The Experiences and Concerns Expressed by Women Before and After Undergoing Bariatric Surgery: A Qualitative Content Analysis of Online Forum Posts

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September 25, 2023

This thesis is submitted in partial fulfilment of the Honours degree of Bachelor of Psychological Science (Honours)

Word Count: 6,958

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Abstract

Obesity is a public health concern of epidemic proportions. Health burdens stem from obesity, including type 2 diabetes mellitus and cardiovascular disease. Bariatric surgery is the most effective intervention in treating severe obesity and related diseases, involving the removal, or rerouting, of the stomach and small intestine to facilitate weight loss. Existing literature cites that bariatric surgery has several biopsychosocial implications, with preoperative evaluation and education considered essential for success. There is limited qualitative research examining the gender specific outcomes of bariatric surgery. Further, there is lack of research investigating engagement in online peer support before and after surgery. Hence, to address this gap in literature, the present study aimed to answer the research question: "What are the experiences and concerns expressed by women on an online forum before and after undergoing bariatric surgery?" An online search identified the online forum *Bariatric Pal* and sub-forum *The Gals Room*, of which 289 forum posts were selected and analysed using conventional qualitative content analysis. From the analysis, five overarching categories were developed: Connection with Forum Community, Life After Bariatric Surgery, Physical Symptoms and Experiences, Healthcare Concerns and Experiences, and Psychological Experiences. Findings provide knowledge into the health and psychosocial outcomes of bariatric surgery for women related to reproductive health, body image, and interpersonal relationships. Within these findings, lack of preoperative education for women is evident. Further, findings outline the importance of online peer support engagement. Further research is needed to inform better preoperative education and postoperative support.

Keywords: bariatric surgery, women, online peer support

Declaration

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

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September 25, 2023

Contributor Roles Table

ROLE	ROLE DESCRIPTION	STUDENT	SUPERVISOR 1
CONCEPTUALIZATION	Ideas; formulation or evolution of overarching research goals and aims.	X	X
METHODOLOGY	Development or design of methodology; creation of models.	X	X
PROJECT ADMINISTRATION	Management and coordination responsibility for the research activity planning and execution.	X	X
SUPERVISION	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.		X
RESOURCES	Provision of study materials, laboratory samples, instrumentation, computing resources, or other analysis tools.		
SOFTWARE	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code.		
INVESTIGATION	Conducting research - specifically performing experiments, or data/evidence collection.	X	
VALIDATION	Verification of the overall replication/reproducibility of results/experiments.	X	X
DATA CURATION	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.	X	
FORMAL ANALYSIS	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.	X	
VISUALIZATION	Visualization/data presentation of the results.	X	
WRITING – ORIGINAL DRAFT	Specifically writing the initial draft.	X	
WRITING – REVIEW & EDITING	Critical review, commentary, or revision of original draft	X	X

In the preparation of this thesis, I used OpenAI ChatGPT3.5 to provide general knowledge on small sections of my introduction and discussion. I wrote these sections myself. I drafted all other sections without AI assistance. I take full responsibility for the content of the thesis, having reviewed, and edited the content, and verified all original sources relied upon.

The Experiences and Concerns Expressed by Women Before and After Undergoing Bariatric Surgery: A Qualitative Content Analysis of Online Forum Posts

The Obesity Epidemic

Obesity is defined as abnormal or excessive fat accumulation that presents a risk to health and is considered an epidemic by the World Health Organisation (WHO) (World Health Organization, 2023b). Worldwide obesity has tripled since the 1970s, with 38% of the global population considered overweight or obese in 2020 (World Obesity Federation, 2023). Further, obesity is a chronic disease occurring on a spectrum from overweight to severe. What causes obesity is unknown but is presumed to be an interaction between biopsychosocial and cultural factors (Lam et al., 2023). Body mass index (BMI) is used internationally to classify the body weight of adults, with a BMI of 30 kg/m^2 or higher indicating obesity (Department of Health and Aged Care, 2021). The risk of developing obesity-related diseases increases with higher BMI (Andolfi & Fisichella, 2018). Common obesity-related diseases include type 2 diabetes mellitus, cardiovascular diseases, gastroesophageal reflux disease (GERD), sleep disorders, and pulmonary diseases, such as asthma (Andolfi & Fisichella, 2018; Włodarczyk & Nowicka, 2019). These diseases contribute to health and mortality burdens from an individual and public health perspective, highlighting the importance of interventions to manage obesity.

