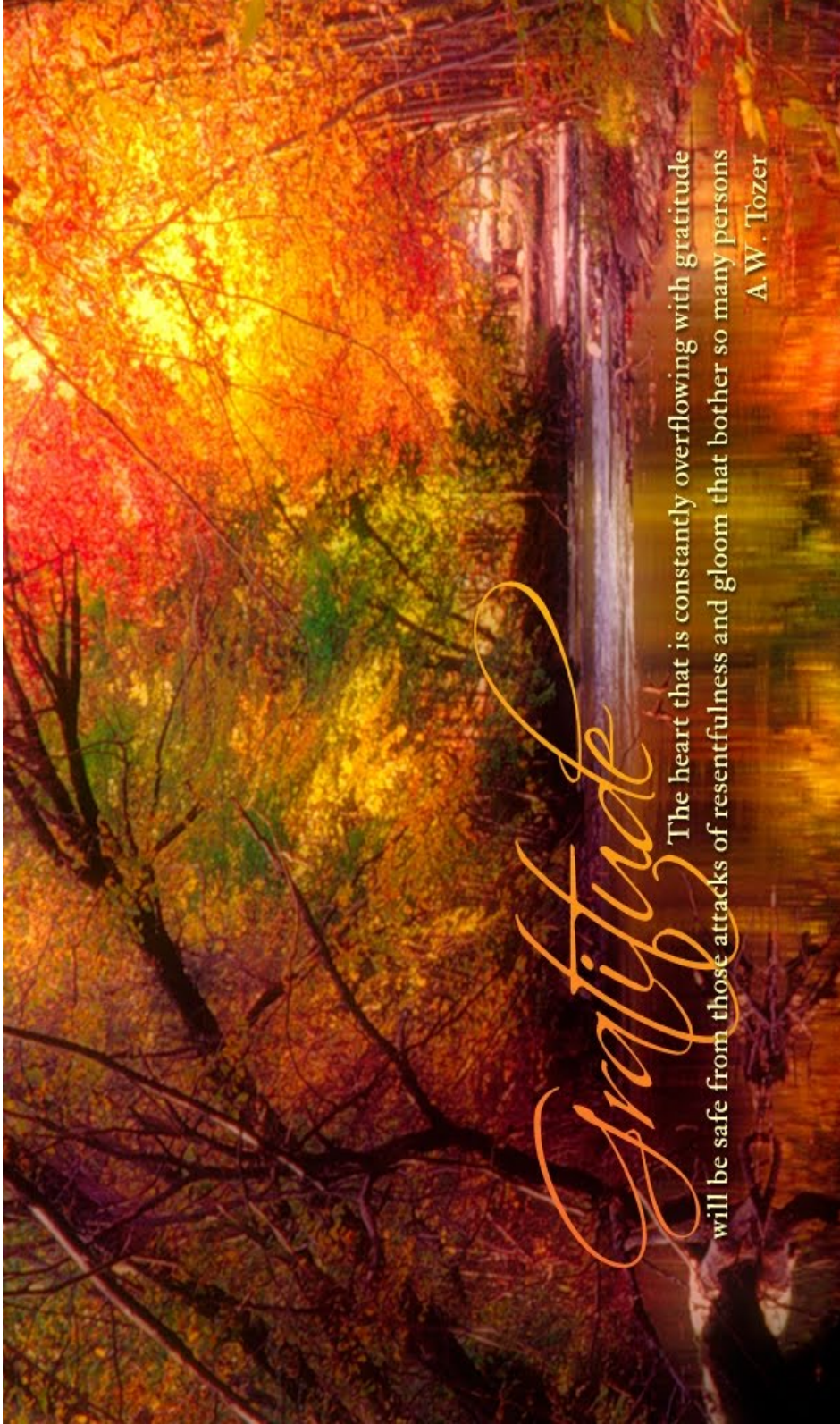
Gratitude

The heart that is constantly overflowing with gratitude will be safe from those attacks of resentfulness and gloom that bother so many persons

A.W. Tozer

WHAT IS GRATITUDE?

Gratitude is a feeling or attitude in acknowledgment of a benefit that one has given.

Oh, I've got a whole new attitude
A lifetime subscription to gratitude
Friend, you've got to change your platitude
Live an attitude of gratitude!
- SpongeBob

Cicero

"Gratitude is not only the greatest of the virtues but the parent of all others." (Cicero)
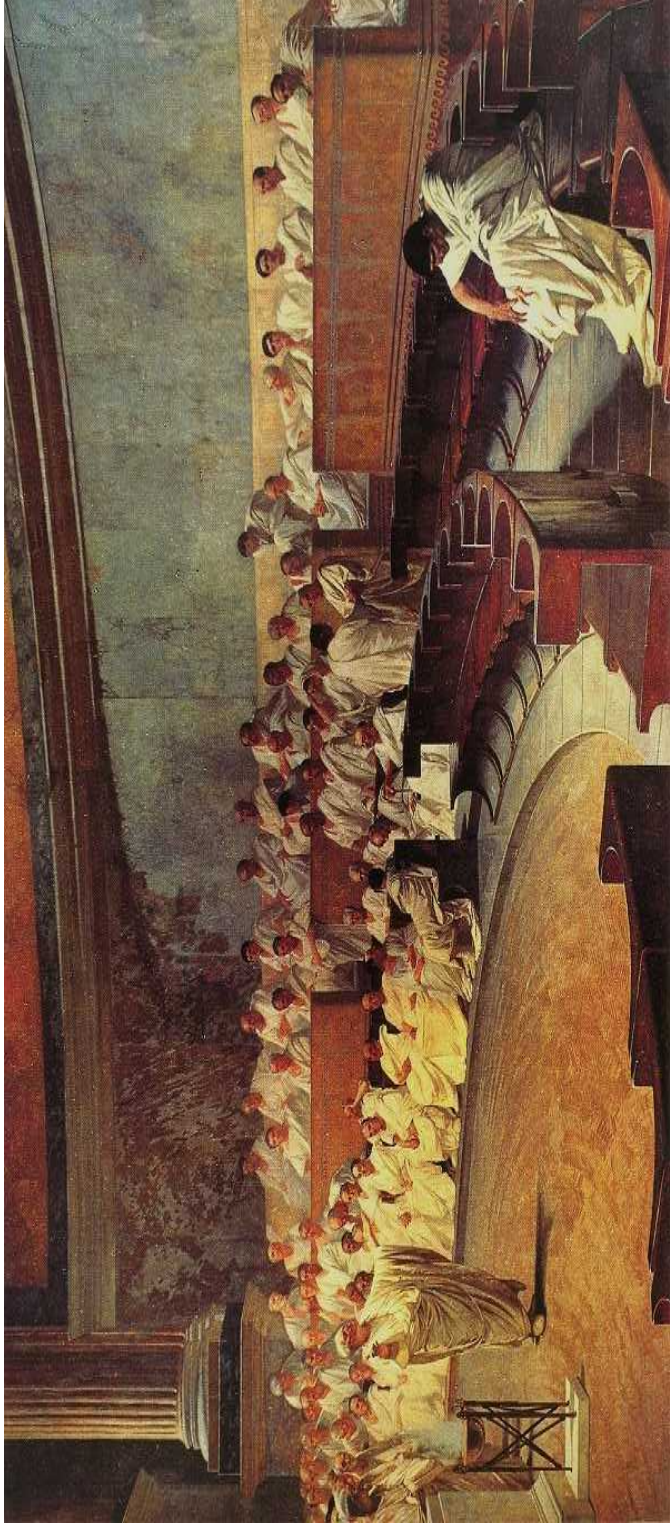
What's good about gratitude?

