Psychological and Social Aspects of Bariatric Surgery

Being a Thesis submitted in fulfilment of the requirements for the degree of Doctor of Clinical Psychology

By

Samantha L McKenzie BSc(Hons) Psychology

June 2011
Acknowledgements

First and foremost I would like to thank the ladies who took part in my research. Thank you for your time, honesty, and willingness to share your journey. You were an inspiration, and without you this would not have been possible.

Thank you to Dr Lesley Glover, for being a constant source of support, reassurance and guidance – you certainly provided calm in the storm!

Thank you to Beryl, and all of the team at Castle Hill Hospital, for your support and time in developing this research, and, Beryl for your invaluable input in finding my participants.

To the clinical psychology trainees, your support over the past three years has been invaluable; with special thanks to Nikki and James, for company, containment, and ‘spoons breakfasts at many an unsocial hour, and to the IPA group for their invaluable wisdom.

Finally, I would like to thank Ashley, Gerri, Laura, Natalie, and my wonderful family (as well as Ella, Ethan, Baby Martin, and the staff at Starbucks, Planet Coffee, and The Last Word!) for your unwavering support (practical and emotional), and those endless cups of tea and coffee.
Overview

This portfolio has three parts.

The first is a systematic literature review, in which the psychological and social factors associated with successful weight loss after bariatric surgery are reviewed.

The second part is an empirical paper, which investigates the experiences of women who have successfully lost weight following bariatric surgery, specifically with reference to changes in self-concept. Seven women were interviewed and emergent themes were analysed using interpretative phenomenological analysis. Nine subthemes were identified, clustered into three superordinate themes: (1) ‘obesity as socially unacceptable’, (2) ‘making a case for surgery’, and (3) ‘the slim self as socially acceptable’. Links to self-concept were made, and clinical implications were discussed.

The third part of the portfolio comprises of the reflective statement and appendices.

Total word count (excluding tables, figures, references, and appendices): 13526
## Contents

**PART 1 - Psychological and Social Patient Characteristics Associated with Post-Bariatric Surgery Weight Loss: A Systematic Review of the Literature**

Abstract ............................................................................................................................. 7  
Introduction ....................................................................................................................... 9  
Method............................................................................................................................. 13  
Results ............................................................................................................................. 16  
Discussion ....................................................................................................................... 36  
References ....................................................................................................................... 45  

**PART 2 - Bariatric Surgery, Rapid Weight Loss, and Self Concept**

Abstract ........................................................................................................................... 55  
Introduction ..................................................................................................................... 56  
Method............................................................................................................................. 60  
Results ............................................................................................................................. 63  
Superordinate theme 1: The Obese Self as Socially Unacceptable ............................. 64  
Superordinate theme 2: Making a Case for Surgery.................................................... 69  
Superordinate Theme 3: The ‘Slim’ Self as Socially Acceptable ............................... 72  
Discussion ....................................................................................................................... 77  
References ....................................................................................................................... 88
PART 3 - Appendices and Reflective Statement

Reflective Statement........................................................................................................ 92

Appendix A ........................................................................................................................................ 95
  Ai - Author Guidelines for Obesity Surgery.................................................................................. 95
  Aii - Notes for Contributors to the Journal of Health Psychology ........................................ 105

Appendix B ........................................................................................................................................ 110
  Bii – Data Extraction .................................................................................................................... 110
  Bii - Quality Assessment Questions ............................................................................................. 111

Appendix C ........................................................................................................................................ 112
  Ci - Research Method Selection and Epistemological/Ontological Statement .................... 112
  Cii - Interview Schedule (v.2) .................................................................................................... 117
  Ciii – Research Approval Documentation .................................................................................. 118
  Civ – Recruitment Flyer and Cover Letter .............................................................................. 121
  Cv – Information Sheet ............................................................................................................... 123
  Cvi – Worked Example of IPA Analysis..................................................................................... 127
List of Figures and Tables

**PART 1 - Psychosocial and Behavioural Factors Associated Post-Bariatric Surgery Weight Loss: A Systematic Review of the Literature**

Figure 1. Flowchart of search strategy and study selection

Table 1. Search inclusion/exclusion criteria

Table 2. Summary of research papers under review

**PART 2 - Bariatric Surgery, Rapid Weight Loss, and Self Concept**

Figure 1. Search strategy

Table 1. Summary of themes
PART ONE: SYSTEMATIC LITERATURE REVIEW

Running Head:
Characteristics Associated with Post-Surgical Weight Loss

REVIEW ARTICLE

Psychological and Social Patient Characteristics Associated with Post-Bariatric Surgery Weight Loss: A Systematic Review of the Literature

Samantha McKenzie & Dr Lesley Glover
Department of Clinical Psychology and Psychological Therapies,
University of Hull, Hull, UK:
Humber NHS Foundation Trust, Hull, UK
Corresponding Author Email: S.L.McKenzie@2005.hull.ac.uk

This paper is written for consideration by Obesity Surgery.
(Please see Appendix Ai for the Authors’ Guidelines).

Word Count (excluding figures and tables): 6766
Abstract

**Background:** Bariatric surgery is an area of rapid growth; however the non-medical/physiological contributors of weight loss success/failure remain unclear. The current paper aims to identify those psychological and social factors which are of predictive value in terms of weight loss outcome.

**Methods:** A systematic literature review was undertaken to identify papers which assessed psychological and/or social factors pre-surgically, alongside their impact on post-surgical weight loss. The search terms *(bariatric OR “weight loss” OR obesity AND surgery) OR (gastric AND bypass OR band*) OR (“roux en Y”) OR (“laparoscopic surgery”) AND "weight loss outcome" OR "excess weight loss”* were entered in a number of well-established databases – psycINFO, psycARTICLES, Academic Search Elite, MEDLINE and CINAHL Plus.

**Results:** Fifteen papers were reviewed. Fourteen papers were from ‘Western’ cultures (predominantly Australia and the USA). The participants were primarily female, pre-surgical BMI ranged from 44.8 (SD=7.7) to 52 (SD=11), and participant ages were predominantly in the 40-49 range.

There is no clear evidence of mental health or personality variables being associated with long-term weight loss outcome. Coping strategies, communications with others about their surgery, and being motivated by appearance were found to be related to weight loss outcome.

**Conclusions:** There is no evidence to suggest that bariatric surgery requests should be based on mental illness or personality disorders. It is suggested that information about the benefits of good coping skills and the involvement of others can be utilised to
promote weight loss. Research is somewhat preliminary however; as such larger scale studies would be beneficial.

**Keywords:** ‘bariatric surgery’, ‘weight loss surgery’, ‘psychological’, ‘social’, ‘predictors’, ‘weight loss surgery’
Introduction

According to the World Health Organisation [1], one billion people are currently overweight, with this figure being set to rise to 1.5 billion by 2015 without intervention. Additionally, 44% of cases of diabetes, 23% of cases of ischemic heart disease, and 7-41% of certain cancers are associated with being overweight [1]. In the UK, the National Institute for Health and Clinical Excellence (NICE) [2] recommends bariatric surgery for individuals with a Body Mass Index (BMI)\(^1\) over 40, or a BMI over 35 with significant medical co-morbidities (e.g. diabetes).

Bariatric surgery refers to weight loss procedures, which might be ‘restrictive’ (restricting energy/calorie intake), ‘malabsorptive’ (limiting absorption of energy/calories) and combination procedures [4]. Rates of bariatric surgery in the NHS have been rapidly increasing over recent years, with over 6,520 bariatric surgery procedures commissioned in 2009/10; compared to around 470 procedures in 2003/04 [4]. Bariatric surgeries are generally successful in terms of weight loss, with Buchewald et al. [5] identifying an average excess weight loss of 61.2% in a review of bariatric surgery research, with no significant differences in weight lost between those at two year follow-up and longer.

Weight regain following bariatric surgery is unfortunately also well documented [6], often despite the method causing gastric restriction remaining intact [7]. For example, Chen, Roehrig, and Herbozo [8] report that up to 30% of gastric bypass patients regain their excess weight. As highlighted by Hsu, Sullivan, and Benotti [6], the risks associated with conducting bariatric surgeries is high; both during and shortly after

---

\(^1\) Body Mass Index is an international measure used to classify underweight, normal weight, overweight and obesity in adults. It is calculated as kg/m\(^2\) [3]
the surgery, for example, risks associated with anaesthetic, blood clots, heart attacks and strokes, and the longer term risks, such as the breakdown of the pouch (resulting in further surgery being necessary), poor nutrition, vomiting, dumping syndrome\textsuperscript{2}, gallstones, and stomach ulcers [9]. Such risks, alongside Engel, Crosby, and Kolotkin’s [10] findings that weight regain (after surgically induced weight loss) is closely associated with a decrease in health related quality of life, make an understanding of the factors which contribute to unsuccessful weight loss essential for the future of bariatric surgery.

The proposed factors associated with weight loss failure following bariatric surgery are vast and varied, ranging from technical factors such as port leakage\textsuperscript{3} [11] to psychological factors such as anxiety disorders [12], however actually identifying which factors are of direct relevance has been of limited success [13]. As might be expected of a medical procedure, a number of technical, physiological, and demographic factors have been identified as contributors to weight loss, or lack thereof, such as gender (with men being more likely achieve weight loss), age (with $<40$yrs being a positive indicator), BMI (with $>50$ being a negative indicator), and port leakage (as a negative predictor) [11]. Whilst such physiological factors have been demonstrated to be of greater predictive value than psychological factors [11], a number of researchers have suggested that bariatric surgery can be seen as a behavioural therapy [13], and it is widely accepted that the degree to which a patient is successful in their post-surgical weight loss is very much dependent on their ability to adopt healthy lifestyle patterns

\textsuperscript{2} ‘Dumping syndrome’ involves the contents of the stomach being passed through to the small intestine too quickly, resulting in malnutrition and discomfort [9].

\textsuperscript{3} ‘Port Leakage’: gastric band procedures include a sealed ‘port’ via which fluid can be injected/removed to increase/decrease the size of the gastric band. In some instances this port can become disconnected or rupture, resulting in a leak [11].
Characteristics Associated with Post-Surgical Weight Loss

[14]. As such, there are likely to be a number of patient characteristics which are associated with adherence, or lack thereof.

Particularly given that research indicates that, as a population, those meeting the criteria for obesity show a particularly high prevalence of mental health issues, including mood disorders, anxiety disorders (particularly PTSD), and personality disorders [12], [15], it seems that it would be particularly useful for professionals working in the field of bariatric surgery to be aware of those factors which might be a sign of successful/unsuccessful weight loss outcome post-surgery. At present, the inclusion/exclusion criteria for bariatric surgery varies greatly, and whilst NICE guidelines [2] heavily emphasise the necessity of conducting an assessment which considers the presence of clinical or psychological factors which might interfere with post-operative adherence, those factors which might indicate poor outcome are unspecified. Illustrating this current lack of clarity, Walfish, Vance, and Fabricatore [16] conducted research into the reasons given after psychological assessments for supporting/denying requests for surgery; it was found that whilst approximately 15% of requests were delayed/denied on psychological grounds, there was no uniform process undertaken in this assessment, with reasons in several cases being reported by Walfish, Vance, and Fabricatore [16] as ‘idiosyncratic’.

Whilst Walfish Vance, and Fabricatore [16] found that surgery was most commonly delayed/denied on the basis of severe psychiatric difficulties, including bi-polar disorder, psychosis, and severe depression, there is an evident lack of consensus about whether such factors do in fact indicate poor outcome. Herpertz, Kielmann, Wolf, et al. [17] conducted a review of the psychosocial variables which predict success outcome after obesity surgery, concluding that personality disorders and “serious psychiatric disorders” do not appear to be predictive of poor weight loss outcome,
although symptoms of depression and anxiety linked to obesity are positive predictors of weight loss outcome. Another review of the psychosocial predictors of success was carried out by van Hout, Verschure, and van Heck [18], which indicated that, in terms of psychological and social factors, “high self-esteem, good mental health, a satisfactory marriage...[being] self-critical, cop[ing] in a direct and active way....realistic expectations and undisturbed eating behaviours” (p.552) are all associated with successful outcome. Both review papers highlight a lack of clear, consistent predictive variables however.

Reflecting the dramatic increase in the prevalence of bariatric surgery (noted above), a substantial amount of additional literature has been published since the reviews by Herpertz, Kielmann, Wolf, et al. [17] and van Hout, Verschure, and van Heck (2005) [18] were released in 2004 and 2005 respectively. As such, it is reasonable to suggest that a more current review would be valuable, particularly given that the population of bariatric surgery patients will have considerably evolved alongside the expansion in number. As such, the current paper aimed to systematically review and synthesise the research relating to psychological and social correlates of weight loss outcome following bariatric surgery, in order to identify those patient characteristics which indicate successful/unsuccessful weight loss outcome.

As highlighted previously, the physiological/demographic patient characteristics which are associated with bariatric surgery are already well documented. As such, this review focused exclusively on the pre-surgical psychological and social factors which are associated with weight loss outcome. For the purposes of this review, behaviours associated with weight loss, for example eating behaviours, substance use and exercise, are considered to be a separate issue. This paper considers, therefore, what it is about a person that indicates weight loss, rather than what somebody might do
(increasing/decreasing their chances of weight loss). To further clarify, whilst it is acknowledged that behaviours are typically underpinned by psychological/social factors, it can be argued that behavioural factors are qualitatively different from purely psychological/social factors. The link between the behaviours and weight outcome are essentially biologically based, e.g. binge eating increases calorific intake, and exercise burns excess calories. Research which does consider the psychological or social factors underpinning a behaviour (and weight outcome) was not excluded.

**Method**

*Search Strategy*

A systematic review was conducted. Prior to the review the researcher conducted a series of informal searches to test the search strategy. During this time abstracts of papers were read which allowed the researcher to identify key aspects of studies; this aided in refining search terms and inclusion/exclusion criteria.

On commencing of the systematic literature review, the researcher entered key search terms into a number of well-established databases – psycINFO, psycARTICLES, Academic Search Elite, MEDLINE and CINAHL Plus (accessed April 2011). Databases were selected on the basis that together they include the leading journals in the fields of both medicine/surgery and psychology. The search terms used were:

(bariatric OR “weight loss” OR obesity AND surgery) OR (gastric AND bypass OR band*) OR ("roux en Y") OR ("laparoscopic surgery")

AND

"weight loss outcome" OR "excess weight loss"
Search terms relating specifically to psychological or social variables were not included on the basis that the terms encompass many variables; scoping searches highlighted that searching for limited specific variables created a risk of missing potential target papers. As such, the search terms were designed to retrieve all research on weight loss outcome after surgery, in order that these papers could be searched by hand.

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Papers reviewing/measuring psychosocial or behavioural correlates of weight loss outcome.</td>
<td>✗ Papers published in 1990 or earlier</td>
</tr>
<tr>
<td>✓ Peer reviewed articles</td>
<td>✗ Papers reviewing exclusively medical/biological correlates of weight loss outcome</td>
</tr>
<tr>
<td>✓ Adults (18+)</td>
<td>✗ Papers reviewing behavioural correlates of weight loss outcome</td>
</tr>
<tr>
<td>✓ Research examining pre-surgical characteristics/factors</td>
<td>✗ Non-English/translated articles</td>
</tr>
<tr>
<td></td>
<td>✗ Dissertation abstracts</td>
</tr>
<tr>
<td></td>
<td>✗ Children/adolescents</td>
</tr>
<tr>
<td></td>
<td>✗ Research examining only post-surgical characteristics/factors</td>
</tr>
</tbody>
</table>

Table 1. Search inclusion/exclusion criteria

The search limiters applied were to include only ‘peer reviewed journals’, ‘English language’, and ‘adults’ (18 years and upwards); case studies, dissertation abstracts, and translations/non-English articles were excluded, as was research conducted outside of the last 20 years. The rationale for excluding research published before 1991 is the rapid increase in surgery highlighted above; the population undergoing surgery is likely to have changed significantly over the years, and as such older research is likely to be of limited relevance, and somewhat preliminary. For the CINAHL Plus search, MEDLINE articles were excluded to limit duplicates. Additional
exclusion criteria were: medical research, research about behaviours associated with weight loss (without consideration of the underpinning psychological or social factors, as discussed above), and surgical outcomes other than weight loss. Given that the remit of this research was to identify variables which might indicate weight loss outcome, research considering interactions between only post-surgical characteristics and weight loss was excluded. Additionally, papers obtained via search engines were hand searched for further relevant papers in order to overcome publication bias. A summary of the inclusion/exclusion criteria is provided in Table 1.

Search results were narrowed down initially by reading online titles and abstracts. Of those not discounted based on relevancy, the articles were obtained and read in full. Of those papers that still met the inclusion/exclusion criteria, key data was extracted using a form developed by the researcher (Appendix B).

Quality Assessment

As highlighted by Moja, Telaro, D’Amico et al. [19], there is no one quality assessment scale that is universally applicable. As such, a modified version of the widely used Downs and Black Checklist [20] was used for this review. Given that the majority of the research papers under review were not intervention studies, several of the original questions from the checklist were removed by the researcher. The remaining questions (see Appendix Bii), considered the strengths of aims, methods, participants, analyses, and findings of the studies. The new checklist was piloted on a small number of papers, and questions were modified where necessary to ensure usability. Using this adapted questionnaire, each paper was given a quality rating (from a maximum score 11) by the researcher, and a second independent rater. Cohen’s kappa
indicated that inter-rater reliability was significant, at 0.66 (p<.001). Studies were not excluded on the basis of their quality rating, instead the quality rating serves to provide additional information about the research, and is included in Table 2.