Interventions for Obesity

Dietary, pharmacological, and surgical interventions encourage weight loss and improve symptoms of obesity-related diseases. Clinically meaningful weight loss of 5% to 10% is when health improvements are initially observed (Horn et al., 2022). Weight loss is achieved by a net deficit of kilocalories, or units of energy, with the first line of treatment being lifestyle and dietary intervention, focussing on increased physical activity and caloric restriction (Horn et al., 2022; Ruban et al., 2019). The efficacy of dietary and lifestyle

intervention for obesity is contested, with maintenance of clinically meaningful weight loss in the long-term posed as difficult (Ruban et al., 2019; Yanovski & Yanovski, 2014). Recent literature recommends pharmacological treatment combined with diet and lifestyle intervention for long-term weight loss (Kosmalski et al., 2023; Ruban et al., 2019). For example, weight loss medications such as Orlistat reduce fat absorption in the small intestine, enabling for caloric restriction (Kosmalski et al., 2023).

Non-invasive interventions are preferred due to irreversibility associated with more invasive interventions such as bariatric surgery, or weight loss surgery. However, invasive intervention is often medically necessary for severe obesity, classified with a body mass index (BMI) of 40 kg/m^2 or higher, or a BMI of at least 35 kg/m^2 with one or more obesity-related disease (Lee & Dixon, 2017). Bariatric surgery is the most effective treatment for obesity and associated diseases, involving the removal, or rerouting, of the stomach and small intestine to facilitate weight loss (Vines & Schiesser, 2014). The previous gold standard bariatric technique was the malabsorptive Roux-en-Y Gastric Bypass, where a small pouch is created in the top part of the stomach, and is connected to the lower part of the small intestine, bypassing the remaining stomach and the first part of the small intestine (Vines & Schiesser, 2014). The Roux-en-Y Gastric Bypass is safe, and reliably produces reduction in obesity-related diseases with significant weight loss. A similar, less utilised, procedure is the biliopancreatic diversion with duodenal switch, where a portion of the stomach is removed along with most of the duodenum (Celio & Pories, 2016). However, disadvantages are apparent within malabsorptive procedures, such as, malnutrition and dumping syndrome, causing nausea, and vomiting, leading bariatric-metabolic surgeons to use different techniques (Celio & Pories, 2016).

Restrictive procedures, like the laparoscopic adjustable gastric band (LAP-BAND), involving placement of an adjustable band around the top section of the stomach, have been

utilised (Celio & Pories, 2016). The LAP-BAND is a reversible technique with promises of significant weight loss; however, long-term complications of band erosion and infection have caused the LAP-BAND to fall out of practice (Tabrez et al., 2017). The Vertical Sleeve Gastrectomy (gastric sleeve) has overtaken the LAP-BAND and Roux-en-Y Gastric Bypass due to lower risks of complications and better weight loss outcomes. The gastric sleeve involves removal of part of the stomach, with the remaining section of the stomach forming a sleeve-like structure with the small intestine (Ramada Faria et al., 2017). The gastric sleeve is the current gold standard bariatric technique (Ohta et al., 2022). Further, bariatric surgery is significantly common, with an estimated 580,000 individuals worldwide undergoing surgery annually (Angrisani et al., 2017). There are multiple biopsychosocial considerations for bariatric surgery.