Benefits of Gratitude

Gratitude is not only the greatest of virtues, but the parent of all the others.

Marcus Tullius Cicero

★ 01 Reach More Goals

Participants who kept gratitude lists were more likely to have made progress toward important personal goals (academic, interpersonal and health-based) than those who did not.

♡ 02 Improved Health

The study also showed physical changes; the authors reported those keeping gratitude journals exercised more regularly and reported fewer physical symptoms.

👍 03 Better Sleep = More Energy

The study included a group of adults with neuromuscular disease. Improvement to 3 weeks. Afterwards, participants reported a much and how well they slept.

👍 06 Increase our Likability

In two studies, those who had average gratitude generates social capital. Gratitude with 243 total grateful participants were 10% more social capital 17.5% more social capital.

⬡ 05 Support Others

Participants in the daily gratitude condition were more likely to report having helped someone with a personal problem or having offered emotional support to another, relative to the hassles or social comparison condition.

♡ 04 Stronger Love Life

According to the authors, feelings of indebtedness showed engagement and commitment externally, but gratitude had uniquely predictive power in relationship promotion perhaps acting as a booster shot for the relationship.

GRAPHIC PROVIDED BY
WWW.GOLDENEAGLESCOCHING.COM

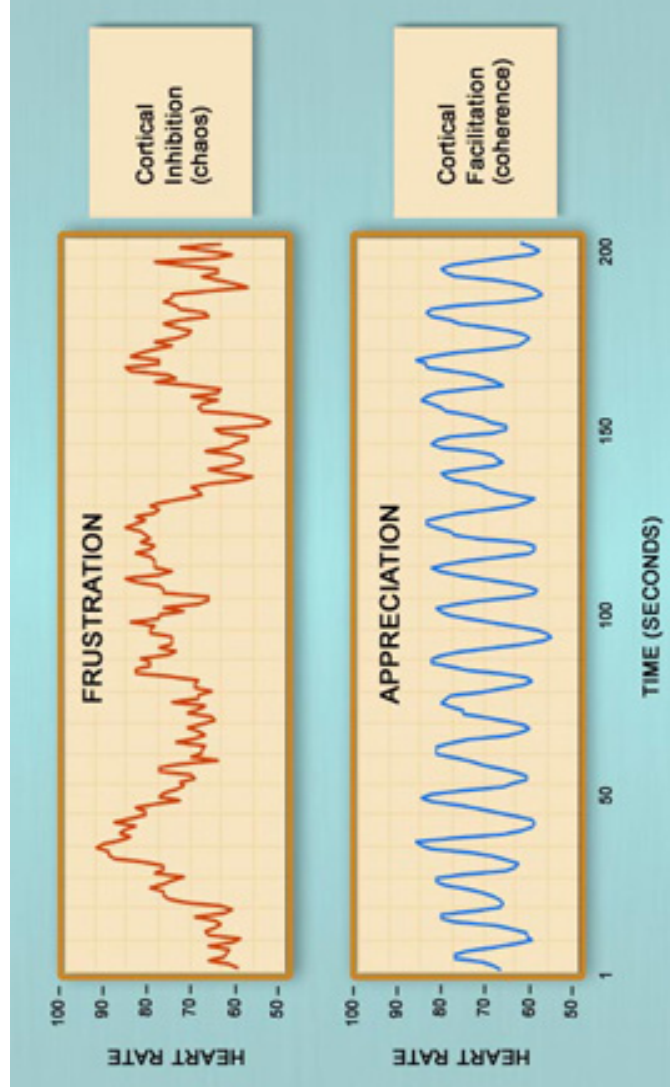Please contact us for details on studies cited in this infographic.

400

Neurological effects

"When you are kind to another person, your brain's pleasure and reward centres light up, as if you were the recipient of the good deed—not the giver."

Gratitude and Heart Function

Psychological Benefits of Gratitude

- Higher Happiness
- Higher Subjective Well-Being
- Greater Satisfaction with Life
- Better relationships

Gratitude Visit

Think of someone from your past who changed your life in some really meaningful way, and you have not yet thanked

Write a letter detailing how and why they made such a lasting and helpful impact on your life

Ask them if you can pay them a short visit

Read out your letter of gratitude to them in person

You will now have changed their life (and yours)!

Gratitude Journal

Write down 3 good things that happen to you or others that you notice

Practice this every few days

Use the template provided to help get you started.

"Gratitude journaling works because it slowly changes the way we perceive situations by adjusting what we focus on."

405

Gratitude Journal Example

Day/date	Event	Why I am grateful
27/08/2014	I put a handwritten note in my son's lunch box telling him why he is amazing!	It felt right to tell him why he's special, it may have made him feel good for the rest of the day

Random Acts of Kindness

- Video link here

Gratitude Jar

- Notice when something good happens
- Write it down on a scrap of paper in the moment
- Place it in the jar
- In unhappy times, or just for fun. Read through the moments of Happiness you have collected for An instant mood boost!

408
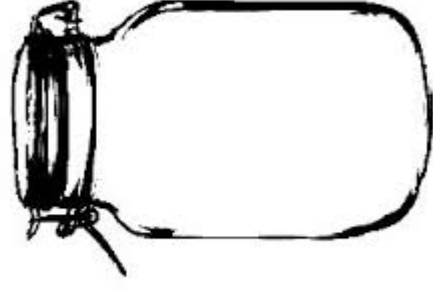
David Steindl-Rast

- Benedictine Monk speaks of Gratitude, happiness and present moment awareness.

THANK YOU

- On behalf of the research team;

  - Liesl

  - Sharon

  - Matthew

We thank you for your participation in our study

THE UNIVERSITY
of ADELAIDE

Session Evaluation Template

Therapist

Rate the following using the scale below, based on your teaching experience today;

1	2	3	4	5
Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree

Program

a) I found the module easy to teach

1   2   3   4   5

b) I found the participant worksheets helpful and practical

1   2   3   4   5

c) I feel the group understood why this skill was important to improve their quality of life

1   2   3   4   5

d) I felt suitably trained to answer group questions

1   2   3   4   5

e) I found participants to be suitably engaged

1   2   3   4   5

f) I believe the group are clear on the homework goals requiring completion

1   2   3   4   5

g) I was able to finish on time

1   2   3   4   5

Additional Comments / Suggestions :

_____

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Personal Performance

1	2	3	4	5
Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree

a) I feel confident that I taught this key concept effectively

1	2	3	4	5

b) I feel I was able to connect adequately with the group

1	2	3	4	5

c) I found the program easy to follow

1	2	3	4	5

d) I felt comfortable teaching the course content

1	2	3	4	5

Additional Comments / Suggestions : -

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Session One: Goals and Pathways Thinking

Positive Psychology- how can it help you?

Traditionally, clinical psychology has focused almost exclusively on disorder and disease, and whilst helpful, has only explored one half of the problem. As a response to this traditional approach, Positive Psychology has begun to explore the concept of happiness and asks the question 'can we help people to flourish?- that is to lead a meaningful, pleasurable and engaged life. This does *not* mean viewing life through rose coloured glasses or 'Pollyannaism', happiness defined this way is both realistic and achievable.The pursuit of happiness has been critically important to people for centuries. Aristotle once said *'Happiness is the meaning and purpose of life, the whole aim and end of human existence'* ☺

What's good about being happy?