**Results**

*Search Outcome*

Figure 1 illustrates the steps undertaken during the search process, including the stages at which papers were removed. All of the papers removed during the review of titles and abstracts were excluded if they concentrated solely on medical outcomes, if the participants were under the age of 18, or if the outcomes were not weight-related. Additionally, 20 duplicate papers were removed. Of the remaining 48 papers, which were obtained and read in full, 33 were found not to meet the inclusion/exclusion criteria. Articles were most commonly excluded at this stage due to focusing entirely on physiological/medical variables or behavioural variables, or not including any baseline data (e.g. correlations between current self-esteem and weight loss). 15 papers remained, and are summarised in Table 2. As many of the papers reported a vast amount of data, much of which surpassed the remit of this literature review, only directly relevant outcomes are reported in table 2.
Figure 1. Flowchart of search strategy and study selection
<table>
<thead>
<tr>
<th>Authors and Year</th>
<th>Country of Origin</th>
<th>Title</th>
<th>Scope/ Aims</th>
<th>Participant Characteristics</th>
<th>Follow-up</th>
<th>Measures used</th>
<th>Relevant Findings</th>
<th>Quality Rating</th>
</tr>
</thead>
</table>
| Aubert, Lyon-Pagès, Carrard, Suter, Stiefel, & Giusti (2010) [21] | Switzerland | The predictive value of psychological assessment of candidates for gastric bypass: A medical chart review | To investigate the predictive value of a pre-surgical psychological assessment on outcome. | • Number 92 100% female  
• Gender distribution  
• Mean Age (SD) 40 (10)  
• Mean pre surgery BMI (SD) 46.2 (6.3)  | 24 months | • Excess weight loss (EWL)  
• Reinhold’s criteria[22] (criteria for weight loss success)  
• Case note review of semi-structured psychology interview: “psychological risk factors” - (i) psychological disturbances... (ii) socio-relational difficulties...and (iii) problematic attitudes towards surgery ” (p.16)  
• No correlation between marital status and weight loss  
• No correlation between employment status and weight loss  
• At 24mths –significantly fewer patients with ”psychological risk factors” achieved an ‘excellent’ weight loss outcome (p<.05) | 8 |
| Black, Goldstein, & Mason (2003) [23] | USA | Psychiatric Diagnosis and Weight Loss following Gastric Surgery for Obesity | To investigate associations between axis I or axis II disorders and weight outcome after surgery | • Number 44 77% female  
• Gender distribution  
• Mean Age (SD) 37.7 (10.6)  
• Mean pre surgery BMI (SD) 50(7.4)  | 6 months | • Diagnostic Interview Schedule (DIS)[24] – used to diagnose Axis I disorders  
• Researcher developed semi-structured interview to assess demographic information  
• Personality Diagnostic Questionnaire (PDQ) [25] – to diagnose Axis II disorders  
• BMI – weight loss  
• No significant correlation with weight loss outcome:  
  - Axis I  
  - Bipolar disorder (p>.25)  
  - Major depression (p>.25)  
  - Dysthymia (p<.06)  
  - Schizophrenia (p>.25)  
  - OCD (p>.25)  
  - Agoraphobia (p>.25)  
  - Social phobia (p>.25)  
  - Simple phobia (p>.25)  
  - Panic disorder (p<.07)  
  - Agoraphobia w/panic attacks (p>.25)  
  - Psychosexual dysfunction (p>.25)  
  - Generalised anxiety disorder (p>.25)  
  - Axis II disorders/traits  
  - Schizotypal (p>.25)  
  - Histrionic (p>.25)  
  - Narcissistic (p>.25)  
  - Antisocial (p<.10)  
  - Borderline (p>.25)  
  - Dependent (p>.25) | 9 |
<table>
<thead>
<tr>
<th>Busetto, Segato, De Marchi, Foletto, De Luca, Caniato Favretti, Lise, &amp; Enzi (2002) [11]</th>
<th>Italy</th>
<th>Outcome Predictors in Morbidly Obese Recipients of an Adjustable Gastric Band</th>
<th>To investigate the influence of technical and physiologic factors, type 2 diabetes, depression, and preoperative eating on outcome.</th>
<th>• Number 260 36 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• %EWL &gt;50 – weight loss success defined as losing more than 50% of excess weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• History of depression is not a significant indicator or failure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Canetti, Berry, &amp; Elizur (2009) [27]</th>
<th>Israel</th>
<th>Psychosocial Predictors of Weight Loss and Psychological Adjustment Following Bariatric Surgery and a Weight-Loss Programme: The Mediating Factors</th>
<th>To examine the effects of personal and interpersonal factors on weight loss outcome after bariatric surgery (vs a weight loss programme)</th>
<th>Surgery group only: 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Number 44 12 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• %EWL &gt;50 – weight loss success defined as losing more than 50% of excess weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• History of depression is not a significant indicator or failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Eating behaviour diagnosed by internist and psychologist based on DSM-IV criteria [26]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• History of depression - ?case notes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dixon, Dixon, &amp; O’Brien (2001) [34]</th>
<th>Australia</th>
<th>Pre-operative Predictors of Weight Loss at 1-Year after Lap-Band Surgery</th>
<th>To identify pre-operative indicators of weight-loss after surgery.</th>
<th>Surgery group only: 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Number 440 12 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• %EWL &gt;50 – weight loss success defined as losing more than 50% of excess weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• History of depression is not a significant indicator or failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Eating behaviour diagnosed by internist and psychologist based on DSM-IV criteria [26]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• History of depression - ?case notes</td>
</tr>
<tr>
<td>Characteristics Associated with Post-Surgical Weight Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Mean pre surgery BMI (SD)**
  - Mean pre surgery BMI = 45.6 (7.5)

- **%EWL – weight loss outcome**
  - % Excess BMI lost (%EBMIL)
  - Statements regarding reasons for seeking surgery – specifically developed questionnaire
  - URICA scale [35] – readiness to change (cumulative score of contemplation, action, and maintenance, minus the pre-contemplation score)
  - Weight loss “failure” – meeting one of the following criteria:
    - not achieving within 10% of ideal weight, or achieving but expressing dissatisfaction/not adapting to body-image
    - expressing anxiety about their ability to control eating
    - pre- and post-operative events have apparently precipitated disruption to one or more close valued relationships.

- **Readiness to change was not associated with %EBMIL at 24mth follow-up (p=.87)**
- **Those who cited ‘appearance’ as their strongest reason for seeking surgery lost more weight at 24 mth follow-up (p=.013)**

  - Australia
  - Motivation, Readiness to Change, and Weight Loss Following Adjustable Gastric Band Surgery
  - To investigate how readiness to changes and reasons for seeking surgery relate to weight loss.
  - Number = 204
  - Gender distribution = 81% female
  - Mean Age (SD) = 42.9 (10.4)
  - Mean pre surgery BMI (SD) = 44.8 (7.7)

- **Lanyon & Maxwell (2007) [36]**
  - USA
  - Predictors of Outcome after Gastric Bypass Surgery
  - An investigation of multiple individual and composite predictors of bariatric surgery
  - Number = 131
  - Gender distribution = 83% female
  - Mean Age (SD) = 43.1 (11.6)
  - Mean pre surgery BMI (SD) = 47.39 (6.96)

- **Pre-surgical interview – researcher developed.**
  - Minnesota Multiphasic Personality Inventory-2 (MMPI-2) [37] – personality
  - Basic Personality Inventory (BPI) [38] – personality
  - Beck Depression Inventory (BDI) [39] – depression
  - Specifically developed questionnaire based on DSM-IV

- **Individual factors:**
  - **Marital dissatisfaction**
    - good relationship (reversed), history of separation, prior counselling) – +ve correlation; n.s.
  - **Absence of a personality disorder**
    - history of arrests (reversed) - +ve correlation; n.s.
    - MMPI-2 psychopathic deviate scale (reversed) – +ve correlation; n.s.
    - BPI Alienation (Aln) Scale (reversed) – +ve correlation ; BMI change, p<.05
  - **High self esteem**
## Characteristics Associated with Post-Surgical Weight Loss

### Lanyon, Maxwell, & Kraft (2009)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Computed Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Binge eating disorder</strong></td>
<td>Multidimensional Health Profile (MHP) [40] – assesses psychological and health risks in primary health</td>
</tr>
<tr>
<td><strong>Simple weight change</strong></td>
<td>Simple change in BMI</td>
</tr>
<tr>
<td><strong>High current life stress</strong></td>
<td>- MHP no. stressful life events – -ve correlation; weight change, p&lt;.01/ BMI change, p&lt;.5</td>
</tr>
<tr>
<td></td>
<td>- MHP perceived stress - -ve correlation; weight change, p&lt;.01/ BMI change, p&lt;.5</td>
</tr>
<tr>
<td></td>
<td>- MHP global stress – +ve correlation; n.s.</td>
</tr>
<tr>
<td><strong>Psychological distress</strong></td>
<td>- self-reported anxiety, self-rep depr, history of psychotherapy, diagnosed anxiety, diag depr, MMPI-2 psychopathy scale, MHP total distress, BDI, BPI depr, BPI anxiety – +ve correlation; n.s.</td>
</tr>
<tr>
<td><strong>Composite factors</strong></td>
<td>- Interpersonal support; +ve correlation with weight loss (p&lt;.01) and BMI change (p&lt;.05)</td>
</tr>
<tr>
<td></td>
<td>Consists of...</td>
</tr>
<tr>
<td></td>
<td>- Has told co-workers of surgery, sig +ve correlation with weight loss (p&lt;.05) and BMI change (p&lt;.01)</td>
</tr>
<tr>
<td></td>
<td>Combined with...</td>
</tr>
<tr>
<td></td>
<td>- Has told friends of surgery, sig +ve correlation with BMI change only (p&lt;.05)</td>
</tr>
<tr>
<td></td>
<td>Psychological health, -ve correlation with weight loss (p&lt;.01) and BMI change (p&lt;.05)</td>
</tr>
<tr>
<td></td>
<td>Consists of...</td>
</tr>
<tr>
<td></td>
<td>- MMPI-2 depr scale, -ve correlation with weight loss and BMI change (p&lt;.05)</td>
</tr>
<tr>
<td></td>
<td>Combined with...</td>
</tr>
<tr>
<td></td>
<td>- Perceived life stress, -ve correlation with weight loss (p&lt;.01) and BMI change (p&lt;.05)</td>
</tr>
</tbody>
</table>

#### USA Predictors of Long-term Outcome after Gastric Bypass Surgery

- **An investigation of long-term (3 year) outcome after surgery.**
- **Number** 79
- **Gender distribution** 84% female
- **Mean Age (SD)** 47.05 (10.59)
- **Mean 38 months**
- **Pre-surgical interview – researcher developed.**
- **Minnesota Multiphasic Personality Inventory-2 (MMPI-2) [37] – personality**
- **Basic Personality Inventory (BPI) [38] – personality**
- **Beck Depression Inventory (BDI)**

- **One year weight loss outcome composite predictors identified in Lanyon and Maxwell (2007) [36] – interpersonal support and psychological health (see above) – not significant predictors of weight loss at 1-3 years.**
- **Preoperative expectation of increased self-esteem, increased self-confidence, and enhanced social life; +ve correlation with weight change and BMI change (p<.01)**

---

21
### Characteristics Associated with Post-Surgical Weight Loss

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Methodology</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larsen, Geenen, Maas, de Wit, van Antwerpen, Brand &amp; van Ramshorst</td>
<td>Netherlands</td>
<td>To investigate the impact of personality on short-term weight loss.</td>
<td>Personality variables (egoism, neuroticism, dominance, rigidity, social anxiety, hostility and self-esteem) were not significantly associated with weight-loss overall. When comparing short-term outcome (1 and 2 years) with long-term outcome (3 and 4 years), egoism was negatively associated with weight loss (p&lt;.05).</td>
</tr>
<tr>
<td>Latner, Wetzler, Goodman, &amp; Glinski (2004) [44]</td>
<td>USA</td>
<td>A population study of surgical outcome in an inner city, low-income group.</td>
<td>No significance difference in BMI lost between those with and without the following psychiatric diagnoses: Depression, Anxiety, Comorbid depression and anxiety, History of physical abuse, History of sexual abuse.</td>
</tr>
<tr>
<td>Libeton, Dixon, Laurie, &amp; O’Brien (2003) [45]</td>
<td>Australia</td>
<td>To explore reasons for seeking bariatric surgery, and the</td>
<td>Reason for undergoing surgery was not associated with %EWL at 1 year follow-up (p=.891) and 2 years (p=.779).</td>
</tr>
<tr>
<td>Study (Year)</td>
<td>Characteristics and Impact on Outcomes</td>
<td>Predictive value of these reasons in terms of weight loss outcome</td>
<td>Relations Questionnaire</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| Livhits, Mercado, Parikh, Dutson, Mehran, Ko, & Maggard Gibbons (2010) [49] | - Mean Age (SD) 41 (10)  
- Mean pre surgery BMI (SD) 46 (8)  
- Pre-operative interview  
- Medical Outcomes Social Support Survey [50]  
- The Eating Inventory [51]  
- The Binge Eating Scale [52]  
- The Rosenberg Self-Esteem Scale [31]  
- The International Physical Activity Questionnaire – Short [53]  
- Weight loss “success” (>=50%EWL) or weight loss failure (<50%EWL)  | - No significant differences between the antidepressant and non-antidepressant groups in any measure of weight outcome (weight, BMI, and EWL).  | - No significant differences between those with “successful” weight loss and weight loss “failure” in: |
- Mean Age (SD) 45.9 (not stated)  
- Mean pre surgery BMI (SD) 46.2 (not stated)  
- SF-36 health survey [33] – health related quality of life  
- Weight, BMI, and EWL | - No significant differences between those with “successful” weight loss and weight loss “failure” in: |

In this study, significant correlates of “successful” weight loss were found to be: 
- Being single or divorced (OR 3.2, CI 1.2-8.5)  

*nb. This study also included a number of other variables which were not included due to them being measured preoperatively only.
Table 2. Summary of studies under review

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Study Title</th>
<th>Objective</th>
<th>Key Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nelbom, Naver, Ladelund, &amp; Hornnes (2010) [55]</td>
<td>Denmark</td>
<td>Characteristics Associated with a Successful Weight Loss after Bariatric Surgery</td>
<td>To identify factors associated with successful post-surgical weight-loss.</td>
<td>Number, Gender distribution, Mean Age (SD), Mean pre surgery BMI (SD)</td>
<td>Significant differences identified between “success” and “failure” groups at 12 months in two domains only: SF-36 health survey [33] – health related quality of life; Moorehead-Ardeit Quality of Life Questionnaire II (M-A QolQII), translated to Danish [56]– self-perceived quality of life; Baseline data collected using an idiosyncratic questionnaire; BMI; %EWL; Waist Circumference (WC); Weight loss “success” (&gt;50%EWL) or weight loss failure (&lt;50%EWL)</td>
</tr>
<tr>
<td>Oppong, Nickels, &amp; Sax (2006) [57]</td>
<td>USA</td>
<td>The Impact of a History of Sexual Abuse on Weight Loss in Gastric Bypass Patients</td>
<td>To determine the prevalence of a history of sexual abuse and the impact of this on weight loss.</td>
<td>Number, Gender distribution, Mean Age (SD), Mean pre surgery BMI (SD)</td>
<td>Those with a history of sexual abuse achieved lower EWL than those without, however this difference was not significant at either 12 months or 244 months (p&lt;.05).</td>
</tr>
</tbody>
</table>

*Body Mass Index (BMI) = kg/m²

**Percentage excess weight loss (%EWL) = (weight lost at follow up/pre-surgical excess weight) x 100
Participant Characteristics

Sample Size

Sample sizes used across studies varied greatly, with the largest sample size being 440 [34]. Several studies could be considered as methodologically weak, in that they used relatively small sample sizes; for example Black, Goldstein, & Mason [23] used a sample of just 44, as did Canetti, Berry, & Elizur [27]. There were a further four studies with sample sizes smaller than 100 [21], [41], [44], [55].

Age

The majority of studies (N=10) reported a mean participant age in the 40-49 range, with the remaining 5 studies reporting a mean age within the 30-39 age bracket. The youngest mean age reported in a study was 37.3 (SD=8.7) years [42], whilst the oldest average age reported was 47.05 years (SD=6.36) [41].

Gender

Of the papers under review, all used predominantly female participants (minimum 72.3% female [11]), with two studies using an entirely female sample. No studies included comparisons on the basis of gender.

Mean Pre-Surgical BMI

The lowest reported mean pre-surgical BMI was 44.8 (SD=7.7) [13], whilst the highest was 52 (SD=11) [57].
**Nationality**

All studies under review, expect one undertaken by Canetti, Berry, and Elizur [27], were conducted in ‘Western’ societies. Seven studies were based in the USA, three were based in Australia, and the remaining four were based in Europe. None of the research was undertaken in the United Kingdom.

**Length of Follow-up**

The length of follow-up varied greatly across studies, from six months [23] up to 48 months [42]. The most common length of follow-up was 12 or 24 months, with five of the 15 studies under review following up at 12 months, and five at 24 months.

**Psychological Health**

**Mood Disorders**

Six studies considered the relationship between pre-surgical depression and weight loss outcomes [11], [23], [36], [41], [49], [54]. Lanyon and Maxwell [36] found a significant relationship between weight loss outcome and pre-surgical scores on the depression subscale of the Multiphasic Personality Inventory-2 (MMPI-2) [37] at 12 month follow-up, however the same study reported no significant association between self-reported depression, a diagnosis of depression, scores of the Basic Personality Inventory (BPI) [38] depression scale, scores on the Beck Depression Inventory (BDI) [39] (all assessed prior to surgery) and weight/BMI change at the same 12 month follow-up. Additionally, no significant relationships were identified between pre-surgical depression and weight loss in the same participant group at 36 month follow-up [41]. Overall therefore, Lanyon and Maxwell’s [36] findings are most indicative of there
being no link between the presence of depression when presenting for surgery, or a history of depression, and weight loss outcome.