Biopsychosocial Considerations for Bariatric Surgery

The biopsychosocial model considers that health and wellbeing are influenced by biological, psychological, and social factors (Engel, 1977). The biological component includes the biochemical components to health and illness; with health-related quality of life in people with obesity being impaired due to weight-related pain and disease (Hachem & Brennan, 2016). As discussed, a main goal of bariatric surgery is to improve obesity-related disease. A review of clinical outcomes by Hua et al. (2022) found that bariatric surgery can reduce risk of diseases such as type 2 diabetes mellitus and cardiovascular disease, as well as extend individual lifespans. However, permanent variations in metabolism can lead to adverse complications such as nutrient deficits to be managed on a case-by-case basis (Hua et al., 2022).

The psychological component encompasses the influence of mental and emotional experiences on health and wellbeing (Engel, 1977). Bariatric surgery is a life changing procedure that can significantly impact psychological wellbeing. Obesity is associated with

higher prevalence of mental health conditions, such as mood disorders, body dysmorphic disorder, and low self-esteem (Hachem & Brennan, 2016; Kubik et al., 2013). Following surgery there are new psychological obstacles, such as, adherence to new lifestyle regimens and emotional adjustment to an altered digestive system (Kubik et al., 2013; Schlottmann et al., 2018). In a survey conducted by Pokorski and Gluch (2022), improvements in self-confidence and self-esteem after bariatric surgery were observed, suggesting that weight loss is associated with improved psychological outcomes. Further, previous studies have found that weight regain was associated with depression (Kubik et al., 2013; Martens et al., 2021).

While most report improved psychological health after surgery, absence of psychological benefit has also been observed. Unrealistic preoperative expectations contribute to psychological turmoil after surgery when unrealistic weight loss goals are not achieved or weight regain occurs (Griauzde et al., 2018; Kubik et al., 2013). Individuals with maladaptive eating behaviours may continue these behaviours after surgery, leading to adverse symptoms such as vomiting and diarrhea, and further distressing psychological experiences (Craven & Fekete, 2019).

Alongside biological and psychological factors, an individual's social environment contributes to health and wellbeing (Engel, 1977). Current social stigma frames obesity as the result of an individual issue, contributing to discrimination, and leading people with obesity to report social isolation (Coulman et al., 2017). Further, stigma associated with bariatric surgery leads individuals to conceal their surgical status due to the misconception that surgery is the simpler solution in managing obesity (Coulman et al., 2017; Hansen & Dye, 2018). In a qualitative synthesis by Coulman et al. (2017), individuals experienced better social feedback and increased social confidence after bariatric surgery and weight loss. This was also evident in intimate interactions, where individuals received more romantic attention compared to when they were obese (Coulman et al., 2017). Further, increased incidences of

divorce and separation have been observed after surgery (Bruze et al., 2018; Köhler et al., 2021; Moore & Cooper, 2016).

Gender Differences in Bariatric Surgery Outcomes

There is a gender disparity in that only 20% of individuals having bariatric surgery are male (Kochkodan et al., 2018). Kochkodan et al. (2018) found that men experienced lower weight loss and increased complication rates compared to women. Alternatively, women experienced worse psychological outcomes than men after surgery, citing problems with body image and depression (Kochkodan et al., 2018). Research in this area is unclear, with other studies finding no significant gender differences in outcomes (Kennedy-Dalby et al., 2014; Mousapour et al., 2021).

Considerations for Women

Despite the gender disparity present, more qualitative research on women's experiences is necessary. Current research focusses on all genders and lacks focus on gender specific outcomes. Existing literature on women focusses on pregnancy, contraceptive use, or fertility after surgery (Kwong et al., 2018; Micic et al., 2022; Roos et al., 2013). Women often elect bariatric surgery due to poor body image and obesity-related disease (Ivezaj & Grilo, 2018; Jensen et al., 2014). Women tend to be more dissatisfied than men with excess skin on the upper arms, breasts, and abdomen after rapid weight loss (Aldaqal et al., 2013). As in Kochkodan et al. (2018), women are likely to experience psychological distress with alterations in body image.