Research has found that the benefits of Happiness include;

- Longer life, healthier immune systems, lower incidence of heart disease and strokes
- Greater productivity, better relationships, more co-operative and generous behaviour
- Better ability to enjoy and savour life's experiences

Remember, research suggests that money and youthfulness *are not* important determinants of happiness in first world countries

How can I practice Happiness?

Research suggests that happy people DO the following;

- Enjoy and nurture social relationships

- Are comfortable expressing gratitude / thankfulness

- Are kind / helpful to others

- Practice optimism about the future

- Live life in the present moment and savour life's pleasures

- Make physical activity a habit

- Use and focus on their strengths

- Are committed to lifelong goals and personal values

In this session we will be focusing on *goals and pathways thinking*, two important ingredients for success, happiness and increasing hopefulness.

Why study Hope?

Hope is defined as 'goal directed thinking in which people produce effective routes to their goals, stay sufficiently motivated and successfully handle any barriers blocking those goals'. Lots of studies have shown that hope is an important ingredient for improving your happiness, health, self-esteem, motivation and life satisfaction. Now some of you may believe that hope is a feeling, in our study, we want to encourage you to 'think' in hopeful ways.

If you have had trouble in the past with achieving your goals, it is usually because one of the components required for success may have been under developed, or even missing from your experience. This is where HOPE comes in. So, what are the ingredients for success?

Goals and Pathways Thinking

1. Come up with a realistic, achievable and important goal that can be attained within a set time frame
2. Identify potential obstacles to goal attainment
3. Identify alternative pathways to goal attainment
4. Encourage flexibility and confidence in your approaches

The following exercise teaches you to set realistic goals, use 'pathways' thinking to identify different routes for success, and avoid obstacles that may impact on your success. Please bear in mind, when you are motivated and put in the effort, you *will* benefit most from positive psychological interventions.

Your homework this week is to practice using the pathways you have chosen to work towards achieving your goal. You will be asked to summarise how you have been going with this at the beginning of the next session.

In case of difficulties meeting the study requirements, please call our research assistant on _____

Goals and Pathways Thinking

Domain	Importance (0-10)	Satisfaction Rating (0-10)
1. Academic		
2. Family		
3. Leisure		
4. Personal Growth		
5. Health / Fitness		
6. Romantic relationships		
7. Social relationships		
8. Spirituality		
9. Work / Career		

My selected domain is:

_____

What would I have to do to increase my satisfaction in this domain?

_____
_____
_____
_____

My goal is

_____
_____
_____
_____

Is my goal realistic?   Yes   No   (please circle)

Is my goal achievable?   Yes   No

Is my goal important to me?   Yes   No

Pathways

Pathways are the thoughts you have about *how* you will direct your actions. Ask yourself 'How can I achieve this goal? – <u>this</u> becomes your pathway.

e.g. I will set my alarm for 6am so I can get out of bed and do my 20 minutes of exercise because my goal is to get fitter.

Pathways I can use to achieve my goals:

My Goal:

_____
_____
_____
_____

1. What is my pathway/s to the goal?- how do I intend to get there?

_____
_____
_____
_____
_____
_____

2. How much do I believe I can do this?   (circle)

   A little   medium   very much

3. How much motivation do I have to accomplish my goal?

   A little   medium   very much

4. What makes me think I can achieve my goal?

   _____
   _____
   _____
   _____

5. What might get in the way of achieving my goal? (obstacles)

   _____
   _____
   _____
   _____
   _____

6. What will probably happen if I keep on this pathway to my goal?

   _____
   _____
   _____
   _____
   _____

7. What might happen if I change my pathway?

   _____
   _____
   _____
   _____
   _____

8. What can my back up plan be if this happens?

_____

_____

_____

_____

_____

9. What would I tell a friend if she came up with my goal and my pathways?

_____

_____

_____

10. Goals work best when they are broken down into smaller steps.

    How would your goal look in a number of steps?

    1._____

    2._____

    3._____

    4._____

    5._____

11. How much do I believe I can accomplish my goal now?

    A little   medium   very much

GOALS AND PATHWAYS CHECKLIST

DO

1. Break a long-term goal into steps or sub-goals
2. Begin your pursuit of a distant goal by concentrating on the first sub-goal
3. Practice making different routes to your goals and select the best one
4. In your mind, rehearse what you will need to do to achieve your goal
5. Mentally rehearse what you will do should you encounter a blockage
6. Blame your strategy, not yourself if your goal cannot be reached
7. If you need a new skill to reach your goal then LEARN IT!
8. Ask someone to hold you accountable (this is very effective!!)
9. Be willing to ask for help if you don't know how to get to your goal

DON'T

1. Think you can reach your big goals all at once
2. Be too quick in producing routes to your goals
3. Be rushed to select the best or first route to your goal
4. Overthink the idea it must be the one 'perfect' route to your goal
5. Stop thinking about other strategies when one doesn't work
6. Blame yourself as untalented or stupid when a strategy fails
7. Be caught off guard when one approach doesn't work
8. Get into friendships where you are encouraged or even praised for not coming up with your own solutions to your problems

Session 2 : Agentic Thinking

Hope

We have already introduced you to the concept of Hopeful thinking.

Remember that Hope is an important ingredient for your health and

happiness. You may not know that scientists have found that Hope has 2

parts. In the first session we learnt about Part 1, generating meaningful

goals and the pathways thinking we can use to achieve those goals. You

have spent the last week working on mastering pathways thinking. This

week we are learning about Part 2, that is agency, or agentic thinking.

Agentic Thinking

This thought based skill is responsible for motivating you to stay on your

pathways *long enough* to achieve your goals.

- It's like a turbo charge for your motivation!

In our research we have discovered that the skill of agentic thinking is better developed in people who are successful at long-term weight loss, compared with those struggling with weight loss.

So we believe this is an important scientific breakthrough, because the more goals you achieve, the more successful you feel, the happier and healthier you are, and we can teach you how to achieve this success for yourself through agentic thinking.

First, you must get to know your mind better…….

Welcome to your mind

As you can see, your brain is very complex- it has ensured that we have survived long enough as a species to live at the top of the food chain.

However, what you may not know is that the brain is still hardwired in exactly the same way it was when we were cave dwellers.

So even though our environments have changed dramatically since those days, our biology has not. This has created problems for modern man as we now have many more triggers from the environment to process.

The brain still has a tendency to focus on cues that are negative (so it can keep you safe) and may miss some really good things along the way. Therefore, if you don't recognise when the mind is derailing your plans for success, then you will continue to struggle to achieve your goals and lasting happiness. This is why it is important to pay attention to your Thoughts, Feelings and Behaviour (the 'Bermuda Triangle' of the mind!)

Example:

THOUGHT: I can't go for a walk now, it's raining, I might get wet

(mind perceives threat)

FEELING: anxiety

(emotional response to thought)

BEHAVIOUR: I'll just stay home instead

(action taken to avoid discomfort)

CONSEQUENCE: I have failed to do my walking goal and now I feel guilty…

where is that packet of Tim Tams?

(unsuccessful outcome / goal derailed)

In the 'Bermuda Triangle' of the mind…… your goals may get lost!!

So how can we find ways to teach our minds to relax a little and promote

our goal directed behaviour and pathways thinking?