The additional four studies [11], [23], [49], [54] consistently reported that pre-surgical depression does not hold a significant relationship with weight loss outcome. This included a study comparing differences in weight loss outcome between those using antidepressants and those not on antidepressants (with no identifiable symptoms of depression) at the time of surgery [54]. Furthermore, some studies considered a history of depression, as well as symptoms of depression at the time of surgery [11], [23], [49].

Further considering mood disorders, Black, Goldstein and Mason [23] also considered the relationship between both pre-surgical bipolar disorder and dysthymia with weight loss outcome; again, no significant associations were identified at six months post-surgery.

**Anxiety**

Three studies considered the association between weight loss outcomes and pre-surgical anxiety [23], [36], [42], with none finding a significant relationship. Follow-up ranged from six months [23] to 48 months [42]. One study considered ‘anxiety’ in its most general sense (diagnosis of any anxiety disorder) [36], with the other two separating anxiety disorders from one another (namely obsessive-compulsive disorder, agoraphobia, social phobia, simple phobia, panic disorder, agoraphobia with panic attacks, and generalised anxiety disorder) [23], [42].
History of Abuse

Two studies [23], [57] investigated variables relating to past trauma, with no significant associations being identified in relation to weight loss outcome. Oppong, Nickels, and Sax [57], found that those who did have a history of sexual abuse (predominantly childhood sexual abuse) achieved less excess weight loss at 24 month follow-up, however this difference did not reach a level of statistical significance. Additionally, Black, Goldstein and Mason [23] found no significant relationship between past or current symptoms of post-traumatic stress disorder (PTSD) and weight loss outcome.

Psychosis

In the only study which directly considered the impact of psychosis as an individual variable, Black, Goldstein and Mason [23], found no significant association between a previous or current episode of schizophrenia (at the time of surgery) and weight loss outcome at six months follow-up.

Psychosexual Dysfunction

Black, Goldstein, and Mason [23] also found that previous or current psychosexual dysfunction (recorded at the time of surgery) was not associated with weight loss outcome at six months follow-up.

‘Any’ Mental Health Difficulties

Five studies [21], [34], [36], [44], [49] examined the associations between ‘a mental health/psychiatric’ diagnosis prior to/at the time of surgery and weight loss outcome, that is, without separating the impact of a specific diagnosis as above.
Aubert, Lyon-Pagès, Carrard et al. [21] considered the impact of ‘psychological risk’ factors, which were separated into ‘psychological disturbances’, ‘socio-relational difficulties’, and ‘problematic attitudes towards surgery’. ‘Psychological disturbances’ included “mental retardation, impulsive behaviour, unstable psychiatric disorders (e.g. active substance abuse) or uncontrolled eating disorder” (p.116). Aubert, Lyon-Pagès, Carrard et al. [21] found a significant difference between patients with and without ‘psychological risk factors’ at the time of surgery and their weight loss at six and twelve month follow-up, however no significant effect was found at 24 months follow-up. When weight loss was analysed using Reinhold’s criteria [22], significantly fewer patients with pre-surgical ‘psychological risk factors’ achieved an “excellent” weight loss outcome (>75%EWL) at 24 months follow-up, compared to patients without.

Dixon, Dixon, and O’Brien [34] found no significant differences in weight loss outcome between participants with a history of mental illness (namely mood and/or anxiety disorders, with one participant with schizophrenia) and participants without at 12 month follow-up. Similarly, two studies reported no significant differences in terms of weight loss outcome at follow-up between those with, and those without a ‘psychiatric disorder’ (assessed at the time of surgery) [44], [49]. Lanyon and Maxwell [36] found that a history of individual psychotherapy is not significantly associated with weight/BMI change at 12 month follow-up (the ‘presenting problem’ for any psychotherapy was not reported).
Personality Variables

Four studies considered a wide variety of personality variables [23], [27], [36], [42], with two [36], [42] identifying any significant relationships with weight loss outcome.

Larsen, Geenen, Maas et al. [42] found no significant association between weight loss outcome and egoism, neuroticism, dominance, rigidity, and hostility (assessed pre-surgically) at an average of 48 months follow-up. When comparing short-term weight loss outcome (12 and 24 months) with long-term (36 and 48 months), egoism was found to be a significant variable; that is, egoism was found to be associated with less weight loss in the longer term. The authors do note however that after Bonferri correction the effect size was small; they reflect that further investigation would be required to draw conclusions regarding this personality variable.

Instead of using diagnostic criteria, Lanyon and Maxwell [36] used a number of factors to indicate the presence of a personality disorders. The factors they considered to be indicative were: the number of times somebody had been arrested by the police for a crime as an adult, pre-surgical scores on the psychopathic deviate scale of the Minnesota Multiphasic Personality Inventory (2nd edition) (which measures conflict, struggle, anger, and respect for society's rules), and pre-surgical scores on the ‘alienation’ subscale of the Basic Personality Inventory (which aims to assess socially responsible attitudes). The only significant association found was a positive correlation between the alienation score (when reversed) and BMI change; there was no significant association between alienation and simple weight change, and no significant associations between arrests and psychopathic deviate scores and weight loss or BMI change outcome at 12 months follow-up.
Canetti, Berry, and Elizur [27] considered the impact of neuroticism on weight loss outcome, finding no significant relationship at 12 month follow-up. Black, Goldstein, and Mason [23] found no significant correlation between weight loss outcome and the presence of schizotypal, histrionic, narcissistic, antisocial, borderline, or dependent personality disorders/traits (assessed pre-surgically) at six month follow-up.

**Self-Esteem**

Three studies considered the impact of self-esteem on weight loss [27], [36], [42]; however no significant associations were identified. Larsen, Geenen, Maas et al. [42], Canetti, Berry and Elizur [27], and Lanyon and Maxwell [36] found no significant association between self-esteem scores at the time of surgery and weight loss outcome at up to 48 months follow-up. It should be noted that in Lanyon and Maxwell’s [36] research, no direct measure of self-esteem was used; instead, this conclusion is drawn based on scores relating to happiness at high school, achievement in high school, the Basic Personality Inventory [38] Alienation score, and a life satisfaction score.

**Interpersonal Factors**

Several studies considered various interpersonal variables. One focused on relational difficulties [21], four considered the role of social communications [27], [36], [41], [49] with mixed outcomes, and three studies considered the relationship between marital factors and weight loss outcome [21], [36], [49], again with mixed outcome.
‘Socio-relational difficulties’

As previously reported, Aubert, Lyon-Pagès, Carrard et al. [21] found a significant difference between patients with and without ‘psychological risk factors’ (assessed pre-surgically) at six and twelve month follow-up, with ‘psychological risk factors’ encompassing ‘socio-relational difficulties’, as well as psychological distress and attitudes towards surgery. ‘Socio-relational difficulties’ were defined as “traumatic life events, stressful psychosocial situations (for example, repeated conflicts) or impaired social integration” (p.116).

Communications with Others Regarding Surgery

Lanyon and Maxwell [36] found that the patient having told their co-workers and friends of surgery plans were both positively correlated with weight loss outcome at 12 month follow-up. Data was collected from the same participant group at 36 month follow-up, by Lanyon, Maxwell, and Kraft [41], however having told co-workers or having told friends of surgery plans were no longer statistically significant variables at this time point. Lanyon, Maxwell, and Kraft did find, however, that “continuous input from friends and family as to what behaviours, thoughts, and attitudes are appropriate and what are not” (p.444) was significantly associated with weight loss and BMI change at 36 month follow-up. In terms of generic social support scales, no significant correlations were identified in relation to weight loss outcome [27] at 12 month follow-up however.
Characteristics Associated with Post-Surgical Weight Loss

**Marital Factors**

On considering the correlation between actual weight loss and marital status, Livhits, Meracdo, Yermilov et al. [49] being single/divorced when undergoing surgery was found to be a significant positive predictor of weight loss outcome at an average of 40 months follow-up. Conversely, Aubert, Lyon-Pagès, Carrard et al. [21] found no significant relationship between marital status at the time of surgery and weight loss at 24 month follow-up.

Lanyon and Maxwell [36] considered the quality of marital relationships (where applicable), rather than the presence or absence of a spouse. In considering the perceived quality of the relationships, previous marital counselling, and history of separation (all assessed prior to surgery), no significant associations with weight loss were found at 12 months follow-up.

**Attitudes towards surgery**

Aubert, Lyon-Pagès, Carrard et al. [21] found a significant difference in weight loss outcome between patients presenting with and without ‘psychological risk factors’ at six and twelve month follow-up (p < 0.05). Alongside ‘psychological disturbances’ and ‘socio-relational difficulties’, ‘psychological risk factors’ include ‘problematic attitudes towards surgery’, which are defined as “ambivalence, unrealistic expectations or difficulties with compliance (e.g.: frequent missing of appointments)” (p.116). As stated previously, ‘psychological risk factors’ were considered to be negatively associated with weight loss outcome.
**Motivation/Expectations**

**Readiness to Change**

Dixon, Laurie, Anderson, et al. [13] utilised the transtheoretical model of stages of change [58], which separates readiness to change into pre-contemplation (not considering change), contemplation (considering change), action (actively making change), and maintenance (maintaining the change). Dixon, Laurie, Anderson et al. found that high readiness to change when presenting for surgery was not significantly associated with weight loss outcome at 24 month follow-up.

**Reasons for Seeking Surgery**

Dixon, Laurie, Anderson, et al. [13] considered the patients’ main motivators for seeking surgery and found that those who cited ‘appearance’ as their strongest motivator (over ‘health’, ‘physical appearance’, ‘physical ability’, ‘employment prospects’, and the ‘advice of a third party’) were significantly more likely to lose weight at 24 month follow-up. Libeton, Dixon, Laurie et al. [47] also considered reasons for seeking surgery, with the same 24 month follow-up period. Those who cited appearance/embarrassment as their strongest motivating factor (over improvement in medical conditions, physical fitness, or physical limitations) were more likely to lose weight, however this difference was not statistically significant.

**Expectations of Outcome**

Lanyon, Maxwell, and Kraft [41] asked participants presenting for surgery to rate on a five-point scale the degree to which they expected to achieve increased self-
esteem, increased self-confidence, and an enhanced social life. They found that higher expectation in these domains was positively correlated with weight loss outcome at three-year follow-up.

Other Variables

Current Life Stress

Lanyon and Maxwell [36] found that at 12 month follow-up, the number of stressful events over the year prior to surgery and the perceived stressfulness of those events was found to be negatively correlated with weight and BMI change. Using the same participant group, Lanyon, Maxwell, and Kraft [41] considered weight loss outcome at 36 months, and found life stress to no longer be correlated with weight loss outcome.

Coping Skills

Lanyon, Maxwell, and Kraft [41] found that coping skills (as assessed pre-surgically) were positively correlated with weight loss outcome at 36 month follow-up (p<.05). ‘Coping skills’, in the context of their research, refers to a cumulative score taken from three measures of problem-focused coping (for example, “I make specific plans to solve my problems”, p.442), and an additional three measures of emotion-focused coping (for example, “I try to remain calm” p.442).

Employment

Only one study considered the impact of employment status at the time of undergoing surgery on weight loss outcome. Aubert, Lyon-Pagès, Carrard et al. [21]
found no significant association between weight loss outcome and employment status over their 24 month follow-up period.

**Summary**

To summarise, there was no clear evidence to suggest that pre-surgical mental health difficulties, personality variables, self-esteem, motivation, and employment status were of predictive value in relation to post-surgical weight loss. Communications with others around intentions to undergo surgery were of positive predictive value (in relation to weight loss) at 12 months follow-up, but not at 36 months follow-up, however at this stage input from others about what feelings and behaviours are appropriate did predict weight loss outcome. Current life stressors were identified as having a negative association with weight loss outcome, however this was only at 12 month follow-up, and was no longer significant at 36 month follow-up. Stronger coping skills were found to be positively associated with weight loss outcome, as was seeking surgery with improvements to appearance as a primary motivator. Evidence around the impact of marital status and weight loss outcome was split, with one study showing that being single/divorced is associated with greater weight loss, whilst another study showed no such effect.

**Discussion**

Overall, the information from the studies under review was felt to be of direct relevance to the British bariatric surgery population. In terms of participant ages, a report from the National Obesity Observatory [4] stated that, in 2009/10, bariatric surgery in England was most frequently undertaken by people aged 40-54 years. The
next most common age group is those aged 25-39. The mean age of participants in 11 of
the 17 studies falls within the 40-54 year age bracket, with the average ages of
participants in the remaining six studies falling within the 25-39 year age bracket. The
National Obesity Observatory [4] also reported that bariatric surgery is most common in
women, with 77.4% of procedures being undertaken in this group in 2009/10. As stated
previously, the NHS recommends bariatric surgery in the UK for those with a BMI over
40, or over 35 with significant medical comorbidities, in instances were non-surgical
methods have failed [2]. In all the papers under review, the mean pre-surgical BMI exceeded at least the 40 ‘cut-off’, with the lowest mean BMI being 45.6 (SD=7.5) [34],
whilst the highest mean BMI recorded was 54.1 (SD not stated) [44]. Furthermore, the
studies were based on data from predominantly ‘Western’ populations.

A clear limitation with many of the studies under review, however, was the
length of follow-up. Bocchieri-Ricciardi, Chen, Munoz, et al. [59] highlighted several
‘trends’ in weight loss after surgery, describing the most rapid weight loss occurring at
6-12 month post-surgery, with weight loss slowing/weight regain occurring at 18-24
months. This is clearly demonstrated in the discrepancies between findings outlined at
12 months follow-up in Lanyon and Maxwell’s study [36], and in Lanyon, Maxwell,
and Kraft’s [41] follow-up of the same participants at 36 months. As such, it could be
argued that research conducted with follow-up of up to 18 months (particularly with
follow-up of 6 to 12 months) is of limited value in indicating overall prognosis.
Unfortunately, excluding Lanyon and Maxwell’s study [36], an additional six studies
had follow-up periods of less than 18 months [23], [27], [34], [44], [54], [55].

As highlighted in the summary of studies, several studies were based on a
relatively small sample size. Furthermore, the vast body of the literature is based on
western populations, with just one study using a sample from Israel; as such findings
from this review can only legitimately be considered to apply to western populations. Such factors were borne in mind when interpreting the findings in this review.

Overall, the significant associations identified between psychological and social patient characteristics and weight loss outcome were limited.

In terms of mental health, consideration of findings relating to depression, anxiety, dysthymia, bipolar disorder, a history of sexual abuse, post-traumatic stress disorder, schizophrenia, psychosexual dysfunction, revealed just one study reporting significant relationship. Lanyon and Maxwell [36] identified a negative correlation between depression and weight loss; however findings were arguably weak, given that depression scores on four other measures of depression used in this study [36] were not correlated with weight loss. Furthermore, no significant relationship between depression and weight loss was found at longer term (36 month) follow-up [41]. This finding is therefore substantially outweighed by the five studies [23], [36], [42], [60] that found no significant association between current or historical depression and weight loss outcome at up to 40 months follow-up. One study found that ‘psychological risk factors’ (which encompassed socio-relational factors and attitudes towards surgery, as well as mental health) were significant at 12 month follow-up, this association did not persist at 24 months [21]. It should be noted that the reported lack of association between dysthymia, bipolar disorder, post-traumatic stress disorder, schizophrenia, and psychosexual dysfunction was based solely on findings from one study [23], which has been highlighted above as arguably weak in terms of sample size (N=44). As such, it is reasonable to state that there is no significant association between having a mental health issue and long term weight loss, although research is inadequate in some areas.

Personality disorders are a second area in which there is no substantial evidence of an impact on post-surgical weight loss outcome. Those two studies which indicated a
significant association between personality variables and weight loss outcome were also of limited value [36], [42]. Whilst egoism was found to be negatively associated weight loss at long term follow-up 18-24 months (but not 6-12 month follow-up), the authors of the study highlighted that this association was small in magnitude. A positive correlation between alienation score (reversed) and BMI change was reported by Lanyon and Maxwell [36] at 12 months follow-up, however the effect size was evidently also small, as there was no significant association between alienation and simple weight change. Furthermore, using the same participant group, no significant association was identified at 36 months follow-up [41].

Current life stress was indicated as a significant variable by one study [36], whilst this was identified as significant at 12 month follow-up, the same did not apply at 36 months [41]. This may be reflective of the life stressors having been resolved. The way in which individuals deal with such life events and their weight loss journey in general seems to be of more importance; with the only study considering coping skills identifying a positive significant association between coping skills and weight loss at 36 month follow-up. Unfortunately the authors did not differentiate between different coping styles, instead using a cumulative score of problem focussed and emotion focussed coping.

Within the area of weight loss in a non-surgical population, interpersonal support is considered to be a key predictor of success [61]. It appears that within this review it is at least one of the most substantiated correlates of weight loss outcome. This review found that telling work colleagues and friends of intentions to undergo surgery was found to be a positive short-term (12 months) indicator of weight loss success [36], however this effect did not stand in the long term (36 months) [41]. The fact that Lanyon, Maxwell, and Kraft [41] did find that continued guidance from friends and
family (regarding behaviours, thoughts, and attitudes) was a significant positive variable does indicate a continued importance of social support. Arguably, the change in positive variables represents a change in the type of interpersonal factors one might find beneficial; referring back to the 6-12 month post-surgical period being described as the honeymoon period [59], it may be that all the motivation patients needed was to prove to people that they were doing what they said they would. It is important to note that telling others about the surgery does not necessarily constitute social support or guidance. It appears that the time when support/guidance may be required is when this honeymoon period ‘wears off’, and as weight loss becomes harder to maintain/sustain.