In a qualitative study by Ogle et al. (2015), social support was regarded fundamental by women after bariatric surgery. Helpful support was received from health professionals, family, friends, and other peers that had surgery (Ogle et al., 2015). This study emphasised the importance of online support networks for women lacking supportive family structures (Ogle et al., 2015).

Seeking Peer Support Online

Peer support broadly encompasses an empathetic understanding shared between individuals based on mutual experiences of emotional and physiological pain (Mead et al., 2001). There is limited theoretical underpinnings to explain peer support, however, it can be understood through the lens of social support theory. A body of research argues that social support can be divided into four types; emotional support using empathy, instrumental support, such as physical assistance, informational support including providing sound advice, and appraisal support using constructive feedback (Cohen et al., 2000; Kent de Grey et al., 2018; Taylor, 2011). Recent literature supports this premise, citing that social support is important for health and quality of life (Drageset, 2021). Online peer support interventions are used for various chronic conditions, and a scoping review by Hossain et al. (2021) revealed that informational, emotional, and appraisal support were provided in all included online interventions, with qualitative studies citing increased compassion and improved attitude regarding an individual's chronic health conditions after online peer support engagement. Online peer support is demonstrated to be effective and useful, and further research is needed in the context of bariatric surgery.

The Present Study

Qualitative research on women's experiences with bariatric surgery can address a gap in the literature and address the unique challenges that women face in relation to body image, reproductive health, and interpersonal relationships before and after undergoing bariatric surgery. Further, more research is necessary to investigate women's use of online peer support networks within bariatric communities. Hence, the present study used a qualitative methodology to address the research question: "What are the experiences and concerns expressed by women on an online forum before and after undergoing bariatric surgery?"

Method

Ethical Considerations for Using Online Forum Data

The internet provides researchers with platforms for participant recruitment, such as online discussion forums. The ethical considerations of collecting qualitative data from online forums are unique due to potential issues surrounding informed consent and participant privacy (Giles, 2017; Holtz et al., 2012; Smedley & Coulson, 2021). Therefore, this study was granted low-risk ethics approval by the University of Adelaide School of Psychology Human Research Ethics Sub-Committee (approval number: 23/19) with expectations of participant anonymity and public availability of forum data. Recent ethical guidelines suggest that if the research is unlikely to constitute harm to the community of interest, public forum posts are electronic documents intended for observation of human phenomena (Giles, 2017; Smedley & Coulson, 2021). Hence, the present study excluded private forums that required the researcher to join to access forum content. Obtaining informed consent was not required nor possible. All participants were assigned a participant number, excluding all identifying information from the analysis to uphold participant anonymity. Further, posters on the online forum must agree to the terms of service before posting. These terms of service explicitly state the public nature of the forum, and that posters are responsible for any private information shared in a public online space (see Appendix A).

Online Forum Selection

Search terms were derived in consultation with a librarian from the University of Adelaide Library to choose an online discussion forum. Search terms included "bariatric surgery", "weight loss surgery", "discussion board", and "support forum", yielding 6 potential discussion boards for selection. Three forums were excluded due to irrelevance to bariatric surgery. From the remaining three, one forum was excluded due to inactivity, and the second was excluded because it lacked a sub-forum dedicated to women. The remaining

forum of choice was *Bariatric Pal*; one of the most globally active bariatric forums at the time of data collection (April, 2023). At this time, Bariatric Pal had 4,929,927 total posts, 414,756 topics and 419,464 members. There are 27 sub-forums within the Bariatric Pal forum. The search for an appropriate sub-forum was conducted through google within the Bariatric Pal website. The search terms "experiences", "issues", "women", "female", yielded three results, and the sub-forum *The Gals Room* was selected for data collection. This sub-forum is intended for women to share experiences and questions throughout their bariatric surgery journey. At the time of data collection, the sub-forum constituted 38,763 posts dating back to 2003. Participants were members of the Bariatric Pal forum that posted in The Gals Room between January 2018 and March 2023. A 5-year time frame for data collection was selected to allow for women's most recent experiences and concerns to be captured from a forum with significant content, in field of surgery that is continuously developing (Ohta et al., 2022).