Neuroplasticity

Neuroplasticity refers to changes in neural pathways and synapses due to changes in the environment, thinking, behaviour and emotions. It is always available to us no matter what age and stage we are in life. It also has many health benefits.
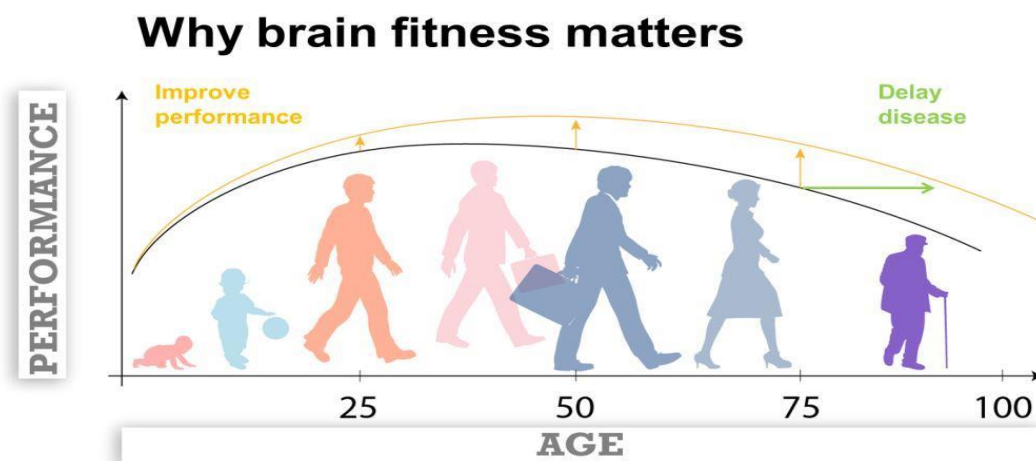
Why brain fitness matters

So the good news is, despite our old and often unhelpful programming, we can use neuroplasticity (at a biological level) to manage the mind when it is being unhelpful, promote flexibility, and use the energy this creates towards achieving our goals.

To encourage plasticity, we can think in more flexible ways using the following techniques;

1. **Thoughts <u>aren't</u> facts about you……**

   We often think just because we have a thought (especially a negative one) it MUST BE TRUE. Ok, let's put this to the test. Tell yourself 'I'm a banana', did you turn into one? No, some evidence to suggest thoughts aren't true.

2. **You <u>do not</u> have to obey your thoughts**

   We all grow up believing that because our mind is important we should obey what it says… right? Ok, again, let's test this theory. Tell yourself 'I must not hop' then do the opposite.. hop! What happened? Nothing….. when I disobeyed my mind nothing bad happened. Believing you must obey your thoughts (especially when they get in the way of doing your goals and pathways work) does not help you to live a happier, more fulfilled life. Choose to do the opposite when safe to do so and see just what you can REALLY achieve. The mind won't mind, it is quite happy to support you when you feed it new information.

To summarise- understanding the limitations of the human mind (ie- the Bermuda Triangle effect) and using our capacity for neuroplasticity can help us to behave differently in response to unhelpful thinking getting in the way of the 'doing'.

TICS & TOCS

You now understand why recognising the limitations of thinking, and encouraging more flexible approaches to encourage plasticity are both helpful for gaol achievement. The following exercise TICS & TOCS is a helpful way to do both, in the service of achieving your goals.

- TICS- Task Interfering Cognitions / thoughts

  (they get in the way of the DOing)

- TOCS- Task Orienting Cognitions / thoughts

  (they promote the DOing)

Task Interfering Cognitions (TICS)	Task Orienting Cognitions (TOCS)
If I walk in the rain I will get wet and upset.	I don't mind getting wet if it means I can follow through on my fitness goal.
I'm too tired to prepare a healthy meal	I can be tired AND prepare my healthy meal
Exercise is boring	I will walk on a different path today to keep things interesting
What will everybody think about me at the gym?	I can't control what other people think so I will do what I have to do for myself
DRAINS YOUR AGENCY	BOOSTS YOUR AGENCY

It is helpful to become familiar with the TICS getting in the way of your achievements, and practice coming up with some TOCS that can get you back on track to goal achievement.

Given many people are great at visualising, there is another technique you can use along with TICS and TOCS to promote your own goal success.

Positive Visualisation   (mind movies)

What we mean by this is that we use our minds to picture ourselves

DOING something we really want to achieve. This is often what top

athletes do when they are training for a big race, and it can be really

specific like winning the marathon at the Olympics. Your goals are just as

important to you, try this technique first thing in the morning, or last thing

at night so you can use the full power of your mind with less distractions.

Remember;

I can't control everything... but one thing I *can control* is **my Attitude** & I am going to make sure its a... *GOOD ONE!!!*

Congratulations on completing Module 2 – Agentic Thinking.

Homework;

To consolidate your skills we encourage you to practice changing your relationship to your thinking, especially when it gets in the way of the Doing. You have been given a number of techniques to try, all of which encourage neuroplasticity.

Task 1- apply what you have learned to the goal you set yourself last week.

Task 2- In preparation for Module 3, please log onto www.viastrengths.org and complete the strengths profile. This should take around 20 minutes and is free. Please email us with your top 3 strengths (listed on your strengths profile) so we can tailor this session to your specific strengths.

Thank you ☺

TASK INTERFERING COGNITIONS (TICS)= thoughts that get in the way	TASK ORIENTING COGNITIONS (TOCS)= back on track thoughts

Agency Checklist

DO

1. Tell yourself that you have chosen the goal so it is your job to go out and get it!

2. Talk to yourself using a positive voice (I CAN do this)

3. Anticipate roadblocks that may happen

4. Think of problems as challenges that are curious, not scary

5. Remember the last time you successfully got yourself out of a jam

6. Be able to laugh at yourself, especially if you encounter a roadblock

7. Find a substitute goal when the original goal is SOLIDLY blocked

8. Enjoy the process of getting to your goals, don't just focus on the endpoint- you will miss out on important stuff along the way.

9. Focus on your physical health, including healthy eating, sleep, physical exercise, avoid coffee, alcohol and nicotine if possible

10. Really pay attention to the little things that are going on around you

DON'T

1. Allow yourself to be surprised repeatedly by roadblocks that appear in your life

2. Try to ignore negative thinking as this may just make those thoughts stronger

3. Get impatient if your situation doesn't improve quickly

4. Panic when you run into roadblocks

5. Give up on things ever changing, especially when you are in a low mood

6. Make self-pity your best friend when faced with adversity

7. Take yourself so seriously all the time

8. Stick to a blocked goal when it is TRULY BLOCKED!

9. Constantly ask yourself how you are going to evaluate your progress towards a goal- FOCUS ON DOING IT INSTEAD!

Remember, you are not alone.

J.K. Rowling was a divorced single mother living on welfare when she had the idea for the Harry Potter books.

She walked her baby in its stroller until it fell asleep, then rushed to the nearest café to get out as many pages as she could before the baby woke up. She is now the revered master creator of a beloved global franchise and one of the richest women in the world.

She could have dismissed her idea as stupid, she could have said to herself 'Maybe this is something I can do after my kids are all grown up'. But she found some flexible pathways and stayed goal focused and the rest as they say is history!

What will your history be?

Session 3 : Strengths Training

Every human being was born to be naturally good at something. Simply put, strengths are the best things about you, and when you use your strengths often enough you are energised, you get a buzz. Even better, scientists have discovered that when we use our strengths correctly, we become more focused and successful in life.

Strengths:

- They are the best things about you

- You were born to be good at them

- They energise you during use

- Research suggests they improve;

- HEALTH

- HAPPINESS

- SUCCESS IN LIFE

So, if strengths are so good for us, why do we tend to focus on our weaknesses?