Canetti, Berry and Elizur [27] found social support not to be a significant variable, however given that this study was conducted in Israel, this discrepancy may be due to cultural factors. Furthermore, the research only included follow-up to 12 months, and as highlighted above weight change occurs quite rapidly and easily up to this stage anyway, so there may be less need for social support. Alternatively, given the specificity of the nature of input from others which was found to be beneficial at various time points, it may be the case that a generic measure of ‘social support’, is not sensitive enough.

Findings were split in terms of the impact of marital status, with one study [49] finding a significant positive correlation between weight loss outcome and being single or divorced, and other study [21] reporting no significant association between weight loss outcome and marital status. Both studies considered long term outcome (40 months and 24 months respectively). If weight loss is greater in the single/divorced population, it may be the case that seeking romantic relationships maintains motivation to stay slim. This hypothesis is based on the two studies [13], [47] which found that those participants that cite ‘appearance’ as being the strongest motivating factor to undergo
surgery lose the most weight, although only one study found this association to be statistically significant [13]. Also, it was identified that those who had higher expectations of increased self-esteem, increased self-confidence, and an enhanced social life achieved most weight loss [41]. Given the reported conflict in findings regarding the actual relevance of marital status however, it is important to bear in mind that the significant association reported by Livhits et al. [49] and these subsequent hypotheses are discussed purely as a potentially interesting area for further exploration.

Additional factors found to have no evidence of being associated with weight loss outcome were self-esteem [27], [36], [42], motivation to change [13] and employment status [21]. All three variables were followed up over a relatively long period (>24months) with no obvious methodological limitations.

Overall, it can be surmised that interpersonal factors are the most prominent indicators of weight loss outcome, with social support being a positive correlate (although the nature of what useful social support is arguably changes over time). Marital status may be of importance, with being single/divorced indicated as a positive correlate, however research is split, and further investigation may be useful. Undergoing surgery to improve appearance, and holding high expectations for surgery are likely to support weight loss outcome, as such it may be useful to further consider the interaction between these factors and interpersonal factors; as highlighted above appearance and interpersonal factors could be reasonably linked. Coping skills are also indicated to be of positive value, however findings are somewhat limited in that types of coping are not considered, and as such this domain also warrants further investigation. There was no strong evidence to support self-esteem, readiness to change, employment status, mental health, or personality disorders as indicators of prognosis.
Clinical Implications

The lack of significant associations found between mental health and weight loss outcome is particularly important for two key reasons. Firstly, as stated previously, there is a much higher prevalence of mental health issues in the obese population [12], [15], secondly, the aforementioned research by Walfish Vance, and Fabricatore [16] identified that mental health difficulties were the most common reasons for delaying/denying surgery requests, however this literature review has revealed very little to support this move. At best, it appears likely that if depression or current life stressors are significant variables, then the evidence suggests that the effects are only short-term.

The importance of interpersonal support may indicate value in including others in a patient’s care, for example in attending meetings regarding the surgery, and in terms of informational/support groups. It has been demonstrated that telling others about the surgery is a positive variable in the short-term; including others in this decision may therefore enhance this effect. In the longer term, support and guidance has been identified as beneficial; including others in giving information about the surgery will be likely to better equip them to support the patient over the longer term.

It is important to consider the finding regarding motivators for surgery and expectations. A patient who is explicit in wanting the surgery to improve their appearance and expect the outcome to be very positive may ring alarm bells for a clinician in terms of concerns regarding unmet expectations further down the line. Actually, the research cited in this review suggests a process akin to a self-fulfilling prophecy, in that patients who want excellent outcomes are actually more likely to achieve excellent outcomes.
**Strengths and Limitations**

The obvious strength of this research is the direct clinical implications (discussed above). Research indicates that patients are being denied surgery on grounds that are not substantiated by the evidence base.

The cultural bias of studies under review arguably provides both a strength and limitation. Within a western population the findings reported are of direct relevance; however, the findings are not generalisable on a wider scale. Arguably, no research will have universal relevance; interpersonal factors are culturally variable, using a culturally diverse sample would equally present problems with generalisability.

Unfortunately, beyond mental health and personality variables, the quantity of research is somewhat limited. Further investigation into the areas indicated as being associated with weight loss in this review (namely social support, coping skills, and reasons for seeking surgery) would certainly be of value in developing services/guidelines for those requesting bariatric surgery. Specifically, it would be beneficial to identify more specific aspects of these domains that are of direct significance, e.g. what forms of coping are relevant?

A limitation of the current literature review is the lack of clarity between weight loss and weight regain. Whilst lengthy follow-up has been described as positive (above), it should be noted that when studies measure weight change over a longer period of time, there may have been many interesting fluctuations in weight during that time, however these would not be captured. The reason that such information would be particularly valuable is that those who are seen to have achieved less weight gain may
have had successful weight gain at one stage, and regained weight, which is qualitatively very different to having lost little weight overall.

Unfortunately, another limitation of the findings reported in this review is that many studies only reported significant findings (e.g. Lanyon & Maxwell [36]). This is particularly unfortunate because as discussed previously, findings which indicate that particular characteristics are not associated with weight loss are equally important as findings which identify significant factors, as it is important to know which characteristics are not indicative of weight loss failure.
References


23. Black DW, Goldstein RB, Mason EE. Psychiatric Diagnosis and Weight Loss following Gastric Surgery for Obesity. Obesity Surgery 2003; 13: 746-751.


PART TWO: EMPIRICAL PAPER

Running Head:
Bariatric Surgery & Self Concept

RESEARCH ARTICLE

Bariatric Surgery, Rapid Weight Loss, and Self-Concept

Samantha McKenzie & Dr Lesley Glover
Department of Clinical Psychology and Psychological Therapies,
University of Hull, Hull, UK:
Humber NHS Foundation Trust, Hull, UK
Corresponding Author, Email: S.L.McKenzie@2005.hull.ac.uk

This paper is written for consideration by the Journal of Health Psychology
(Please see Appendix Aii for the Authors’ Guidelines).

Word Count (incl. interview excerpts): 7148
54
Abstract

The aim of the current research was to consider the changes an individual experiences to their self-concept following weight loss after bariatric surgery. Seven women were interviewed for the study and Interpretative Phenomenological Analysis was utilised. Nine themes were identified which indicated that self-concept is not perceived to differ, but that shedding the stigma of obesity allows women to express their true selves post-surgically. Residual ‘loose’ skin associated with rapid weight loss was prominent and was interpreted as compromising an individual’s positive self-concept. Clinical implications, including interventions for obesity and suggestions for enhanced support around surgery, are discussed.

Keywords: ‘bariatric surgery’, ‘weight loss surgery’, ‘psychological’, ‘self-concept’, ‘social feedback’
**Introduction**

**Background**

The term ‘bariatric surgery’ encompasses those operations which aim to generate weight loss, and includes procedures which are ‘restrictive’ (reducing the size of the upper gastrointestinal tract, thus limiting food intake), ‘malabsorptive’ (bypassing some of the small intestine, thus limiting absorption of calories), or combination procedures (Dent et al., 2010).

In 2009/10, the NHS commissioned over 6,500 bariatric surgery procedures; compared to around 470 patients in 2003/04 (Dent et al., 2010). Whilst thorough assessments are conducted by surgeons in the outpatient clinics, which include the consideration of psychosocial factors which may have implications for the patient, no thorough psychological assessments are conducted prior to surgery. Perhaps underlying this potential oversight is the fact that whilst there is a vast amount of research available considering the medical issues surrounding surgery, there is very little available considering the psychological impact of such drastic surgery/change.

Of the research available, studies generally show that bariatric surgery increases quality of life post-op (Song et al., 2006). It has been suggested, however, that due to methodological flaws at follow-up in many studies, the advantages of bariatric surgery in terms of quality of life may be overestimated (Wee 2009). Additionally, some research has found that “there are reports of poor adjustment after weight loss, including alcohol abuse and suicide” (Hsu et al., 1998, p.338). Increased prevalence of suicide has also been identified among this patient group (Adams et al., 2007).
A specific area of adjustment after bariatric surgery that appears to be under-researched in relation to bariatric surgery is the impact that the rapid weight loss has on the patients’ concept of self. Turner and Oakes (1986) stated that intentional self change “entails intentionally changing some aspect of self-conception” (p.237). The decision to undergo surgery to lose weight is easily arguable as intentional self-change, and furthermore it is argued that body image forms part of the self-concept (Granberg, 2006). Body image can be defined as “a person’s perceptions, thoughts, and feelings about his or her body” (Grogan, 2007, p.3), and as such will necessarily alter if the body alters.

**Literature on Self-Concept**

According to a broad definition provided by Shavelson et al. (1976), self-concept refers to a person’s perception of oneself, which is influenced by their past experiences, particularly by environmental reinforcers and significant others. Crisp (2007) organised the most common theories of self-concept based on the source of information used to maintain/alter self concept; either based on an individual’s own aspirations, or on feedback from others. Each type of theory has various implications for adjustment to significant weight loss, as discussed below.

Higgins' (1987) ‘self-discrepancy theory’ suggests we compare ourselves against our own goals/aspirations; when there is a difference between the ‘ought’ self (what we aspire to) and ‘actual’ self (what we are), the individual will experience depressive symptoms. With reference to bariatric surgery, if the patient feels that losing weight has helped them to become their ‘ought’ self, they should experience improved mood. It might be the case, however, that the surgery did not meet their expectations, which
would indicate no improvement in mood. An example of where patients may not feel that they have achieved their ‘ought’ self is body image. Indeed, body image appears to still be low following surgery; one survey found that 84% of bariatric surgery patients wanted body contouring after their weight loss, especially women (Gusenoff et al., 2008). It may be, therefore, that patients still feel they have not become their ‘ought’ self, and as such they may still experience depressive symptoms. Indeed, a paper by Song et al. (2006) found that body contouring further improves quality of life post-bariatric surgery.

As noted above, other theories place a greater emphasis on social feedback. The identity control theory (Burke, 1991), proposes that an individual who has endeavoured to change their identity (for example via weight loss), holds a set of standards for the new identity. The process of ‘becoming’ that identity relies on social feedback which meets the standard for the identity. It might therefore be the case that the development of a positive self-concept post weight loss is contingent on social feedback.

An alternative process which may aid in obtaining social feedback which is congruent with identity standards is ‘social comparison’ (Festinger, 1957), by which a person compares themselves favourably to another person for any of a number of motives, but potentially including self enhancement. Tesser's (1988) ‘self-evaluation maintenance model’ supports this idea, suggesting that if we compare ourselves on a domain which is relevant to us, for example weight, then we will typically make an ‘upwards comparison’, a process by which we compare ourselves to someone we believe to be better/more successful. Tesser (1988) argues that this would negatively impact on an individual’s self-esteem. Alternatively, according to Tesser’s theory, when threatened by social comparison, individuals might switch focus to somebody who is less successful in order to maintain positive self-regard, making a ‘downward
comparison’ (believing somebody is less successful). For example patients might compare themselves to people who weigh similar to their previous weight. Subsequent to weight loss following bariatric surgery, improvements have been identified in self-esteem (Herpertz et al., 2004). It might be the case that those who do experience improvements to their self-esteem tend to make downwards comparisons, whereas those who do not improve / worsen in terms of quality of life post weight loss are more inclined to make upwards comparisons.

As is evident from discussion of the above theories, the implications for how patients might process their new ‘selves’ are extremely varied. Further understanding regarding which theories are more/less relevant in this context would be extremely valuable in aiding adjustment, for example, if feedback of others has an impact then systemic work may be beneficial, if social comparison processes come into play then perhaps cognitive behavioural therapy techniques would have a positive impact. As such, consideration of the changes an individual experiences in terms of their self-concept following rapid weight loss as the result of bariatric surgery was highly relevant and timely.

**Research questions:**

- How do those who have achieved significant weight loss as the result of bariatric surgery conceptualise their sense of self?
- How does self-concept alter as the result of surgery? (that is, how does pre-surgery self-concept differ from post-surgery self-concept?)
Method

Design

As the intention of this research was to gain further insight into an under-researched area, it was felt that an exploratory (qualitative) method would be most appropriate. As such, interpretative phenomenological analysis (IPA) was used in this research (see ‘Research Method Selection and Epistemological/Ontological Statement’, Appendix C).

Participants

Given that the majority of patients undergoing bariatric surgery are women (Buchwald et al., 2004), and that gender differences have been identified in the area of bariatric surgery, this research focussed exclusively on the experiences of women. For example, (Mahony, 2008) reported that women presenting for bariatric surgery score higher than men on measures of anxiety, depression, and body dysmorphia, and men have been demonstrated to be more motivated by medical concerns (Libeton et al., 2004).

Participants were included if they had reached a ‘normal’ body mass index (26 or below), and if a minimum of one year had passed since the surgery. Based on the inclusion criteria of the study, potentially suitable participants were identified by a dietician in the hospital NHS Trust where the participants underwent surgery.
From the 40 invites posted out, ten women responded expressing an interest in participation. Unfortunately it was not possible to contact three of these women (three attempts at making contact were made in each instance). The participants were therefore the seven remaining women. The research was undertaken in the North-East of England, in an area identified as having one of the higher incidences of bariatric surgeries in country (Dent et al. 2010). The mean age of the participants was 48.86 (SD=10.14), five were in current employment, and two were full-time carers. Three participants were educated to degree level, with the other participants having achieved secondary school level education. All participants were described as White Caucasian, and all were English speaking. Mean pre-operative BMI was 46.14 (SD=4.38), whilst mean BMI at the time of interview was 24.79 (SD=2.51).

Data Collection

As is the exemplary method in IPA research (Smith, 2008), a semi-structured interview was conducted with each participant. The interview questions were guided by the literature on self-concept described above; each question was grounded in theory, for example including prompts around social comparisons. It was ensured however that questions were open enough that participants were allowed to describe what was important to them, and for the pre-existing theory on self-concept to bias the responses (see Appendix Cii).
Procedure

National ethical approval was granted by a local Research and Ethics Committee; local approval was granted by Research and Development departments within both the NHS trust employing the researcher/funding the research, and the NHS trust from which the participants were recruited (see Appendix Ciii).

Potentially suitable participants were sent a recruitment flyer with a covering letter (Appendix Civ) on behalf of the principal researcher by the bariatric team’s dietician. The women were invited to express interest in participation via telephone or text message. The principal researcher telephoned these women, which provided the opportunity to further explain the nature of the research, ensure that the participant had maintained their weight loss and had no other significant issues which might impact on self-concept, examples of which might be diagnosed somatoform disorders, or changes to their body, such as a recent pregnancy (this was judged on a case-by-case basis). All who remained interested were posted information sheets (Appendix Cv) for the research, which was followed up by a telephone call to answer further questions and arrange an interview appointment (if appropriate).

Each interview was recorded using a digital dictaphone, and transcribed by the researcher. Given that it is common practice to include direct quotes from interview transcripts in writing up IPA research, participants are referred to by pseudonyms to ensure anonymity.
Analysis

Transcripts of each interview were analysed using the following step by step approach, as recommended by (Smith, 2008). Analysis began with reading and re-reading the text, in order to become immersed in the data; throughout this process exploratory notes were made in the left hand margin. Subsequent to this, emerging themes were noted in the right hand margin, with earlier transcripts re-read when a novel theme emerged. Emerging themes were then considered for overlap, and similar themes were ‘clustered’ to form superordinate themes. The themes were then compared with the transcripts to ensure consistency. Parts of this process were conducted within an IPA peer supervision group in order to provide validity. A worked example of the analysis process is included in appendix Cvi.

Results

In conducting the analysis a number of themes relevant to self-concept following bariatric surgery emerged. Nine themes were identified across the transcripts, and were clustered into three subordinate themes: ‘obesity as socially unacceptable’, ‘making a case for surgery’ and ‘the slim self as socially acceptable’. These themes are summarised in table 2. The themes are further discussed below, with reference to excerpts from participants’ interviews (as stated previously, pseudonyms are used throughout).
Superordinate theme 1: The Obese Self as Socially Unacceptable

Subtheme 1a: Assumed Negative Reactions from Strangers

All but one participant (Kath) held negative beliefs about the ‘public’ perception of obesity, that those who were overweight were “stigmatised” (Jo, line 90). Participants often reported feeling that others were making judgements about how they gained weight:
“Jo: you kinda got, then “oh you was a overeater, you was greedy, you had an unhealthy diet”, you know all those kind of stereotypical negatives” (line 52-53).

Additionally, some of the women described negative attributes being ascribed to them on the basis of their weight:

“Kim: the fat slob, lazy git that people would associate really a big person being” (line 67-68)

Lorraine further reported feeling that such negative assumptions prevented her from getting a job, stating that she could see a ‘glazed look’ (line 126) coming over interviewer’s eyes.

It is interesting to note that the one person who did not report expecting other people to react negatively, Kath, felt that she did not appear overweight to others (discussed further at a later stage).

These negative beliefs held by the majority of the women only applied to strangers. Each of the six women also described their families and close friends as seeing the person behind the weight issues, stating that those close to them could see their personality, and actually enjoyed their company:

“Kim: something’s going on, quick get [Kim] in, you know, it’ll be an alright night, you know that kind of thing” (lines 60-61)
**Subtheme 1b: Hiding from Social Stigma**

In contrast to the perceived negative judgements from others described above, many of the participants reported a relatively positive self-view. For example, Lorraine, Kath, and Kim described themselves as not looking ‘obese’:

“Lorraine: *I had thin arms, I had thin legs it was just mainly my trunk, from the back I looked real slim, it was just mainly you know my belly.*” (lines 31-32)

Often, such descriptions were at odds with other comments:

“Lorraine: *[showing a pre-surgery photo] I look like I’m gonna bust don’t I?”* (line 501)

As such, it was felt likely to be the case that rather than entirely believing in a positive self-image, such descriptions reflect something of a defence for these women. Certainly, several of the women acknowledged that they often hid behind a positive facade:

“Abigail: *I was really good at putting on a front. I could be the jolly fat lass when I wanted to be. Sending myself up and what have you, but erm, it was a bit like tears of a clown, you know, you can put on a face but when you’re on your own, that’s when reality sets in and you really looked at yourself*” (lines 77-80)

As highlighted by Kim, such a facade enabled the women not to have to talk about their weight issue:
“Kim: So it’s just sort of like ‘oh well she’s alright, she’s happy go lucky’ you know it’s not an issue you know, it’s just sort of like hides it, that you don’t have to talk about it, that’s how it usually is, or it was” (lines 24-26)

Whilst Kim did not state the reason she would not want to talk about her weight, given the negative beliefs these women felt that other people held against overweight people, it could be interpreted that such a facade protects from such negative social feedback, particularly in the cases of those women who described themselves as not looking overweight.