Data Collection

The structure of online forums, as defined by Giles (2017), include multiple threads, consisting of an opening post, and all comments posted in response to the opening post. A post is defined as an individual comment in a thread (Giles, 2017). In this study, 304 threads were collected between January 2018 until March 2023. In total, 3,543 posts were collected, consisting of 304 opening posts, and 3,149 comments in response to the opening posts. Each post was copied verbatim into Microsoft Excel, including the content of each post, post title, date of posting, and poster username, presented chronologically. The data were deidentified and read repeatedly by the researcher to achieve immersion in the data. Following this, posters were separated into "men" and "women" groups, with the data being refined to exclude all 62 posts made by men in an endeavour to capture the experiences of women. During this process, it was decided to only include the opening posts for analysis as the data

were vast, excluding 3,088 comment responses from women. This resulted in 303 opening posts made by women. Further exclusion of the opening posts resulted in 2 posts excluded as duplicates, 7 posts excluded due to posting of spam or hyperlinks, and 5 posts excluded due to irrelevance (e.g., asking technical questions about the forum). The resulting 289 posts included for analysis were made by 208 women, indicating that multiple posts were made by the same participant. Only four posts contained images out of the 289 posts, and thus the images were excluded from the analysis with only the textual content of the post being analysed. A list of participant demographics was created with any specified demographics conveyed in each post, including participant country of location, body mass index (BMI), and type of surgery received at the time of posting.

Data Analysis

Conventional qualitative content analysis, as defined by Hseih and Shannon (2005), was chosen as the method of analysis. This method was deemed appropriate because it enabled women's biological, psychological, and social experiences and concerns to be captured and organised in a hierarchical format through the development of codes, subcategories, and categories. In doing so, the conventional qualitative content analysis method was an inductive process; meaning that the codes, subcategories, and categories were created based on the surface and deeper level meanings contained in the data corpus (Hsieh & Shannon, 2005). The aim of the analysis was to condense the extensive textual data into a summarised, categorical framework that captured the key themes and experiences of women in accordance with the research aims and objectives (Elo & Kyngäs, 2008; Thomas, 2003).

In line with Hseih and Shannon's (2005) process of conventional qualitative content analysis, the software NVIVO 12 (version 12.7.0) was utilised to organise the data corpus into subcodes, subcategories, and overarching categories. Following data collection and exclusion, the posts included for analysis were read repeatedly, and notes were taken on the

content of each post to deepen understanding of the meaning contained within the data. Subcodes were derived by highlighting key phrases from the text that captured important concepts. The resulting subcodes were compared to each other to determine similar subcodes that could be collapsed into higher level subcategories. Finally, the subcategories were organised into five overarching categories that aimed to capture the overall meaning of the textual data corpus. Counts were calculated based on the number of individual participants that posted under each subcategory and subcode. For the purposes of trustworthiness and rigour, the codes, subcategories, and categories were evaluated by the researcher's primary supervisor who is an experienced health psychologist that works with individuals who are awaiting or post bariatric surgery.

Reflexivity, as explained by Jamie and Rathbone (2022), is important in qualitative research to allow for reflection on how a researcher's own experiences and values can influence interpretations of the data. The researcher had no prior experience with bariatric surgery but was motivated to undertake this study due to her interest in the health and mental wellbeing of those living with chronic health conditions, with the recognition that her own chronic health conditions could be fuelling this interest. In keeping with reflexivity and transparency, an audit trail was kept throughout the duration of the study, capturing the decision-making process of the researcher, and any personal reflections, or general assumptions that occurred during the research process (Renz et al., 2018).