- We have been programmed biologically to search for problems
- Problems demand our attention to be solved
- We want to avoid being considered 'a big head!'
- Most of us do not know what we are really good at
- We have been taught to believe that our weaknesses, not our strengths that are our greatest area for growth- this idea is simply not correct!

Interestingly, it was through organisational psychology working with big business we realised that trying to fix weaknesses was a waste of time and money. We found it was much healthier to accept that people can't be good at everything, and placing them in a team where they can play to their strengths was found to greatly improve morale and productivity.

Why can't I just ignore my weaknesses then?

It is important to recognise that focusing on your strengths does not mean ignoring your weaknesses. Consider the following example,

Let's pretend you want to ride this bicycle. But unfortunately you have a flat tyre. Let's call that flat tyre your 'weaknesses'. Now clearly, if you choose to ignore this weakness, you will be unable to ride the bike safely (or very far!). So yes, it is perfectly reasonable to spend some time tending to your flat tyres (weaknesses) in life. Having taken care of your flat tyre, even if it is fixed 100% you must understand that YOU STILL CANNOT GO ANYWHERE! It is your ability to ride the bike (your strengths) that actually helps you to move forward in your life. So, take care of your flat tyres, but you need to get ON the bike to go anywhere meaningful and productive.

Therefore it is important to focus on both strengths AND weaknesses to achieve your goals in life.

Strengths are not 'Learned Behaviours'

Strengths come in many forms. The trick is to understand that when they are being used correctly, they GIVE you energy. This is quite different to the things we might be good at (i.e. our jobs), that we receive an external reward for (i.e. money) but that we also find draining over time (i.e. burnout). These things are called *Learned Behaviours* and represent ingrained and automatic behaviours that are easily confused with strengths.

Ideally people can combine their strengths and their jobs to get real enjoyment out of life, but for most of us this may not be possible. Given we spend most of our time at work, it is very important that we balance the DRAIN of learned behaviours with GAIN, and that's exactly what using our true strengths can give us.

STRENGTHS	LEARNED BEHAVIOURS
Are things you are naturally good at	You may also be good at
They ENERGISE you	They DRAIN you
They are internally rewarding	You perform them for external rewards

Health benefits associated with Strength use;

- Strength use promotes energy, effectiveness, productivity and a greater sense of meaning in our lives.
- Identifying and using your strengths increases happiness and reduces depression
- Using strengths can help you recover more quickly from illness

How Strengths can be used to improve your Quality of Life

Identify them

Now we know what your strengths aren't- they aren't your weaknesses or your learned behaviours. Your Values In Action Character profile (www.viacharacter.org) has provided the foundation upon which you can build your understanding and use of your natural strengths.

The Values In Action Questionnaire (VIA)

This survey was developed by leading scientists in the field of Positive Psychology to help you better understand your unique combination of strengths and character. These strengths represent our capacities to help

ourselves and others, and when we use them this creates a happier, more authentic and successful life.

You will notice that your strengths are listed from number 1 to 24. This is because research has identified 24 main strengths found to be common to being 'human'. Your strengths are listed in order of how prominent or developed they are in your profile (based on your answers). Be aware that the strengths lower on your list do not represent weaknesses or deficiencies in that area, they are simply lesser strengths.

In this session we will be working with your top 3 strengths, also known as your *signature strengths*. These are strengths of character that usually feel like 'the real you', that you might use often and serve to invigorate rather than exhaust you!

To help organise and make better sense of the 24 strengths, the VIA also classifies strengths under 6 broad *virtue* categories. Virtues are defined as being part of one's 'good character', and have shown to be both morally and universally valued by humans throughout history.

The Virtues are;

1. **Wisdom and Knowledge**- Cognitive (thinking strengths) related to gathering and using knowledge.

2. **Courage**- Emotional strengths when exercised allow you to accomplish goals in the face of opposition.

3. **Humanity**- Interpersonal strengths involving tending and befriending others.

4. **Justice**- Civic strengths that underlie healthy community life.

5. **Temperance-** Strengths that protect against excess.

6. **Transcendence-** Strengths that forge connections to the larger universe providing meaning.

Using the Classification Card provided, you can look up your strengths, the behaviour associated with your strengths and the virtues to which your strengths belong. This information can be combined to form your 'Strength Statement' to help organise and add meaning to the information provided.

1. Strength 1 _____means I enjoy and am naturally good at

   _____

   _____

   and belongs to the _____category of virtues.

For example: My strength statement would look like this- top strength is *'Love of learning*, it means I enjoy and am good at *Mastering new ways of doing things* and belongs to the wisdom and knowledge virtue.

- You will be writing 3 strength statements recognising your signature strengths in class today and keeping this as a reference.

Now you are familiar with your strengths, we must make this knowledge productive to gain the positive benefits. The best way to do this is to apply your strengths to particular goals.

This is where all of your previous hard work pays off, because we can now incorporate strengths work with your goals, pathways and agency thinking strategies.

Applying your strengths to specific goals

We will now re-visit the goal setting exercise you learned in Module 1, and this time we are going to choose a new goal, and work out how we can use our strengths to help achieve it.

An extra blank template is provided for you to fill out in the future.

Pathways, Goals, Agency & Strengths

Domain   Importance (0-10)   Satisfaction Rating (0-10)

1. Academic

2. Family

3. Leisure

4. Personal Growth

5. Health / Fitness

6. Romantic relationships

7. Social relationships

8. Spirituality

9. Work / Career

My selected domain is:

_____

_____

What would I have to do to increase my satisfaction in this domain?

_____

_____

_____

_____

My goal is :

_____

Is my goal realistic?   Yes   No   (please circle)

Is my goal achievable?   Yes   No

Is my goal important to me?   Yes   No

Pathways I can use to achieve my goals

My Goal:

_____

_____

1. What is my pathway to the goal?- how do I intend to get there?

_____

_____

_____

2. How can using my strengths help me to achieve my goal?

   Strength1 _____

   When I apply this strength to my goal, my behaviour would look

   like_____

   _____

   _____

   _____

   _____

   _____

Strength2 _____

    When I apply this strength to my goal, my behaviour would look

    like_____

    _____

    _____

    _____

    _____

    _____

    Strength 3 _____

    When I apply this strength to my goal, my behaviour would look

    like_____

    _____

    _____

    _____

    _____

    _____

3.   How much do I believe I can do this?

    A little   medium   very much

4. How much motivation do I have now to accomplish my goal?

   A little   medium   very much

5. What makes me think I can achieve my goal?

   _____

   _____

   _____

   _____

   _____

6. What might get in the way of achieving my goal? (TICS?)

   _____

   _____

   _____

   _____

   _____

7. What will probably happen if I keep on this pathway to my goal?

   _____

   _____

   _____

8. What might happen if I change my pathway? (TOCS?)

_____

_____

_____

_____

_____

9.   Goals work best when they are broken down into smaller steps.

How would your goal look in a number of steps?

1._____

2._____

3._____

4._____

5._____

6. _____

10. How much do I believe I will accomplish my goal now?

A little   medium   very much

Congratulations on completing Module 3. ☺

- HOMEWORK- is to actively apply your strengths to your goals, and work towards achieving them. You will be asked to report on your progress at the beginning of the next and final session.

Inspirational Stories

Strengths and virtues can be found in stories of great achievements, and these are often used as motivators in psychology. Here is a famous one to inspire you.