Two participants did not appear to hold this ‘facade’, the first being Lucy. Similarly however, Lucy did report ‘hiding [her]self” (line 43), however she did this literally, by not going out, keeping her door shut at work, and wearing baggy clothes. Jo was the second participant who did not appear to ‘hide’ herself behind a facade, however it is interesting to note that Jo was the only participant who reported a medical reason for her weight gain (medication side-effects), perhaps it is the case that Jo therefore experienced less shame about her former weight problems, and as such did not feel the need to hide herself from the world.

Subtheme 1.3: It’s not my fault/I tried: ‘It just wasn’t working’

Many of the participants held a strong narrative about how they gained their weight. Whilst these ‘explanations’ were varied, they were generally very descriptive, as though it is important for the women to give a thorough and reasonable justification for their weight gain. Also, weight gain was typically attributed to external factors/circumstances, such as comfort eating after break-ups or bereavements,
pregnancies, physical factors limiting exercise, and medication. It could be argued that feeling that ‘it’s not my fault’, protects the women from having to take ownership of their weight issues. In fact, only Abigail and Kath outright assumed responsibility for their weight gain, stating “I knew it was my own fault I’d got as big as I had” (Abigail, lines 10-11), or admitting that “I used to eat a lot” (Kath, line 163). It was interesting to note that Kath’s comment, “I used to eat a lot” was whispered in the interview, as though indicating that such behaviour is felt to be unacceptable.

Regardless of whether they ‘assumed responsibility’ for their weight gain or not, it appeared to be important to each of the participants to emphasise that they had tried to lose the weight themselves, but that it hadn’t worked:

“Lorraine: I’d done weight watchers, I’d done slimming world, and I took all the fish oil tablets – I took everything, and it just wasn’t working” (line 15-16)

This could be interpreted as the women wanting to make it clear that they had tried, and as such they were not to blame for their weight issue. In fact, many of the women appeared to express something akin to disbelief that they had a weight issue, that it did not make sense:

“Lucy: I know that a lot of people say “oh you couldn’t have been trying, otherwise you would have done it”, but I really did[...]I can limit the calories as much as I want, but it doesn’t seem to work, and I know that’s not logical is it from a dietician point of view, the more calories you take in the more calories you burn, I don’t know.” (line 309-321)
Superordinate theme 2: Making a Case for Surgery

Subtheme 2a: Justifying the Surgery

Many of the participants appeared to find it important to justify the surgery as non-cosmetic, with several giving medical reasons for undertaking the procedure. For example, within Lorraine’s interview there was repeated emphasis on “wanting it for health reasons […not] doing it for cosmetic reasons in the slightest” (line 28-29). Given the social stigma perceived around obesity, a similar ‘masking’ process may be at play, that it is more reasonable a justification to undergo surgery for health reasons. For example, Liz gave her family a medical reason but acknowledged that it was more about how she was feeling:

“Liz: Yeah I told them, if I don’t have surgery I’m gonna die

Interviewer: Ok so what the surgeon had told you?
Liz: Yeah, what the surgeon had said

Interviewer: Ok, what do you think was the biggest factor in you saying yes straight away? Was it how you was feeling, or the health?
Liz: I think I was how I was feeling, I don’t think the health came into it” (lines 174-179)

Illustrating a perceived need to feel shame for undergoing surgery, Lucy opted to tell the minimum number of people in her life that she was undergoing the procedure, as she saw it as representative of having ‘failed’:
“Interviewer: Why didn’t you tell anyone about the operation?

Lucy: Embarrassment. Embarrassment about not being able to get to grips with something people do, people obviously looked at me and knew I was continuously failing on diets, because if they knew me they knew that I was always on them, but that humiliation that no, I couldn’t do it.” (lines 302-305)

Whilst Abigail was very open that her reason for having surgery was that she was very unhappy when overweight, she arguably still gives meaning to the surgery, in giving her time to take part in research:

“Abigail: [dietician] asked me if I would assist one of the erm doctors on a study he was doing into the effects after surgery on diabetes, and he wanted some erm pre-op patients with pre-op diabetes to be erm guinea pigs and then he would see them after the operations, so I said that yes, I would do this[...] Erm, so, I spent seven hours in the hospital that day” (lines 155-162)

Subtheme 2.2: Determination

Many of the women reported unwavering certainty in their decision to have the surgery:

“Liz: There was just fears that it might not happen, never ever feeling that I don’t want it, ever.” (line 192)
This appeared to inform the women’s decisions around social support. Typically, the women did not discuss their decision to have surgery with their loved ones, but instead report telling them that it would be happening, despite, or perhaps because of, many women reporting people close to them expressing major reservations about the procedure.

“Lorraine: *I thought if I’m gonna do this I’m not gonna have them try and talk them round cos it’s not something they might do*” (lines 38-39)

Additionally, many women seemed to have been quite biased in their consideration of the surgery:

“Lorraine: *‘ohhh, but 1 in 4 die’ and I said ‘yeah, I know but 3 in 4 survive’*” (line 40)

Furthermore, Lorraine reported researching the risks associated with surgery, and finding that those who do die during surgery have underlying health conditions, which she stated gave her confidence in the procedure, despite the fact that by nature of the term ‘underlying’, Lorraine would not know whether she had any conditions herself that might put her at risk. Instead, the fact that she’s not “a poorly person” (line 45) appeared to be enough for her. Conversely, two of the women (Liz and Lucy) avoided researching the surgery, to avoid coming across facts that might dissuade them:

“Lucy: *now I can find people with negative stories about it, because I can read them, but at the time when I was preparing for it, I was sure then, and I didn’t want to know, cos I’d got to the point where I just wanted the surgery*” (line 455-457)
Arguably, this certainty/determination serves to convince themselves and others that the surgery is not a bad idea. Such a level of persuasion may have been necessary, when on an emotional level life was too difficult being overweight, however the dangers of the surgery were recognised:

“Liz: I think that was what I was most worried about – [daughter]. But I’d already covered that, if I died I’d already covered was gonna look after her.

**Interviewer:** OK, so you’d made plans and-

Liz: Yeah, yeah. But to me it was worth it, no matter what it was worth it” (lines 162-165)

*Superordinate Theme 3: The ‘Slim’ Self as Socially Acceptable*

**Subtheme 3a: Positive Social Feedback: “Nana, you look fabulous in that dress”**

It appeared to be particularly valuable to the participants to gain positive feedback about their new shape:

“Lorraine: I love it, I go to Tesco[…]I’ll make sure I stop and talk to everyone I know, cos they all say ‘ohhh, you look REAL good don’t you? ’you, know ‘how you doing?’ and all that lot.” (lines 387-390)

As noted earlier, participants actually reported having always been perceived positively by those close to them, despite their weight. Abigail suggests that being slimmer allows them to accept this positive feedback:
“Abigail: he [husband] would say to me “you look nice”, you know. Erm, so...but now, I know I can put something on, and do my hair, and put my make-up on, and when he says “you look lovely”, I feel lovely as well.” (lines 265-267)

Subtheme 3b: Freedom to Live Life Without Feeling Judged

Most of the women appeared to be enjoying a new freedom to be able to live their life in the way that they want to do it and not be restricted by their size:

“Lucy: I enjoy my life now, I am doing all the things that I always wanted to do” (line 266)

Only one participant (Kath) reported that this was due to health reasons however; generally, this new found ability to live life was due to them feeling that they would no longer be judged negatively by society:

“Jo: I go running with a friend and, I’m a lot more confident about doing that, I’ll go in public now you know when its daylight! [laughs]. Before, I kinda felt a lot more self-conscious, so I feel less self-conscious[...]I merge into the background now” (lines 410-423)
Subtheme 3c: Being Themselves: ‘What you see now is the real me’

None of the participants indicated that they felt they had changed as a person since having the surgery. Several stated that they did not feel that they had changed at all, although the perceptions of others have changed:

“Lorraine: My partner always says, you’re confident, sassy, intelligent, and so sexy, he said ‘and that’s how people see you, when you walk’ he said, ‘you walk as if you own the pavement you’re walking on’, but I said ‘I’ve always walked like that’, but he said ‘no but now they see that, whereas before they didn’t see that, they would see the weight’. And I would have to agree with that.” (line 373-376)

Whilst others suggest that the surgery has allowed them to be their true selves, as the prior “facade is gone” (Abigail, line 622); Kath states that she is a different person, but in the sense that her body now allows her to be the person she always ‘mentally’ was:

“Kath: Yeah, yeah they see me, well like I say I’m just a different person because I have a young outlook anyway I always used to say that my brain’s still 18 it’s just my body wouldn’t cooperate y’know?” (lines 346-347)

Additionally, Jo and Kim described returning to be their ‘old’ selves, for example:

“Jo: It hasn’t altered me like that I’ve just gone back to what I was” (line 427)
Subtheme 3d: Sagging Skin as Incongruent

Every one of the participants made reference to the ‘sagging’ skin often associated with rapid weight loss, that is, the loose skin that remains. Only one participant, Jo, reported not having any loose skin. Several of the participants reported struggling with their sagging skin, with one (Lorraine) having had the skin on her stomach surgically removed, and another (Kim) fighting for funding for the same procedure at the time of interview. For these women, the skin was described with evident disgust:

“Lorraine: it feels snotty, for want of a better word, there is no other better word and you know when you blow your nose and go like this, bleugh” (lines 265-267)

Struggling with the loose skin was interpreted as the consequence of a discrepancy between the positive feedback the women were receiving, and their internal knowledge that the public appearance did not match their personal body image:

“Lorraine: everybody’s like, ‘oh you looking real good’, and you’re saying ‘yeah I know’, and you’re thinking ‘this bit’s tucked in here, and this bit’s tucked there, and this skin’s folded’ and what have you.” (lines 230-232)

Furthermore, Liz describes a discrepancy between the feelings elicited by the loose skin, and her feeling that others expect her to now be happy with her body. Liz suggested that had she told people about her struggles in relation to accepting the changes post-surgery (including the loose skin), then their response would be “look
you’ve had the surgery, you’ve lost the weight, what you complaining about?” (lines 389-390).

The degree to which women struggled with the skin appeared to be based on relationship status and age. In terms of relationship status, Lorraine (who was single at the time of surgery) talked extensively about how she felt that it would be difficult to be in a relationship with the sagging skin. Conversely, Abigail and Lucy appeared accepting of their sagging skin, as their partners were accepting of it:

“So I can live with the skin, it doesn’t bother me, in fact I can laugh about it, it doesn’t bother [husband], and nobody else matters.

Interviewer: Do you think it would make a difference if it did bother [husband]?

Abigail: If it bothered [husband].....yes, if it bothered him, I would probably think about surgery” (lines 564-567)

Those who were older at the time of the surgery were also seemingly more accepting of their loose skin, as it was more ‘in keeping’ of what would be expected at their age:

“Kath: a bit of loose skin and things like that but at [mid-sixties] I’m not bothered about that[...]had I been in my forties or something like that it maybe would do” (lines 337-340)
Summary

Nine subthemes were identified; with three superordinate themes. The first theme (the obese self as socially unacceptable) focused on the women having felt stigmatised by their obesity, which, in most cases, led the women to hide themselves from society and feel unable to live their lives in the way they wanted. It was important to highlight that this stigma was predominantly described as perceived rather than actual, and from strangers rather than friends/family (with the positive beliefs of friends/family were typically disregarded). The second superordinate theme (making a case for surgery) illustrated the certainty/determination the women demonstrated in their decision to undergo surgery – that is, filtering out negative information about the surgery and disregarding the concerns of loved ones. The third superordinate theme (the ‘slim’ self as socially acceptable) indicated that the women no longer perceived stigma after surgery, which freed them to live their life in the way that they wanted to, and be their ‘real’ selves (rather than taking on a ‘new’ self-concept). The exception to this acceptance of the self was identified with the post-surgical ‘loose skin’, which appeared to only be an issue when it was either not viewed as ‘age appropriate’ or when reassurance from a significant other was unavailable.

Discussion

Three subordinate themes were identified in this research and broadly speaking, they can be separated into themes which pertain to protection of the self (themes one and two), and the theme which indicates that overall, protection is no longer necessary (theme three), although loose skin does somewhat jeopardize this ‘safety’.
The first theme, ‘the obese self as socially unacceptable’, is interpreted as being about the women’s perceptions that they are members of a socially unacceptable group, and that there are a number of processes at play to protect their self concept from the associated negatives of membership of this group. It is reasonable to state, based on the negative perceptions described in theme 1a that when obese, these women felt stigmatised. Theories on social stigma are useful in considering the additional subthemes under the superordinate theme ‘the obese self as socially unacceptable’.

A theme arose which indicated that a well-used coping strategy was to ‘hide’ the real self behind a facade. This facade was interpreted as protective against accepting group membership, and as such accepting the associated stigma. Puhl and Brownell (2003) describe ‘denial of identity’ as a coping strategy used by obese individuals, that is, minimising those factors associated with obesity ‘group’ membership. Within this theme, of ‘hiding from social stigma’ (1b), an alternative approach used was literally hiding from society, which was interpreted as providing the same function of avoiding stigma. In their review of the research on stigma and obesity, Puhl and Brownell (2003) identify that a commonly used coping strategy is avoidance of the social stigma, and that this strategy is commonly employed by overweight individuals, who tend to avoid situations in which they feel observed.

The subtheme ‘it’s not my fault/I tried’ (1c) consisted of the women using strong narratives around the lengths that they had gone to in trying to lose weight themselves. This denial of an ability to lose weight may be an indication of a lack of proper understanding of the mechanisms underlying weight loss, but as highlighted by Lucy, it appears that even whilst she is aware how calories are supposed to work, they do not work that way in her case. It could therefore be interpreted that narratives supporting lack of responsibility, as they did try, enable the women to avoid the negative
stereotypes associated with obesity (discussed above), as they are able to describe themselves as qualitatively ‘different’ from other obese women. As such, this strategy could be considered an extension of the above denial of identity. In support of this interpretation, (Crocker, 1999) suggests that those who view their obesity as being beyond their personal control will experience higher self-esteem.

As identified, obesity creates social stigma, as such, it is understandable that those who are overweight would want to lose weight. Undertaking surgery to do so however could also be perceived as socially unacceptable, as described by Lucy, it is a clear demonstration that she had failed to be able to lose weight independently. The subtheme ‘justifying surgery’ was interpreted as providing women with an escape from accepting that they had ‘failed’ at weight loss. In concurrence, in considering the reasons that prevent people from seeking the surgery, Meana (2008) identified that some individuals found “taking the easy way out” (p.19) as shameful. Furthermore, linking justification with the theme of ‘hiding the self’ Meana (2008) highlighted that having surgery may feel to some individuals like admitting that they did have a problem with their weight. Justifying the surgery as a necessary procedure on medical grounds takes away such concerns around social feedback. Interestingly, the negative reactions that such strategies are likely to be built upon are ‘perceived’ in most cases, rather than actually occurring. That is, typically the women assumed that they were victims of social stigma, in that they assumed that people felt negatively towards overweight women.

It was also identified that women often had to justify the surgery to loved ones, on the basis of safety concerns; portraying surgery as necessary rather than optional is likely to alleviate some of the guilt this may leave them with. The subtheme of determination reflects the fight that women may experience in seeking bariatric surgery.
As highlighted by Lucy, when weight loss failed, others typically assume that they have not tried hard enough. Additionally, viewing the information associated with bariatric surgery with something of a positive cognitive bias may serve to further reduce such guilt, and also the women’s own anxieties around undertaking life-threatening surgery.

Naturally, it should be highlighted that there are many significant health variables associated with obesity, which would make bariatric surgery a valid option, as such it is not disputed that the women may have sought surgery on health grounds, however insight provided by Liz, that health concerns acted as a valid ‘cover story’ for surgery, and the fact that obesity is considered a source of social stigma give validity to consideration of why women privilege the health aspects in justifying surgery.

It was noted that whilst Abigail was upfront with her reason for undergoing surgery being that she was unhappy with her weight, she arguably gave meaning to the experience by taking part in medical research. It is interesting to note that Hughes and Degher (1993) found that obese individuals often use ‘compensatory’ techniques in the face of social stigma, for example helping behaviours. Arguably, all participants display helping behaviours in volunteering to take part in the current research; this may be a reflection of a strategy that served them well when overweight, serving to strengthen their self-esteem in the face of stigma.

Having lost the weight through surgery, the women did not actually report experiencing positive alteration to their sense of self, but instead felt that they could now be their true selves. It appears that two processes contribute to this ability to recapture what they believe to be their true selves; positive social feedback, and a lack of negative social feedback. All of the participants who reported positive feedback described it coming from friends and family, whereas when discussing strangers, a marked lack of negative feedback. Interestingly, this ‘pattern’ is actually very similar to
The participants were reporting having experienced when obese; the negative social feedback was, on the whole, perceived/assumed rather than reports of actual insult/negative feedback around weight. This might suggest that the only thing that has changed is their own views towards themselves, allowing them to interpret social feedback differently.