> Albert Einstein, Alexander Graham Bell, Leonardo da Vinci, Thomas Edison, Walt Disney and Winston Churchill are all said to have displayed signs of dyslexia and other learning disabilities. They did poorly in school. They were told they were stupid, talentless, unteachable, and that they would never amount to anything beyond "mediocre." I think you know they all went on to do some fairly impressive things.
> They could have believed the negative voices and been the smallest versions of themselves. But they didn't. What strength of character might they have shown to overcome adversity?

"WE CANNOT SOLVE OUR PROBLEMS WITH THE SAME THINKING WE USED WHEN WE CREATED THEM"
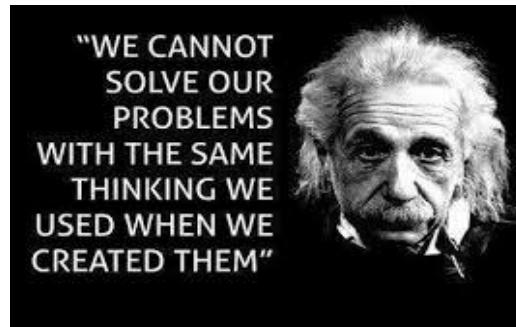
- Riccochet the surf dog ☺

Things to remember about strengths and their use

- Please note your strengths don't have an on/off switch, they have a volume knob. It is possible to overuse strengths so pay close attention to make sure you are using your strength in the right amount (your situation will determine the appropriateness of their use, and your goals will focus your intensity of their use).

- Use your strengths to compensate for your weaknesses, and even practice combining your strengths to get an even bigger effect.

- Strengths use is always a journey, not the destination. Enjoy practicing and experimenting with your strength use and keep refining the process to keep things fresh. If you can achieve this you will receive the maximum benefits from your strength training.

Session 4 : Gratitude

What is Gratitude?

Gratitude is a feeling or attitude in acknowledgment of a benefit that one has given or will receive. Gratitude is finding ways to show our appreciation for the people in our lives, the things we have, and for the experiences we share with the world.

"Gratitude is not only the greatest of the virtues but the parent of all others'.
(Cicero, 106 BC)

How does Gratitude work?

- A professor of medical genetics at the University of California studied acts of kindness. His findings suggest that a single act of kindness can result in a flourishing effect, stimulating several more acts of kindness that in turn stimulate more acts of kindness. He called this phenomenon 'upstream reciprocity', much like a domino effect of feel good emotions.

- Known as the 'Helper's high', the reward and pleasure centres of our kindness and generosity. Research suggests that feel good endorphins are released and that this helps to make us feel happy.

"When you are kind to another person, your brain's pleasure and reward centres light up, as if you were the recipient of the good deed—not the giver".

The Physical Health Benefits of Gratitude

- Gratitude has been shown to promote 'coherence' a state in which the body is in tune physically, emotionally and cognitively promoting optimal functioning.

- Endorphins are released – natures anti-depressant

- Mechanism for healing. Researcher Professor Emmons conducted an experiment with adults suffering with neuromuscular disease. After 21 days of practicing gratitude this group reported stronger social connections, improvements in sleep quality and increases in positive mood states.

The Psychological Benefits of Gratitude

- Higher optimism

- Greater confidence and enthusiasm

- Improved satisfaction with life

- Better relationships

- Buffer against depression

- You become more mindful of the present moment, rather than allowing your mind to drag you into the past, or your worries about the future

- Put simply, when you practice gratitude, it works! ☺

So given that gratitude appears to be a strong determinant of people's well-being,

several psychological interventions have been developed to increase gratitude;

1. The Gratitude Visit

2. The Gratitude Journal

3. Random Acts of Kindness

4. The Gratitude Jar

1. The Gratitude Visit

1. Think of someone from your past who changed your life in some really meaningful

way, and you have not yet thanked

2. Write a letter detailing how and why they made such a lasting and helpful impact on

your life

3. Ask them if you can pay them a short visit (or if not possible – skype?)

4. Read out your letter of gratitude to them in person

5. You will now have changed their life (and yours)!

Where participants wrote and delivered a letter of gratitude to someone in their life,

this showed a rise in happiness scores by 10 percent and a significant fall in depression

scores.

2. The Gratitude Journal

- You can live as if everything that happens (or doesn't happen) in your life is always for your best interests. It doesn't matter if we judge things as good, bad, right or wrong, it is the belief that all experience is a gift of great value. No experience is wasted.

- A good way to a practice this is by using the 'Count your Blessings' technique. This entails keeping a Gratitude Journal. There are many benefits to keeping a Gratitude Journal regularly. Writing down 3 good things that you are grateful for every few days is a great way to help you to practice gratitude regularly enough to experience the benefits.

Gratitude Journal Example

Day/date	Event	Why I am grateful
27/08/2014	The sun on my skin	Reminds me I'm ALIVE!!

Gratitude Journal Template

Day / Date	Event	Why I am grateful

3. Random Acts of Kindness

- Allows you to be more pro-active regarding your gratitude- rather than waiting for something good to happen, you can make it happen! Remember that Gratitude is infectious- by simply smiling at someone, holding the door open for a stranger, putting some coins into an almost expired parking meter or leaving an anonymous smiley face sticker on a colleagues desk are all things that cost little, but offer great rewards.

4. The Gratitude Jar

A rewarding thing to do is to keep a Gratitude jar. When you notice something good happening (e.g. a pleasant conversation, happy thought, uplifting experience for you or someone else) write it down on a scrap of paper and place it in a jar. In times of sadness, or every New Year's Eve, open your Gratitude Jar and enjoy the many moments of happiness you have gathered. This also serves as a visual reminder that good things (as well as the bad) are also happening in your environment.

- You can also make the important decision to enjoy your day *before* something good happens. For example, you could say to yourself before you get out of bed '*I intend to appreciate and give thanks for today, no matter what happens'*. This way you are using power of your intention to get the most out of your day……and cultivating a strong 'Attitude of Gratitude!'

Using any or all of these techniques you can train yourself to practice gratitude when you experience something positive or good. Just noticing these things makes a big difference regarding what you pay attention to, and this in turn changes your neural pathways so the practice of Gratitude can become a helpful habit.

Here is a reminder that puts all of this into perspective!

WHAT IF
YOU WOKE UP
TOMORROW
WITH ONLY
WHAT YOU WERE
GRATEFUL FOR
TODAY?

MY RENEWED MIND
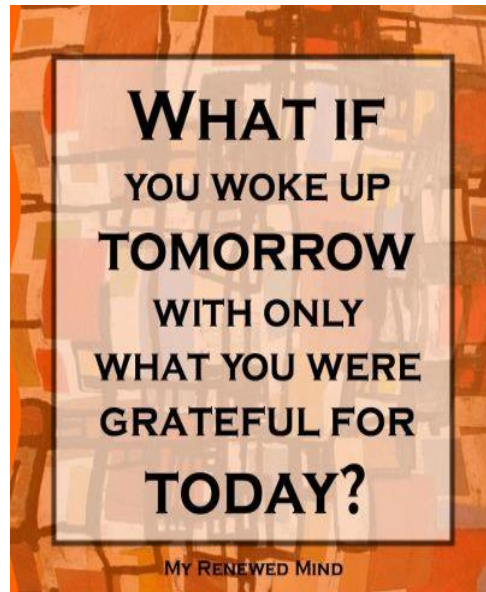
Gratitude expressed through the Arts

If you enjoy music- **Alanis Morrissette's song 'Thank U'** had an interesting beginning...

Morissette explained: "I felt that I lived in a culture that told me that I had to consistently and constantly look outside myself to feel this elusive bliss. And I achieved a lot of what society had told me to achieve and I still didn't feel peaceful. I started questioning everything, and I realized that actually everything was an illusion and it was scary for me because everything I had believed in was dissolving in front of me and there was a death of sorts, a really beautiful one ultimately, but at first a very scary one, and so I stopped. I stopped for the first time and I was overcome with a huge sense of compassion for myself first, and then naturally that translated into my feeling and compassion for everyone around me and a huge amount of gratitude that I had never felt before to this extent. And that's why I had to write this song, 'Thank U,'

because I had to express how exciting this was and how scary it was and all of these opportunities for us to define who we are."

If you are a movie buff, the film 'Pay it Forward' embodies the principles of Gratitude. There are also many inspirational videos on you tube to keep you motivated to make the world- yours and mine, a much better place……..

Now because this is our final session until our follow up in 12 weeks, we will be asking you to fill out your homework summary forms online, rather than in person. We will send you an SMS reminder with the online link next week so Sharon can collect the final data regarding how your Gratitude practice went next Saturday as usual.

We can't stress enough how important your involvement in this study is up until the very end. After study completion in 12 weeks time, you will receive your Certificate of Completion. With genuine thanks ☺

Participant Post-Session Evaluation Template

Name : _____

Please rate the following using the scale below, based on what you have been taught today;

1	2	3	4	5
Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree

a) I found this session helpful

1	2	3	4	5

b) I found this session interesting

1	2	3	4	5

c) I feel that I have learned something new

1	2	3	4	5

d) I feel I understand why this skill is important to improve my quality of life

1	2	3	4	5

e) I found the psychologist easy to understand

1	2	3	4	5

f) I feel confident I can apply what I have learned

1	2	3	4	5

g) I feel confident I can do my homework

1	2	3	4	5

h) I would recommend this training to my family / friends

1	2	3	4	5

Additional comments:

_____
_____
_____
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Homework Review Template

Name: _____

1. What [insert module] based practice did you do over the last week (if any)?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. How would you describe your progress OR (lack of progress) and why?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. Please indicate the following;

I found using my [insert module]skills;

1	2	3	4	5
Very easy	Easy	Neither Easy	Difficult	Very difficult
		or Difficult		

1	2	3	4	5
Very Helpful	Helpful	Neither Helpful	Unhelpful	Very
Unhelpful				
		or Unhelpful		

Have you experienced any major life events that would have impacted your mood or behaviour over the last week?   Y (please describe) N

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Any other comments?

_____

_____

_____

_____

_____

_____

_____

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_____

_____

THE UNIVERSITY of ADELAIDE

The Don't 'Weight' to be Happy Intervention Study

+ Add Page

PAGE 1 Edit Page Options ▼ | Add Page Logic | Move | Copy | Delete   Show this page only

+ Add Question ▼

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Congratulations on completing modules 1-4 of the 'Don't weight to be happy study'
Please complete the following questionnaires, it is very important for the integrity of our study and should take no longer than 20 minutes.

+ Add Question ▼ | Split Page Here

Q1 Edit Question ▼ | Move | Copy | Delete

1. What is your first name?

+ Add Question ▼

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PAGE 2 Edit Page Options ▼ | Add Page Logic | Move | Copy | Delete   Show this page only

Q2 Edit Question ▼ Move Copy Delete

2. 1. What gratitude based practice did you do over the last week (if any)?

Q3 Edit Question ▼ Move Copy Delete

3. 2. How would you describe your progress or (lack of progress) and why?

Q4 Edit Question ▼ Add Question Logic Move Copy Delete

4. With regards to your Gratitude practice

	very easy	easy	neither easy or difficult	difficult	very difficult
1. I found using gratitude	○	○	○	○	○

Q5 Edit Question ▼ Add Question Logic Move Copy Delete

5. With regards to your Gratitude practice

	very helpful	helpful	neither helpful or unhelpful	unhelpful	very unhelpful
1. I found using Gratitude	○	○	○	○	○

Q6 | Edit Question ▼ | Move | Copy | Delete

6. Have you experienced any life events that would have impacted on your mood or behaviour over the last week? If yes please describe below

Q7 | Edit Question ▼ | Move | Copy | Delete

7. Do you wish to make any additional comments? If yes, please use the space below

PAGE 3 | Edit Page Options ▼ | Add Page Logic | Move | Copy | Delete   Show this page only

Q8 | Edit Question ▼ | Move | Copy | Delete

8. Please read each statement and indicate how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

	Never	Sometimes	Often	Almost always
1. I found it hard to wind down	○	○	○	○

467

2. I was aware of dryness of my mouth	○	○	○	○
3. I couldn't seem to experience any positive feeling at all	○	○	○	○
4. I experienced breathing difficulty (breathlessness) in the absence of physical exertion	○	○	○	○
5. I found it difficult to work up the initiative to do things	○	○	○	○
6. I tended to over-react to situations	○	○	○	○
7. I experienced trembling (eg, in the hands)	○	○	○	○
8. I felt that I was using a lot of nervous energy	○	○	○	○
9. I was worried about situations in which I might panic and make a fool of myself	○	○	○	○
10. I felt that I had nothing to look forward to	○	○	○	○
11. I found myself getting agitated	○	○	○	○
12. I found it difficult to relax	○	○	○	○
13. I felt down-hearted and blue	○	○	○	○
14. I was intolerant of anything that kept me from getting on with what I was doing	○	○	○	○
15. I felt I was close to panic	○	○	○	○
16. I was unable to become enthusiastic about anything	○	○	○	○
17. I felt I wasn't worth much as a person	○	○	○	○
18. I felt I was rather touchy (irritable)	○	○	○	○
19. I was aware of the action of my heart in the absence of physical exertsion (eg,	○	○	○	○

	heart rate increase)			
20. I felt scared without any good reason	○	○	○	○
21. I felt that life was meaningless	○	○	○	○

+ Add Question ▼ | Split Page Here

Q9 Edit Question ▼ | Move | Copy | Delete

9. The following questions ask you about your strengths, that is, the things that you are able to do well or do best.

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
1. I know my strengths well	○	○	○	○	○	○	○
2. Other people see the strengths that I have	○	○	○	○	○	○	○
3. I know the things I am good at doing	○	○	○	○	○	○	○
4. I have to think hard about what my strengths are	○	○	○	○	○	○	○
5. I know when I am at my best	○	○	○	○	○	○	○
6. I always try to use my strengths	○	○	○	○	○	○	○
7. I achieve what I want by using my strengths	○	○	○	○	○	○	○
8. Using my strengths comes naturally to me	○	○	○	○	○	○	○
9. I find it easy to use my strengths in the things I do	○	○	○	○	○	○	○
10. I am able to use my strengths in lots of different ways	○	○	○	○	○	○	○

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10. Indicate how much of your time you spend using your strengths?