A couple of aforementioned theories could be utilised to further understand the observation that it is perception of feedback which has changed, rather than the actual feedback. Firstly, it may be that participants’ self esteem was bolstered by social comparison; according to Festinger's theory (1957), if the women compared themselves with other women and found that they are the same size/smaller than others (which is assumed to be a favourable outcome), their self-esteem will be enhanced. This process may enable them to interpret social feedback positively, rather than viewing it as negative/sympathetic. Indeed, several participants talked about blending in/being just like others. A second theory which could be utilised is Higgins’ self discrepancy theory (Higgins, 1987); it may be that, based on the social stigma of obesity, when women were overweight there was a large discrepancy between the ‘actual’ and ‘ought’ selves, which is thought to be associated with symptoms of depression. A feature associated with depressive symptoms is negative bias (Knaus & Ellis, 2006), which would impact on the way in which feedback is interpreted. Conversely, an ability to acknowledge positive feedback, or lack of negative feedback, might reflect a much smaller discrepancy between the ‘ought’ and ‘actual’ selves. Burke’s (1991) identity control theory suggests that individuals hold a set of standards for our new identity, and social feedbacks confirms/disconfirms whether those standards have been met. This theory seems to support the notion that perhaps individuals search for the social evidence to fit
with/support our self-concept, rather than allowing social feedback to entirely shape our self-concept.

Higgin’s (1987) self-discrepancy theory may also be useful in explaining why the loose skin associated with surgery is a well-reported issue for some people. The loose skin could potentially be an area in which the ‘actual’ self is different from the ‘ought’ self; as highlighted by Lorraine, the skin is a source of disgust for some, and it appeared that several of the participants felt that their skin was a secret, which they perceived as contradictory to the positive feedback. This feeling, which appears to be something akin to perceived ‘deceit’, arguably would bring the issue of discrepancy to the forefront, with the disgust making such comparisons particularly emotionally salient.

Further supporting the suggestion regarding the relevance of the self-discrepancy theory is the fact that the older women in this study expressed less distress about the skin, which was attributed to their age. Arguably, for these women the ‘ought’ self is not incongruent with loose skin. It does appear that interpersonal processes do play their part in terms of the loose skin however, with those women in relationships seemingly managing the loose skin better than those who were not; perhaps the social feedback of acceptance is enough to minimise the risks loose skin pose to self-concept, or perhaps a lack of social feedback leads to those women not in relationships catastrophising about the meaning of their loose skin. Indeed the identity control theory (Burke, 1991) suggests that the way in which individuals determine whether they have achieved intended self-change is via social feedback; it is likely therefore that those who do not have positive feedback, or have negative social feedback assume that they have not achieved what they were supposed to. Loose skin is typically something only
romantic partners would be able to provide social feedback on, as it is typically well-hidden when fully dressed.

Overall, the women who took part in this study conceptualised their ‘new’ (slim) selves as a revival or unmasking of their true selves. It appears that the strategy of ‘hiding’ (both in terms of persona and literally) provided protection of the self from the social stigma of obesity, as did the women’s need to make a strong case for surgery. The women went into the surgery with an immense level of determination, showing the first sign that social feedback (namely from concerned loved ones) was not actually their guiding light. Post-surgery, it appeared that the social feedback was objectively the same as pre-surgery, however the women involved in this study perceived it as extremely different, and of upmost importance. It was suggested that whilst it may be the case that women feel the social feedback is the reason that they can be their ‘true’ selves, there may have been processes relating to social comparison and self-discrepancy at play, which allowed them to view social feedback in a positive light. It was further interpreted that women struggled most with loose skin post-surgery when it threatened their positive sense of self (on the basis of self-discrepancy). Protective factors were age and social feedback.

*Strengths and limitations*

The key strength of this research is that the use of an IPA approach allows for an exploration of experience, allowing the women to raise topics that were important to them. As such, it is felt that the research reflects a true account of what it was like to experience such a change, rather than an investigation of researcher imposed domains of interest.
As is the remit of qualitative research, a relatively small and necessarily self-selected sample size was used in conducting this research (N=7). Whilst this does mean interpretations based on the themes identified in this research should not be considered in any way universal, it was interesting to note that many of the themes pertaining to obesity fit with pre-existing literature on coping as part of this social group.

Naturally, qualitative research is subjective in reporting ‘outcome’. Emerging themes throughout this research were discussed both in peer supervision and with the academic supervisor for this research. A reflective diary was kept throughout the research process to ensure that interpretations were rooted in the transcripts. Excerpts of transcripts are included throughout to allow the reader to draw their own conclusions, and transparency was aimed for throughout this process.

A final limitation is the fact that information gleaned in this research about pre-surgical self-concept is entirely retrospective; perhaps if women were interviewed about self-concept whilst overweight they would have responded differently. Nevertheless, it is still of interest to learn how women remember themselves as being when overweight, as this retrospective view is the same retrospective view they will use when remembering themselves as overweight.

Clinical Implications

It was particularly interesting to note that women did not feel that they had changed when they lost weight, but instead they felt that the social perception had changed. The themes identified indicated that it was actually the case that women’s perceptions of how others perceived them was what had changed. Perhaps this observation may be useful in guiding further research in how to best work with those
who are obese; potentially, cognitive behavioural therapy, or ‘third-wave’ approaches such as acceptance and commitment therapy (ACT), may be beneficial in supporting women to accept their weight, and reduce negative bias in interpreting the reactions of others. Furthermore an approach such as ACT may encourage acceptance of a weight issue, reducing the denial indicated subtheme 1b (hiding from social stigma); as acceptance of obesity may promote healthy lifestyle changes. Further research in this area seems particularly relevant.

On the basis that adjustment to the new self is based on reducing the discrepancy between the ‘actual’ self and ‘ought’ self, particularly with reference to loose skin, there might be a case for cognitive behavioural therapy to aid in the adjustment process, as the expectations associated with the ‘ought’ self could be reappraised/challenged. This is a clear area for further research.

Noting a potential positive cognitive bias in the decision making process when undergoing surgery, there would potentially be an argument for increased ‘counselling’, to ensure that patients are fully informed in terms of the risks, as well as the benefits. It should be borne in mind that whilst patients may indicate a medical reason for undergoing surgery, this may understandably (when referring to these strategies which were beneficial when overweight) be something of a ‘mask’; as such it is important that the more ‘cosmetic’ consequences are discussed, particularly the loose skin. Such a ‘counselling’ process may also allow patients to come to terms with a more realistic ‘ought’ self.
Conclusions

The first research question aimed to consider how those who have undergone bariatric surgery conceptualise their sense of self. It was noted that both before and after surgery, women assumed certain opinions from strangers, and received actual positive feedback from friends and family. Where pre- and post-surgery differs is that the opinions of strangers were previously assumed to be negative, and after weight loss they were assumed to be positive, whilst before the surgery positive comments from friends and family were not believed/internalised, whereas after surgery they were. Based on the interpretations made in this paper, it can be concluded that after having lost weight, women are better able to accept social feedback, and are able to make positive social comparisons. This allows the women to feel positive about themselves, and as such allows them to be themselves. The second research question aimed to identify how post-surgical self-concept differed from pre-surgical self concept. It seems that pre-surgical self-concept was overshadowed by perceived social stigma, meaning that women did not feel able to be their true selves. This hiding of the self is a well recognised coping strategy when dealing with stigma (Puhl and Brownell, 2003). As highlighted above, this view of the self appears to be based social feedback which is not dissimilar to that which they received after having lost the weight, suggesting that pre-surgical self-concept is based primarily on internal processes, e.g. negative filtering of information and the internalisation of social stigma. The change in self-concept therefore appears to be in the way in which they acquire positive/negative information about themselves. It is important to note that the second subtheme described in this paper (making a case for surgery) illustrates that the journey undertaken for bariatric surgery is a difficult one, with the women having to face several battles to allow themselves to make that
transition, namely an apparent fight against social stigma (theme 2a ‘justifying surgery’) and against loved ones and medical risk (theme 2b ‘determination').

Overall it can be said that the themes identified in this paper enhance our understanding of the processes women undergo in relation to their self-concept when having this surgery, and it has raised some potentially useful areas for exploration for intervention with these patients (see ‘clinical implications’), particularly in the potential for working with obese women to change the suggested tendency to negatively filter information, and denial of the actuality of their weight problem.
References


Reflective Statement

Initially, I will reflect on the decision making process in choosing target journals for submission, followed by a consideration of the challenges faced during this research process.

‘Obesity Surgery’ was chosen as the target journal for my systematic literature review. Having direct clinical relevance to the clinical care team in the area of bariatric surgery, it was felt to be important that chosen journal would be accessed by these professionals. As such, a specialist medical journal was selected, rather than a psychological journal. Journal choice was guided in part by the fact that many of the articles that appeared in my review were published in Obesity Surgery. Additionally, having an impact factor of 2.934, Obesity Surgery has a strong impact in relation to other similarly relevant journals, e.g. ‘Bariatric Nursing and Surgical Patient Care’ (impact factor: 0.911).

The Journal of Health Psychology was the journal chosen to submit my empirical paper to. In this instance, it was felt that a psychological journal would be more appropriate than a medical journal, given that the remit of the research was to consider underlying psychological experience, rather than more ‘straightforward’ outcome. As such, a psychological audience is likely to be more familiar with the research methods and constructs of self-concept utilised in this research. Naturally a health-related journal was most relevant, and the Journal of Health Psychology commonly publishes qualitative research. The impact factor of 1.683 is higher than other relevant journals, e.g. the British Journal of Health Psychology (impact factor: 1.485).
It was a much greater challenge than I had anticipated interviewing participants and interpreting their responses as a researcher, rather than as a Trainee Clinical Psychologist. The remit of a Clinical Psychologist is to interview with an agenda of sorts, to gather information and to a certain extent lead the conversation. Furthermore, a Clinical Psychologist will formulate information in vivo, asking relevant questions to confirm/disconfirm hypotheses. The remit of an IPA researcher, on the other hand, is to allow the participant to lead the interview, and bring forth those issues which have been important to them. Whilst it has been important in developing a research area, the initial reading of the literature surrounding self concept may have, at times, ‘blinkered’ my interpretations of transcripts, and my thoughts during interviews. It required heavy use of reflection both independently and in research supervision to maintain sight of where ideas and themes had originated, and to ensure that they were grounded in the transcripts. Whilst this process was a challenge, it was felt that the final themes in my empirical research were reflective of participant experience, and that those incidences in which pre-existing concepts of the ‘self’ were a reflection of the relevance of those concepts to the general public, rather than my own biases.

In conducting the systematic literature review my ‘dual role’ as both a researcher and a trainee Clinical Psychologist was felt to be something of an asset, with the scientist-practitioner model of practising psychology fitting well with the skills required to critically reflect on research. Furthermore, closely inspecting the quality of research, and comparing practice with evidence base has highlighted to me that there are occasions when practitioners, including in the field of psychology, make decisions based on limited evidence. This increased awareness is something that I am sure will serve me well in my career as a Clinical Psychologist, and encourage the continued use of research skills.
It was particularly rewarding to meet women who were so generous in sharing their story; all of the women were exceptionally friendly and warm, and I thoroughly enjoyed my time with each of them. Unfortunately, whilst enriching my experience as a researcher, I felt that at time this created challenges. I struggled when identifying and writing about themes, as it felt difficult to consider not taking what the women had said at face value, and make interpretations that they would perhaps be unhappy with, for example the suggestion that women’s reasons for undergoing surgery were not the true reason, and that the function of was to mask shame. Use of peer IPA supervision and academic research supervision was found to be invaluable, as it again allowed me to be confident that my interpretations were based on the transcripts, rather than my ‘fondness’ for my participants.

Despite these challenges, I have found the research process a rewarding one, and something that I am certain that I will continue throughout my professional career.
Appendix A

Ai - Author Guidelines for Obesity Surgery

Instructions for Authors

***

PLEASE NOTE: Effective January 2010, Obesity Surgery no longer accepts Case Report submissions for publication.

***

GENERAL

Obesity Surgery is published by Springer Science+Business Media LLC and is the official journal of the International Federation for the Surgery of Obesity and metabolic disorders (IFSO). Obesity Surgery publishes concise articles on clinical reports, clinical research, physiology research, basic science research, animal research, new concepts, technical innovations, case reports, editorials, reviews, current status, short communications, letters to the editor, invited commentaries, opinions, book reviews, guidelines, scholarly presentations, historical notes, medicolegal issues, and meeting abstracts. Requirements are in accordance with the "Uniform Requirements for Manuscripts submitted to Biomedical Journals," www.icmje.org.

Submitted papers will be subjected to peer review by members of the Editorial Board. Articles that are submitted for publication are done so with the understanding that they, or their substantive contents, have not been and will not be submitted to any other publication. The Editor and Publisher reserve the right to edit manuscripts accepted for publication to ensure conformity with the style of the Journal.

ELECTRONIC MANUSCRIPT SUBMISSION VIA EDITORIAL MANAGER

Submission of a manuscript implies: a) that the work described has not been published before; b) that it is not under consideration for publication anywhere else, and c) that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out.
The publisher and editors will not be held legally responsible should there be any claims for compensation.

Obesity Surgery electronically processes all submitted manuscripts through the online center, Editorial Manager (HTTP://OBSU.EDMGR.COM). All submissions are received, reviewed and decided upon through this website.

Original submissions are peer-reviewed, and not blinded.

SUBMIT ONLINE

AUTHOR ACCOUNTS
Authors entering the journal’s Editorial Manager site for the first time can create a new account and then follow the online prompts in order to submit a manuscript. If you have previously logged into the system, you should use your existing account for ALL subsequent submissions. If this procedure is followed, and you use one primary account, then you will be able to track the status for all of your submitted manuscripts from the same page.

GETTING STARTED
Once you have logged into your account, Editorial Manager will lead you through a step-by-step submission process. When submitting through Editorial Manager, you will be required to enter data through several different screens. The requested information will include Article Type, Title, Authors, Abstract, Key Words, Classifications, Comments/Cover Letter, and so forth. A check-mark next to the submission step indicates that you have provided the necessary information for that step. If you must leave the site and return at a later time, you can click on the “Incomplete Submissions” link in your Author Main Menu to access and continue submitting the partially submitted manuscript by clicking “Edit Submission” under the Actions link.

UPLOADING FILES
During the final submission step (“Attach Files”), please include the following documents.

Your COMPLETE manuscript text. Make sure that your Title Page (with all contributing author and affiliation information), Abstract, Body Text, References,
Figure Legends, and Tables (if any) are all included together in ONE DOCUMENT, in either Word or Rich Text Format.

If you prefer, you may instead submit your tables separately in Word, Rich Text, or Excel format.

The preferred format for submitted figures and/or graphics is either TIF or EPS format. For very large figure files, please compress them as much as possible before uploading to the website. MS Office files are also acceptable.

Any video or multimedia should be submitted in MPEG, RM, AVI, or MOV format. No video file should be larger than 2MB.

Any other documents that you believe are necessary for your submission.

After uploading the parts of your submission in this manner and clicking on “Build PDF for my Approval,” the system will convert the files to PDF. Click on “Submissions Waiting for Author’s Approval,” and go to your Actions link to view the PDF. You will see the result of conversion with the Acrobat plug-in in your browser. Once you approve the PDF, your manuscript will be officially submitted.

At any point during your submission process, Help links and a “frequently asked questions” link are available to view common questions or search specific topics.

If you have any questions that are not found in the Help link, or you need assistance submitting your manuscript online via Editorial Manager, please contact the Obesity Surgery Managing Editor:

Deana Rodriguez
Managing Editor, OBSU Editorial Office
5437 Fairbrook Street
Long Beach, CA 90815, USA
Phone: +1 (562) 961-9928
Fax: +1 (562) 961-9929
Email: obsu.rodriguez@gmail.com

REQUIRED FORMS
Copyright forms are now handled online -after- an article is accepted for publication. While the article is being typeset, the author is contacted by the typesetter during the
MyPublication stage and provided with a website address that will send the author through the copyright/offprints/color figures in print/Open Choice procedures. Please note the author will not receive proofs of their article until the MyPublication stage has been completed.

CONFLICT OF INTEREST DISCLOSURE

All potential benefits in any form from a commercial party related directly or indirectly to the subject of this manuscript or any of the authors must be acknowledged. For each source of funds, both the research funder and the grant number should be given. These details should be added in the "Conflict of Interest" section during online submission, and should also be included in a separate section of the manuscript document text, before the list of references.

If no conflict exists, authors should state the following note in a separate section of the manuscript document text, before the list of references: The authors declare that they have no conflict of interest.

The authors must fill out the Conflict of Interest form which can be found below. If no author on the manuscript has any conflict of interest to disclose, the corresponding author may fill out the form on behalf of all co-authors. If any author has a conflict to disclose, all authors must fill out the form individually. The Conflict of Interest form must then be uploaded at the time of manuscript submission. Submissions lacking a conflict of interest disclosure will not be accepted.

Conflict of Interest Form (pdf, 613 kB)

ORGANIZATION OF MANUSCRIPTS

Please type manuscripts (including references) double-spaced with one-inch wide margins. Number the pages consecutively and organize the manuscript in the order indicated below.

MANUSCRIPT FORMAT

Title Page. The title page should include:

The name(s) of the author(s)

A concise and informative title

The affiliation(s) and address(es) of the author(s)
Appendix A

The e-mail address, telephone and fax numbers of the corresponding author

Include a short title (not to exceed 30 characters in length, including spaces between words) for use as a running head

The authors must disclose any commercial interest that they may have in the subject of study and the source of any financial or material support

ABSTRACT. The Abstract for Research Articles and Clinical Reports must be not more than 250 words and should be written under the headings: Background, Methods, Results and Conclusions. The Abstract should not cite any references. Spell out each abbreviated term in full and follow with the abbreviation the first time a particular term is used. For example, ultrasound (US). Three to ten key words should follow the abstract. Where possible, the key words should be taken from the Medical Subject Headings (MeSH) of the Index Medicus.