- ○ 0%
- ○ 10%
- ○ 20%
- ○ 30%
- ○ 40%
- ○ 50%
- ○ 60%
- ○ 70%
- ○ 80%
- ○ 90%
- ○ 100%

+ Add Question ▼ Split Page Here

Q11 Edit Question ▼ Move Copy Delete

11. Below are eight statements with which you may agree or disagree. Using the scale provided, indicate your agreement with each statement by choosing the appropriate answer.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. I lead a purposeful and meaningful life	○	○	○	○	○	○	○
2. My social relationships are supportive and rewarding	○	○	○	○	○	○	○
3. I am engaged and interested in my daily activities	○	○	○	○	○	○	○
4. I actively contribute to the happiness and well-being of others	○	○	○	○	○	○	○
5. I am competent and capable in the activities that are important to me	○	○	○	○	○	○	○
6. I am a good person and live a good life	○	○	○	○	○	○	○
7. I am optimistic about							

	Not like me at all	A little like me	Somewhat like me	Mostly like me	Very much like me
my future	○	○	○	○ ○ ○ ○		
8. People respect me	○	○	○	○ ○ ○ ○		

Q12 Edit Question ▼ | Move | Copy | Delete

12. Below are 18 statements that many people would find desirable, but we want you to answer only in terms of whether the statement describes how you actually live your life. Please be honest and accurate using the rating scale provided.

	Not like me at all	A little like me	Somewhat like me	Mostly like me	Very much like me
1. Regardless of what I'm doing, time passes very quickly	○	○	○	○	○
2. My life serves a higher purpose	○	○	○	○	○
3. Life is too short to postpone the pleasures it can provide	○	○	○	○	○
4. I seek out situations that challenge my skill and abilities	○	○	○	○	○
5. In choosing what to do, I always take into account whether it will benefit other people	○	○	○	○	○
6. Whether at work or play, I am usually 'in a zone' and not conscious of myself	○	○	○	○	○
7. I am always very absorbed in what I do	○	○	○	○	○
8. I go out of my way to feel euphoric	○	○	○	○	○
9. In choosing what to do, I always take into account whether I can lose myself in it	○	○	○	○	○
10. I am rarely distracted by what is going on around me	○	○	○	○	○
11. I have a responsibility to make the world a better place	○	○	○	○	○
12. My life has a					

471

lasting meaning	○	○	○	○	○
13. In choosing what to do, I always take into account whether it will be pleasurable	○	○	○	○	○
14. What I do matters to society	○	○	○	○	○
15. I agree with this statement 'Life is short- eat dessert first'	○	○	○	○	○
16. I love to do things that excite my senses	○	○	○	○	○
17. I have spent a lot of time thinking about what life means and how I fit into its big picture	○	○	○	○	○
18. For me, the good life is the pleasurable life	○	○	○	○	○

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Q13   Edit Question ▼   Move   Copy   Delete

13. This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate to what extent you have feel this way in the present moment. Use the following scale to record your answers.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. interested	○	○	○	○	○
2. distressed	○	○	○	○	○
3. excited	○	○	○	○	○

472

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
4. upset	○	○	○	○	○
5. strong	○	○	○	○	○
6. guilty	○	○	○	○	○
7. scared	○	○	○	○	○
8. hostile	○	○	○	○	○
9. enthusiastic	○	○	○	○	○
10. proud	○	○	○	○	○

+ Add Question ▼ | Split Page Here

Q14 | Edit Question ▼ | Move | Copy | Delete

14. Continued.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
11. irritable	○	○	○	○	○
12. alert	○	○	○	○	○
13. ashamed	○	○	○	○	○
14. inspired	○	○	○	○	○
15. nervous	○	○	○	○	○
16. determined	○	○	○	○	○
17. attentive	○	○	○	○	○
18. jittery	○	○	○	○	○
19. active	○	○	○	○	○
20. afraid	○	○	○	○	○

+ Add Question ▼ | Split Page Here

Q15 | Edit Question ▼ | Move | Copy | Delete

15. Using the scale as a guide, please indicate how much you agree with the following statements.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. I have so much in life to be thankful for	○	○	○	○	○	○	○
2. If I had to list everything that I felt grateful for, it would be a very long list.	○	○	○	○	○	○	○
3. When I look at the world, I don't see much to be grateful for.	○	○	○	○	○	○	○
4. I am grateful to a wide variety of people.	○	○	○	○	○	○	○
5. As I get older I find myself more able to appreciate the people, events and situations that have been part of my life history.	○	○	○	○	○	○	○
6. Long amounts of time can go by before I feel grateful to something or someone.	○	○	○	○	○	○	○

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+ Add Question ▼

Q16   Edit Question ▼   Move   Copy   Delete

16. Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item. Please be open and honest in your responding.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1. In most ways my life is close to my ideal	○	○	○	○	○	○	○
2. The conditions of my life are							

474

excellent	○	○	○	○	○	○	○
3. I am satisfied with life	○	○	○	○	○	○	○
4. So far I have gotten the important things I want in life	○	○	○	○	○	○	○
5. If I could live my life over, I would change almost nothing	○	○	○	○	○	○	○

+ Add Question ▼

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Q17   Edit Question ▼   Move   Copy   Delete

17. Read each item carefully. Using the scale shown below, please select the number that best describes how you think about yourself right now. Please take a few moments to focus on yourself and what is going on in your life at this moment.

	Definitely false	Mostly false	Somewhat false	Slightly false	Slightly true	Somewhat true	Mostly true	Definitely true
1. If I should find myself in a jam, I could think of many ways to get out of it.	○	○	○	○	○	○	○	○
2. At the present time, I am energetically pursuing my goals.	○	○	○	○	○	○	○	○
3. There are lots of ways around any problem that I am facing now.	○	○	○	○	○	○	○	○
4. Right now, I see myself as being pretty successful.	○	○	○	○	○	○	○	○
5. I can think of many ways to reach my current goals.	○	○	○	○	○	○	○	○
6. At this time, I am								

meeting the goals that
I have set for myself.

○　　○　　○　　○　　○　　○　　○　　○

+ Add Question ▼ Split Page Here

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Thank you :) Once again we would like to thank you for your participation in our study. Stay safe, I look forward to meeting with you for your final short interview.

+ Add Question ▼

THE UNIVERSITY
of ADELAIDE

Post-course evaluation

Name : _____

Please write down what you remember about the 'Why Weight for Happiness' trainingcourse.

_____
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In your own words please define the following terms;

1. Pathways and goals

   _____
   _____
   _____
   _____

2. Agentic thinking

   _____
   _____
   _____
   _____

3. Strengths

_____
_____
_____
_____

4. Gratitude

_____
_____
_____
_____

Please indicate below if you used any of the following skills over the last 12 weeks;

1. Pathways thinking and goal setting   YES   NO   (please circle)
   If yes, please describe how and why this skill was used.

_____
_____
_____
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_____

2. Agentic thinking   YES   NO   (please circle)

If yes, please describe how and why this skill was used.

_____

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Please indicate below if you used any of the following skills over the last 12 weeks;

3. Using personal strengths   YES   NO   (please circle)
   If yes, please describe how and why this skill was used.

_____

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4. Practicing Gratitude   YES   NO   (please circle)

    If yes, please describe how and why this skill was used.

    _____
    _____
    _____
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    _____

Please indicate below, what factors (if any) interfered with your ability to put any / all of the above skills into practice over the last 12 weeks.

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Thankyou

Please rate the following statements based on what you have experienced over the last 12 weeks, using the scale below;

1	2	3	4	5
Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree

a) *I found the course helpful*

1   2   3   4   5

b) *I found the course interesting*

1   2   3   4   5

c) *I felt that I had learnt something new*

1   2   3   4   5

d) *I felt I understood why these skills are important to improve my quality of life*

1   2   3   4   5

e) *I found the psychologist easy to understand*

1   2   3   4   5

f) *I feel confident I can apply what I have learnt*

1   2   3   4   5

g) I feel confident I can continue to use these skills to improve the quality of my life

1   2   3   4   5

g) I would recommend this course to my family / friends

1   2   3   4   5

Thank you