The Abstract for Case Reports, Review Articles, Historical Notes, Modern Surgery: Technical Innovation, Medicolegal Issues, Opinions, Current Status, Scholarly Presentations, and New Concepts, should be not more than 250 words and should be written in one paragraph.

Abstracts are not required at the beginning of Letters to the Editor, Guidelines, Invited Commentaries, and Book Reviews.

Use only standard abbreviations and avoid abbreviations in the title. Define all abbreviations, except those in very common use (e.g. DNA), on their first mention in the text.

SHORT COMMUNICATIONS. are brief descriptions of a focused study with important, but very straightforward results. The short communication should be no longer than 1,800 words, have a maximum of 2 figures and tables, and have no more than 20 references. The abstract is optional. However, if the abstract is included, it should be divided into the headings of Background, Methods, Results and Conclusions and should not exceed 150 words.

TEXT. Since each of the manuscript types noted above can cover a great number of topics and concepts, word limits are difficult to set. We instead request that your article remain succinct and to-the-point, providing a detailed account of your findings and observations. The peer review process typically will verify whether or not the paper is too long or too brief.
Appendix A

The text should typically be organized into the following sections/headings: Introduction, Materials and Methods, Results, Discussion, References, Tables, Legends for Figures.

Use a normal, plain font (e.g., 12-point Times Roman) for text

Double-space the text

Use italics for emphasis

Use the automatic page numbering function to number the pages

Do not use field functions

Use tab stops or other commands for indents, not the space bar

Use the table function, not spreadsheets, to make tables

REFERENCES. The list of References should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list. Reference list entries should be numbered consecutively.

Citations in the text should be identified by numbers in square brackets. Some examples:

1. Negotiation research spans many disciplines [3].

2. This result was later contradicted by Becker and Seligman [5].

3. This effect has been widely studied [1-3, 7].

For Journal Articles: The sequence for a journal article should be: author(s); title of paper; journal name abbreviated as in the Index Medicus, year of publication, volume number and first and last page numbers. When there are more than three authors, shorten to three and add ‘et al’, e.g.


For Chapters of a Book: The sequence for chapters of a book should be: author(s), chapter title, editors, book title, edition, place of publication, publisher, year, page numbers, e.g.

Authors are responsible for ensuring that the list contains all references cited in the text, in order, accurately.

ACKNOWLEDGMENTS. Acknowledgments of people, grants, funds, etc. should be placed in a separate section before the reference list. The names of funding organizations should be written in full.

PERMISSIONS. Photographs in which a person is identifiable must either have the face masked out, or be accompanied by written permission for publication from the individual in the photograph. Authors wishing to include figures, tables, or text passages that have already been published elsewhere are required to obtain permission from the copyright owner(s) for both the print and the online format and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors. Please be informed that we will not be able to refund any costs that may have occurred in order to receive these permissions from other publishers. Please be aware that some publishers do not grant electronic rights for free (an example is Thieme Publishers). In these cases we kindly ask you to use figures from other sources.

TABLES
All tables are to be numbered using Arabic numerals
Tables should always be cited in text in consecutive numerical order
For each table, please supply a table heading
The table title should explain clearly and concisely the components of the table
Identify any previously published material by giving the original source in the form of a reference at the end of the table heading
Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body

FIGURES (ILLUSTRATIONS)
Include the figure legends at the end of the manuscript text. Type the legends for figures double-spaced, and number the legends consecutively.
All figures are to be numbered using Arabic numerals
Figure parts should be denoted by lowercase letters
Figures should always be cited in text in consecutive numerical order

For each figure, please supply a figure caption

Make sure to identify all elements found in the figure in the caption

Identify any previously published material by giving the original source in the form of a reference at the end of the caption

For more information about preparing your illustrations, please follow the hyperlink to the artwork instructions below

STATEMENT OF HUMAN AND ANIMAL RIGHTS

When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. If doubt exists whether the research was conducted in accordance with the Helsinki Declaration, the authors must explain the rationale for their approach, and demonstrate that the institutional review body explicitly approved the doubtful aspects of the study. When reporting experiments on animals, authors should be asked to indicate whether the institutional and national guide for the care and use of laboratory animals was followed.

STATEMENT OF INFORMED CONSENT

Patients have a right to privacy that should not be infringed without informed consent. Identifying information, including patients’ names, initials, or hospital numbers, should not be published in written descriptions, photographs, and pedigrees unless the information is essential for scientific purposes and the patient (or parent or guardian) gives written informed consent for publication. Informed consent for this purpose requires that a patient who is identifiable be shown the manuscript to be published. Authors should identify Individuals who provide writing assistance and disclose the funding source for this assistance. Identifying details should be omitted if they are not essential. Complete anonymity is difficult to achieve, however, and informed consent should be obtained if there is any doubt. For example, masking the eye region in photographs of patients is inadequate protection of anonymity. If identifying characteristics are altered to protect anonymity, such as in genetic pedigrees, authors should provide assurance that alterations do not distort scientific meaning and editors should so note.
GUIDELINES FOR ELECTRONICALLY PRODUCED FIGURES AND ILLUSTRATIONS

For detailed instructions about the submission of artwork, figures, graphics and illustrations, click on the following link:

Artwork Instructions

AUTHOR PROOFS

After a submission is accepted and processed through production, a proof of the article is made available to the author. The purpose of the proof is to check for typesetting errors and the completeness and accuracy of the text, tables and figures. Substantial changes in content, e.g., new results, corrected values, title and authorship, are not allowed without the approval of the Editor.

The article will be published online after receipt of the corrected proofs. This is the official first publication citable with the DOI. After release of the printed version, the paper can also be cited by issue and page numbers. After online publication, further changes can only be made in the form of an Erratum, which will be hyperlinked to the article.

AFTER ACCEPTANCE

Upon acceptance of your article you will receive a link to the special Springer web page with questions related to:

Copyright Transfer Statement: Authors will be asked to transfer copyright of the article to the Publisher (or grant the Publisher exclusive publication and dissemination rights). This will ensure the widest possible protection and dissemination of information under copyright laws. Open Choice articles do not require transfer of copyright as the copyright remains with the author. In opting for open access, they agree to the Springer Open Choice License.

Offprints/Reprints: can be ordered.

Color in Print: Online publication of color illustrations is free of charge. For color in the print version, authors will be charged for the costs.

Open Choice: In addition to the normal publication process (whereby an article is submitted to the journal and access to that article is granted to customers who have purchased a subscription), Springer now provides an alternative publishing option: Springer Open Choice. A Springer Open Choice article receives all the benefits of a regular subscription-based article, but in addition is made available publicly through
Springer’s online platform SpringerLink. We regret that Springer Open Choice cannot be ordered for published articles. Please go to: http://springer.com/openchoice or click on the below link for more information

Open Choice

REQUESTING PERMISSION TO RE-USE OBESITY SURGERY CONTENT

Permission to re-use Obesity Surgery content can be requested online using the Copyright Clearance Center by following the below instructions:

1. Go to www.SpringerLink.com and locate the article which contains the material you would like to re-use

2. Click on the "Permissions & Reprints" link located in the right hand corner of the page

3. Select the way you would like to reuse the content

4. Fill out the necessary information

5. Create an account if do not already have one

6. Accept the terms and conditions

If you encounter any difficulties while requesting permission, please contact:

Copyright Clearance Center Customer Support

Tel: +1 (877) 622-5543 (toll free) OR +1 (978) 777-9929

Email: customercare@copyright.com
Notes for Contributors

1. The Journal of Health Psychology is an international peer reviewed journal and has a fully web-based system for the submission and review of manuscripts. All submissions should be made online at the Journal of Health Psychology SAGETRACK website.

Note: Online submission and review of manuscripts is now mandatory for all types of papers.

New User Account

Please log onto the website. If you are a new user, you will first need to create an account. Follow the instructions and please ensure to enter a current and correct email address. Creating your account is a three-step process that takes a matter of minutes to set up. When you have finished, your User ID and password is sent via email immediately. Please edit your user ID and password to something more memorable by selecting 'edit account' at the top of the screen. If you have already created an account but have forgotten your details type your email address in the 'Password Help' to receive an emailed reminder. Full instructions for uploading the manuscript are provided on the website.

New Submission

Submissions should be made by logging in and selecting the Author Center and the 'Click here to Submit a New Manuscript' option. Follow the instructions on each page, clicking the 'Next' button on each screen to save your work and advance to the next screen. If at any stage you have any questions or require the user guide, please use the 'Get Help Now' button at the top right of every screen. Further help is available through ScholarOne's® Manuscript CentralTM customer support at +1 434 817 2040 x 167.

To upload your files, click on the 'Browse' button and locate the file on your computer. Select the designation of each file (i.e. main document, submission form, figure) in the drop down next to the browse button. When you have selected all files you wish to upload, click the 'Upload Files' button.

Review your submission (in both PDF and HTML formats) and then click the Submit button.

You may suspend a submission at any point before clicking the Submit button and save it to submit later. After submission, you will receive a confirmation e-mail. You can also log back into your author centre at any time to check the status of your manuscript.
Please ensure that you submit editable/source files only (Microsoft Word or RTF) and that your document does not include page numbers; the Journal of Health Psychology SAGETRACK system will generate them for you, and then automatically convert your manuscript to PDF for peer review. Furthermore, it is imperative that authors remove from their submissions any information that will identify them or their affiliations to reviewers. All correspondence, including notification of the Editor's decision and requests for revisions, will be by email.

Journal of Health Psychology operates a strictly blinded peer review process in which the reviewer’s name is withheld from the author and, the author’s name from the reviewer. The reviewer may at their own discretion opt to reveal their name to the author in their review but our standard policy practice is for both identities to remain concealed. All manuscripts are reviewed initially by the Editor and only those papers that meet the scientific and editorial standards of the journal, and fit within the aims and scope of the journal, will be sent for outside review.

If you would like to discuss your paper prior to submission, or seek advice on the submission process please contact the Managing Editor, David Marks, at the following email address: jhpeditor@googlemail.com

Submitting a Revised Submission

Authors submitting revised manuscripts should follow the instructions above to submit through the SAGETRACK system. To create a revision, go to the 'Manuscripts with Decisions' option in your Author Dashboard and select 'create a revision' in the 'Action' column. Authors of all revised submissions should, when prompted, provide information explaining the changes in your manuscript. As this will be provided to reviewers, it is important that authors do not identify themselves in these responses.

2. The Editorial Board of the Journal of Health Psychology considers for publication:
   (a) reports of empirical studies likely to further our understanding of health psychology;
   (b) critical reviews of the literature; (c) theoretical contributions and commentaries; (d) book reviews; and (e) signed editorials (about 1000 words) on significant issues.

3. The circulation of the Journal is worldwide and articles are invited from authors throughout the world.

4. Articles should be as short as is consistent with clear presentation of subject matter. There is no absolute limit on length but 6000 words, including footnotes and reference list, is a useful maximum. Tables and figures count as 500 words each which should be attached as separate pages at the end. INSERT HERE signs should be noted within the
text. The title should indicate exactly, but as briefly as possible, the subject of the article. An abstract of 100 words should precede the main text, accompanied by up to five key words. Author bios are not necessary. Publication guidelines for intervention studies are published in volume 15, number 1, pages 5-7. The Journal also publishes Brief Reports of up to 3000 words. Brief Reports should include an abstract of 100 words, and may include a table or figure in lieu of 500 words of the 3000-word maximum. All papers are reviewed 'blind' by expert peers.

5. Authors should provide a standard and a 'blind' electronic version of their article - one version containing names, affiliations, full mailing address plus telephone, fax, email address; and one containing the title only. In all cases, the Editor will screen manuscripts for their overall fit with the scope of the journal in terms of relevance, rigour, and interest to the readership. Those that fit will be further reviewed by two or more independent, expert and internationally representative reviewers.

6. The Journal requires authors to have obtained ethical approval from the appropriate local, regional or national review boards or committees. Of particular importance are the treatment of participants with dignity and respect, and the obtaining of fully informed consent. The methods section of the paper must contain reference to the forum used to obtain ethical approval.

7. Authors must follow the Guidelines to Reduce Bias in Language of the Publication Manual of the American Psychological Association (6th ed). These guidelines relate to level of specificity, labels, participation, gender, sexual orientation, racial and ethnic identity, disabilities and age. Authors should also be sensitive to issues of social class, religion and culture.

8. Typescripts must be typed in double spacing throughout. Titles and section headings should be clear and brief with a maximum of three orders of heading. Lengthy quotations (exceeding 40 words) should be displayed, indented, in the text. American or UK spelling may be used, to the author's preference. Indicate italic type by underlining, and use single quotation marks. Dates should be in the form 9 May 1994. Take out points in USA and other such abbreviations.

9. Tables and figures should have short, descriptive titles. All footnotes to tables and their source(s) should be typed below the tables. Column headings should clearly define the data presented. Camera-ready artwork for all figures must be supplied. Artwork
intended for same-size use should be a maximum size of 192:125 mm (page depth: page width). The title page should contain the word count of the manuscript (including all references).

10. HPQ uses the SAGE Harvard style of referencing and authors should follow this system. This means that after a quote or reference to research in the text, you should give, in brackets: 1. Author surname, 2. Year of publication.

If you quote more than one source by the same author in the same year, use the letters a, b or c to distinguish.

At the end of the paper you should list all references in alphabetical order, according to their source, in the following style:

- For a book:

- For a chapter in a book:

- For an article:

- For an article published ahead of print:

Note: volume is given as '00'.

- For a website

- For an unpublished thesis
11. The corresponding author will receive page proofs for checking. He or she will be given controlled access to a PDF of the article and a complimentary copy (per author) of the whole issue after publication.

13. Reviews: books and suggestions should be sent to Michael Murray (Book Reviews Associate Editor), School of Psychology, Keele University, Staffordshire ST5 5BG, UK, m.murray@psy.keele.ac.uk

English Language Editing Services: Please click here for information on professional English language editing services recommended by SAGE.

If you wish your article to be freely available online immediately upon publication (as some funding bodies now require), you can opt for it to be included in SAGE Choice subject to payment of a publication fee. Manuscript submission and refereeing procedure is unchanged. On acceptance of your article, you will be asked to let SAGE know directly if you are choosing SAGE Choice. For further information, please visit http://www.uk.sagepub.com/sagechoice.sp
## Appendix B

### Bii – Data Extraction

<table>
<thead>
<tr>
<th>Author(s) and year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Country of Origin</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Research aim</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Main variables under investigation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Gender distribution</td>
<td></td>
</tr>
<tr>
<td>Mean Age (SD)</td>
<td></td>
</tr>
<tr>
<td>Mean pre surgery BMI (SD)</td>
<td></td>
</tr>
<tr>
<td>Attrition</td>
<td></td>
</tr>
<tr>
<td><strong>Type of Surgery</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Length of Follow-up</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Measures</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Quality Rating</strong></td>
<td>Rater 1:</td>
</tr>
</tbody>
</table>
### Bit - Quality Assessment Questions

<table>
<thead>
<tr>
<th>Quality Assessment Questions</th>
<th>Quality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the hypothesis/aim/objective of the study clearly described?</td>
<td>Yes = 1, No = 0</td>
</tr>
<tr>
<td>Are the main outcomes to be measures clearly described in the introduction or methods section?</td>
<td></td>
</tr>
<tr>
<td>Are the characteristics of the participants included in the study clearly described?</td>
<td></td>
</tr>
<tr>
<td>Were the subjects asked to participate in the study representative of the entire population from which they were recruited? (Patients would be representative if they comprised the entire source population, an unselected sample of consecutive participants, or a random sample of the population)</td>
<td></td>
</tr>
<tr>
<td>Have the characteristics of the participants lost to follow-up clearly described?</td>
<td></td>
</tr>
<tr>
<td>Where the main outcome measures used accurate (reliable and valid)?</td>
<td></td>
</tr>
<tr>
<td>Was there adequate adjustment for confounding in the analyses from which the main findings were drawn? (e.g initial BMI, age, sex, insulin resistance &amp; physical ability are known to have an effect on weight outcome)</td>
<td></td>
</tr>
<tr>
<td>Where the statistical tests used to assess the main outcomes appropriate? (e.g. non-parametric methods should be used for small sample sizes. If the distribution of the data [normal or not] is not described it must be assumed that the estimates used were appropriate and the question should be answered yes)</td>
<td></td>
</tr>
<tr>
<td>Have actual probability values been reported (e.g. 0.035 rather than &lt;0.05) for the main outcomes except where the probability value is less than 0.001?</td>
<td></td>
</tr>
<tr>
<td>Are the main findings of the study clearly described?</td>
<td></td>
</tr>
<tr>
<td>Limitations/implications of the study are reported</td>
<td></td>
</tr>
</tbody>
</table>
In planning research, it is important to carefully consider the various methodologies available, in order to ensure that the approach used best fits with both the researcher, and the aims of the research. Two key areas of consideration are the ontological and epistemological standpoints that underlie each approach.

Ontology refers to one's position towards the nature of social ‘reality’ (Blaikie 2007), i.e. is there an objective and tangible reality that exists regardless of individual perception, or on the contrary, are phenomena entirely subjective and purely the product of individual perception? The former is known as the ‘realist’ position (Cohen et al. 2007), whilst the latter represents the opposite extreme, typically termed the ‘relativist’ position (Baghramian 2004).

Epistemology is concerned with how one might access a phenomenon (whether it be objective and ‘real’, or whether it be subjective and ‘relative’) (Greco & Sosa 1999). Traditionally, a positivist approach was taken in research, which involved disciplined scientific enquiry to establish the ‘truth’ about a phenomenon (Neuman 2006). Over the years, researchers have generally conceded that nothing can ever be known with absolute certainty, and as such positivism has been replaced with ‘post-positivist’ approaches, which aim to employ scientific methods of enquiry to establish “knowledge” that is well warranted, whilst accepting that information may come to light which requires that “knowledge” to be amended (Phillips & Burbules, 2000, p.3). Evidently, positivism and its successor fit best with the realist perspective, as the assumption that you can measure something objectively indicates a further assumption
that there is something objective to measure in existence. It has been argued, however, that whilst the concept of knowledge might fit well with the scientific world, it is less fitting in the social realm, where interactions and individual perception come into play (Rhoads 1991). Such a viewpoint represents that of the anti-positivist approach, which aims to understand the subjective experience of the individual within their own context (Jones 1998). The anti-positivist approach allows for there not to be an ultimate truth, and as such fits better with a relativist position.

(Crotty 1998) claims that different viewpoints on these matters lead to different research methods, thus highlighting the necessity for researchers to acknowledge their own ontological and epistemological assumptions. As a psychologist, I take the position that each individual holds their own subjective reality when viewing the world, and as such what might be reality for one person would not be so for another, indicating a relativist ontological standpoint. I am interested in experience, rather than fact, which I feel is reflected in my selection of a therapeutic career choice. This is reflected in my choice of research areas; should I hold a realist viewpoint of the world I might have chosen to assess exactly what the impact of bariatric surgery is on mental health, instead I hope to gain an understanding of each woman’s experience. This fits well with the anti-positivist stance, and from a personal perspective the argument that scientific enquiry fits well with the natural sciences, but not the social sciences, is one that resonates for me.

Methodological approaches which consider experience and relationships are typically known as ‘qualitative’. As described by (Smith 2008, p.53), Interpretative Phenomenological Analysis (IPA), focuses on the “meanings particular experiences, events, states hold for participants”, which fits perfectly with the research aim of
understanding the experience of bariatric surgery. Additionally, IPA recognises that people may not be able to express their inner processes, and as such promotes further interpretation of the participants’ data; arguably as a matter of necessity, given that the researcher is required to make interpretations, IPA also recognises the active role of the researcher, and that their own background and assumptions will have an impact on analysis of the data (Smith 2008). Such assumptions represent striking parallels with the approach taken by clinical psychology as a profession, specifically that client’s discourse is not always taken at face value, but often further interpreted, with a great deal of emphasis being placed on what the psychologist’s own assumptions bring to the relationship. As such, IPA is in keeping with my own experience/way of working as a trainee clinical psychologist.

Other commonly used approaches to qualitative research were also considered, namely discourse analysis, grounded theory, and content analysis. The following highlights the decision making process in rejecting other qualitative research methods. Discourse Analysis (DA) examines the social reality that is created via discourse, or language (Holloway 1997). As such, an appropriate area of research for this methodology might be to examine how women’s experience of bariatric surgery has been influenced by the discourse which society uses to describe obesity, thinness, and the surgery (e.g. as a ‘medical procedure’ vs. an ‘easy way out). As stated, this approach views ‘reality’/meaning as being constructed via discourse, as highlighted by (Richardson 1996, p.130), discourse analysis is a social perspective, rather than simply a methodology; specifically, as stated DA views reality as constructed through discourse, therefore being socially based, rather than individual internal experience. Whilst it may be the case that the majority of women’s experience is contingent on social discourse, it is my own assumption as a researcher that meaning can be internally
constructed. Grounded theory aims to generate theory grounded in data (Willig 2008), such an approach suggests that the researcher holds the assumption that given adequate analysis of data, a generalisable theory will emerge. This research aims to understand individual experience, on the basis that experience is, indeed, individual rather than generalisable. Content analysis studies pre-existing communications, e.g. transcripts of communications, written media materials, and more recently website discussion boards (Babbie 2010). Babbie further explains that research using this methodology typically considers who is saying what, to who, how, and why. In considering bariatric surgery, potential avenues for research using content analysis would be to examine discussion boards for online support groups, or the increasing number of magazine ‘real-life’ story articles; such research would aim to identify the purpose of the communication however, rather than the actual experience of the patient.

To summarise, a qualitative approach best fits with both my own epistemological and ontological standpoints, and it is acknowledged that it is these standpoints that have led me to formulate the research question I did. IPA is the research method that best fits with my own position, and consequently with my research question.

References


Cii - Interview Schedule (v.2)

- Can you tell me about how you saw yourself as a person before the surgery?  
  *Prompts: your appearance, compared to others?*

- How do you think that other people saw you (back then)?  
  *Prompts: spouse, friends, family, colleagues, strangers*

- How good did you feel about yourself at the time, on a scale from 0-10? (10 being highest)

- Can you tell me about how you came to the decision to have the surgery?

- How do you see yourself now that you’ve lost the weight?  
  *Prompts: your appearance, compared to others?*

- How do you think other people see you now?  
  *Prompts: spouse, friends, family, colleagues, strangers*

- How does the result that you’ve achieved compare with what you expected?

- How good do you feel about yourself now, on a scale from 0-10? (10 being highest)

- Now that you’ve achieved your weight loss target, is there anything else which you would like to change?  
  *Prompts: Relate to areas previously discussed, i.e. relationships, social life, work.*
  
  *What effect would these changes (if any) have on your life?*
Appendix C

Ciii – Research Approval Documentation

National Research Ethics Service

Leeds (Central) Research Ethics Committee
Yorkshire and Humber REC Office
First Floor, Millside
Mill Pond Lane
Meanwood
Leeds
LS6 4RA
Telephone: 0113 3050127

13 September 2010

Miss Samantha McKenzie
Trainee Clinical Psychologist
Humber Mental Health NHS Teaching Trust
Department of Clinical Psychology
Hertford Building, Hull University
Cottingham Road, Hull
HU8 7RX

Dear Miss McKenzie

Study Title: Bariatric surgery, weight-loss, and self-concept
REC reference number: 10/H1313/81

Thank you for your letter of 27 July 2010, responding to the Committee’s request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Vice-Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see “Conditions of the favourable opinion” below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research (“R&D approval”) should be obtained from the relevant care organisation(s) in accordance with NHS research
22/11/2010
Samantha Mckenzie
Department of Psychology
Herford Building, University of Hull
Cottingham Road, Hull
HU6 7RX

Dear Samantha Mckenzie

Re: R&D ID: 10/05/444 REc ID: 10/H1313/61
Bariatric surgery, weight-loss, and self-concept

I am pleased to notify you formally that this study has been approved by the Humber NHS Foundation Trust.

As your research is not taking place at Humber NHS Foundation Trust, you will need to await R&D approval from the trust in which your research is based in to undertake your research there.

Humber NHS Foundation Trust conducts all research in accordance with the requirements of the Research Governance Framework, and the NHS Intellectual Property Guidance. In undertaking this study you agree to comply with all reporting requirements, systems and duties of action put in place by the trust to deliver research governance, and you must comply with the Trust information management and data protection policies. In addition, you agree to accept the responsibilities associated with your role that are outlined within the Research Governance Framework as follows:

- The study follows the agreed protocol
- Participants should receive appropriate care while involved in the study
- The integrity and confidentiality of clinical, other records and data generated by the study will be maintained
- All adverse events must be reported to the Trust and other authorities specified in the protocol
- Any suspected misconduct by anyone involved in the study must be reported

You must ensure that the protocol is followed at all times. Should you need to amend the protocol, please follow the national research ethics service procedures. You should forward a copy of all amended versions of the protocol and/or documentation together with written confirmation that a favourable opinion has been given by the REC, to the R&D office at the trust.

You will be required to complete electronic progress reports and a final monitoring form on completion. As part of this requirement, please ensure that you are able to supply an accurate breakdown of research participant numbers for this trust (recruitment target, actual numbers recruited). To reduce bureaucracy, progress reporting is kept to a minimum, however, if you fail to supply the information requested, the trust may withdraw approval.

I would like to wish you every success with this project

Yours sincerely

Duncan Courtney
Clinical Governance Specialist
19/11/2010

Miss Samantha McKenzie
Department of Clinical Psychology
Herford Building, Hull University
Cottingham Road, Hull
HU3 6OT

Dear Miss McKenzie

Re: R1078 - 10/H1313/61 - Bariatric surgery, weight-loss, and self-concept

I am pleased to notify you formally that this study has been approved by Hull and East Yorkshire Hospitals NHS Trust and may proceed subject to the following caveats:

- That all REC conditions of authorisation that pertain to Hull & East Yorkshire Hospitals NHS Trust (HEYHT) have been adhered to prior to the first participant being recruited at this site.
- That data is stored and transferred in accordance with the Data Protection Act (1998) and you must ensure that all data collection, transfer and storage does not contravene HEYHT Confidentiality and Information security Policy [http://intranet/policies/policies134.pdf](http://intranet/policies/policies134.pdf), specifically the Information Storage and Transfer Procedure. If you are in any doubt about adherence with this policy in relation to the above, please contact the R&D Office.
- That no participant identifiable data is sent outside of the research team at Hull & East Yorkshire Hospitals NHS Trust (except where covered by the patient consent form and with suitable security arrangements in place).
- That no participant identifiable data is held on laptop computers (except where encrypted as per Trust policy).
- That the security of any data transfer will be in accordance with the Trust policy on encryption and that data access controls are in place (individual user accounts and passwords)
- That appropriate archiving arrangements are in place at the end of the research (where required)
- That all staff participating in the research hold substantial or honorary contracts/letters of access with this Trust (where applicable). The current honorary contract for you expired on 30/09/10. Please ensure an extension is granted before this study commences at this Trust.
- That specific ward/clinic departments are notified in advance of any intended visit in order to ensure appropriate facilitation of the planned activities.
- That any ‘tone working policy’ or ‘buddy system’ is in place prior to undertaking a visit in a participant’s own homelife site.

Hull and East Yorkshire Hospitals NHS Trust conducts all research in accordance with the requirements of the Research Governance Framework, and the NHS Intellectual Property Guidance. In undertaking this study, you agree to comply with all reporting requirements, systems and duties of action put in place by the Trust to deliver research governance. In addition, you agree to accept the responsibilities associated with your roles which are outlined within the Research Governance Framework.

Please complete the table below and return a copy to HEY R&D.

I would like to wish you every success with this project

Yours sincerely

[Signature]

James Illingworth
Research & Development Manager
ARE YOU INTERESTED IN SHARING YOUR EXPERIENCE OF WEIGHT LOSS SURGERY?

I’m interviewing women about what it has been like for them to lose weight quickly after surgery.

If you’re interested in taking part, ring or text Sam McKenzie on tel: 07400932091, leaving your name and a contact number, then I’ll get in touch to tell you more!
Dear

I am writing to invite you to take part in some research being undertaken by Sam McKenzie, Trainee Clinical Psychologist, at the Department of Clinical Psychology and Psychological Therapies at the University of Hull.

Sam is exploring the impact that losing weight quickly after undergoing bariatric surgery has on women and how they feel about themselves. From your medical records the bariatric clinic has identified you as being suitable to take part. Your details have not been shared with Sam.

If you are interested in finding out more information about the research, please get in touch with Sam via the telephone number on the flyer.

Kind regards,

Beryl Kirkwood, senior dietician
I would like to invite you to take part in my research study. Before you agree to participate, I would like you to understand why the research is being done, and what it would involve for you. I will go through the information sheet with you, and answer any questions that you might have. I’d suggest this will take 20 minutes. Talk to others about the study if you wish.

**Purpose/aim of the research**

This research is being conducted as part of the doctorate in Clinical Psychology programme at the University of Hull. The aim of my research is to provide a greater understanding of the impact of losing weight quite rapidly as the result of bariatric surgery. At the moment, there is a great deal of research into the medical effects of the operation, but very little on the psychological impact. As weight loss surgery leads to a change in physical appearance, I am interested in finding out more about how people feel about this change, and whether it is the same/different to what they expected.

**How the research will be carried out**

During this research I will be speaking with women who have lost weight after bariatric surgery about their experience, focusing mainly on what they expected when they had the operation and any difference it has made in how they see themselves now. This will be done in the participant’s own home, or an alternative mutually agreed venue (if preferred). The interview will be audio recorded, although participants will be assigned an pseudonym at this time to identify their recording. To ensure confidentiality, identifying details will not appear on the tape or write-up. After the interview the recording will be transcribed. At this point the recording will be deleted, and the paper transcript will be stored securely in a locked cabinet for up to five years, after which time it will be destroyed.
Why have I been asked?

You have been invited to take part as someone who has reached their weight loss target after bariatric surgery; you have been identified as potentially suitable by staff at the bariatric unit in Castle Hill Hospital, and the letters were sent out by them. This means that I only have the contact information provided by you. It is up to you to decide to join the study, if you decide not to take part, any of your details which I hold will be destroyed.

What will happen?

Shortly after you’ve been sent this information sheet, I will ring you to give you the opportunity to ask any more questions, and if you are still interested in participating, I’ll arrange a time to meet with you. When we meet we will go over this information again to check any other concerns or questions. If you would still like to be involved I’ll ask you to sign a consent sheet. The interview will take place on the same day.

I will also require the following information from your medical notes:

- Weight at time of surgery
- Date of surgery
- Target weight
- Most recent recorded weight

I will not have direct access to your medical notes; this information will be provided by the bariatric unit with your signed consent.

You are free to withdraw at any time, without giving a reason. At this point all information associated with you would be destroyed. This would not affect the standard of care you receive.

How the research will be used

As stated, the research is being conducted to fulfil a course requirement on the doctorate in Clinical Psychology programme, this means that the research will be submitted for assessment to the Department of Clinical Psychology and Psychological Therapies. When the research is written up it is likely that some direct quotes from your interview will be used, however confidentiality and anonymity will be maintained at all times by using a pseudonym rather than your name. No quotes will be used which contain identifiable information.
You will be free to withdraw your data from the research up until the time of submission. In addition to submission to the university, it is likely that the research will be submitted for wider publication, for example in a peer-reviewed journal, this means that anybody else is interested in this research will be able to access it. If you are interested in receiving a summary of the research you can complete a form with your contact details.

Potential disadvantages/advantages of participation

Some people can find it distressing to talk about their experiences relating to surgery, their expectations of surgery, and significant weight loss, and some people might find that they need more support following these experiences. Included with this information sheet is a list of contact details for sources of further support, and I can talk through the options with all potential and actual participants (contact details provided below). If I become particularly concerned about you it will be necessary to inform your GP, however I will discuss this fully with you before further action is taken.

Many people find it beneficial to share their experiences; whilst you might not experience any direct benefits from participation, you will be contributing to valuable information about the real-life experiences of patients.

What if there is a problem?

If you have a concern about any aspect of this study, I will do my best to answer your questions (contact details below). If you remain unhappy and wish to complain formally, you can do this by contacting the NHS Patient Advice and Liaison Service (PALS).

Who is funding this research?

The Humber Mental Health Foundation Trust is sponsoring this research. The research forms part of a course of study and is funded through that.

Who is reviewing this research?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by Leeds (Central) Research Ethics Committee.
Further information and contact details

Should you wish to obtain further information on this research please do not hesitate to contact me via the details below:

Samantha McKenzie

Department of Clinical Psychology and Psychological Therapies
Hertford Building, University of Hull
Cottingham Road,
Hull, HU6 7RX

Tel: 07400932091
Email: s.l.mckenzie@2005.hull.ac.uk
When you were 22st pre surgery, can you tell me a bit about how you saw yourself as a person?
Yeah, I was confident, I was that big bold brass woman who would walk in a pub, I’d walk in anywhere with my head held high and that lot, I had good dress sense and me hair was always done nice when I went anywhere, I felt confident enough to wear a bikini on the beach although now I think how did I do it you know? But I was confident, I worked, I had active jobs, I was an active person, as I said I worked in residence and catering in, serving students and teas and coffees, y’know, you see waitresses running round, and that was me – I had an active, always had an active employment, you know, but I was confident and everything. 

So you were happy with the way things were?
I thought I was, though you know that is the fallacy – any big person will say ‘nah, I’m happy with the way I am’, and you know, yeah, for years I thought I was. The reason I went for surgery was me son, he was getting older and I thought ‘I’m gonna have to chase him around’, you know as he gets older he needs to, you know...and I’d done weight watchers, I’d done slimming world, and I took all the fish oil tablets – I took everything, and it just wasn’t working and thought to myself ‘you’re coming up to 40 [P1]’, my mum has high blood pressure, diabetes, arthritis, me sisters have got blood pressure, arthritis – and two of them are very slim. Erm but they still had these issue, and I thought ‘what you gonna do about it?’ and so I researched it erm on the internet, and this is what come up. I didn’t want the band cos I didn’t want the messing around of going back and having it filled with the stuff and that lot, the balloon wasn’t a big option, it was like still in the trials, but I thought ‘nah, if you’re gonna do it, you do it so it’s not reversible, so you’ve got that commitment’, that’s my feeling – you’ve got that full commitment to it then. So I just went to the doctors and said ‘right I’ve looked into this, am I a prime candidate?’ and she weighed and she said ‘yeah, your BMI’s...’ - I think at the time it had to be over 35 – which it’s now gone up, but my BMI at the time was way over that that so yeah she refered me and from there she sent me to [surgeon]. 

So you turned up and said “I’ve looked into it and I want this”?
Yeah, I said ‘I’ve looked into this er, I think I fit it, it’s me last resort, I want it for health reasons...’ – I wasn’t doing it for cosmetic reasons in the slightest, cos at the time I thought I was happy with having me massive, big boobs – I mean they’re not that little now, but me massive big boobs, I wasn’t bothered about that. I had thin arms, I had thin legs it was just mainly my trunk, from the back I looked real slim, it was just mainly you...