Results

Participant Demographics and Overview

Of the 147 women that stated country of location, 93% were from the United States of America (USA). For the 107 women who stated their body mass index (BMI), the mean preoperative BMI was 38.3 kg/m^2 (*SD* = 10.8) (Obese class II), and mean postoperative BMI was 31.9 kg/m^2 (*SD* = 8.5) (Obese class I) (Department of Health and Aged Care, 2021).

Table 1 demonstrates the type of surgery each participant received, if specified, including participants in the preoperative phase at the time of posting. The most frequent surgery specified was the gastric sleeve.

Table 1

Type of Surgery Reported by Participants

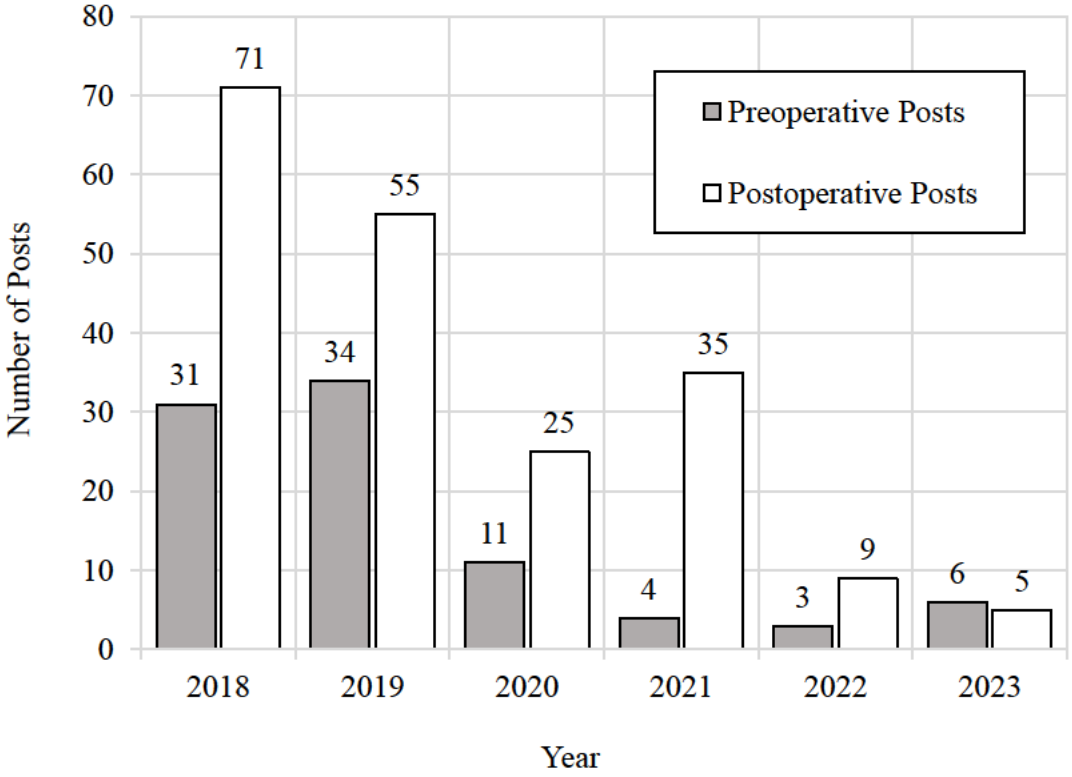
Type of Surgery	*n*	% of total
Vertical Sleeve Gastrectomy (Gastric Sleeve)	85	40.9
Preoperative Phase	54	26.0
Roux-en-Y Gastric Bypass	35	16.8
Surgery type not defined	27	13.0
Biliopancreatic Diversion with Duodenal Switch	4	1.9
Laparoscopic Adjustable Gastric Banding (LAP-BAND)	2	1.0
Single Anastomosis Gastric Bypass	1	0.4

Note. N = 208

Figure 1 demonstrates post frequency over five years, with 2023 including posts made up until March. Most posts were made by participants after having surgery.

Figure 1

Annual Number of Preoperative and Postoperative Posts



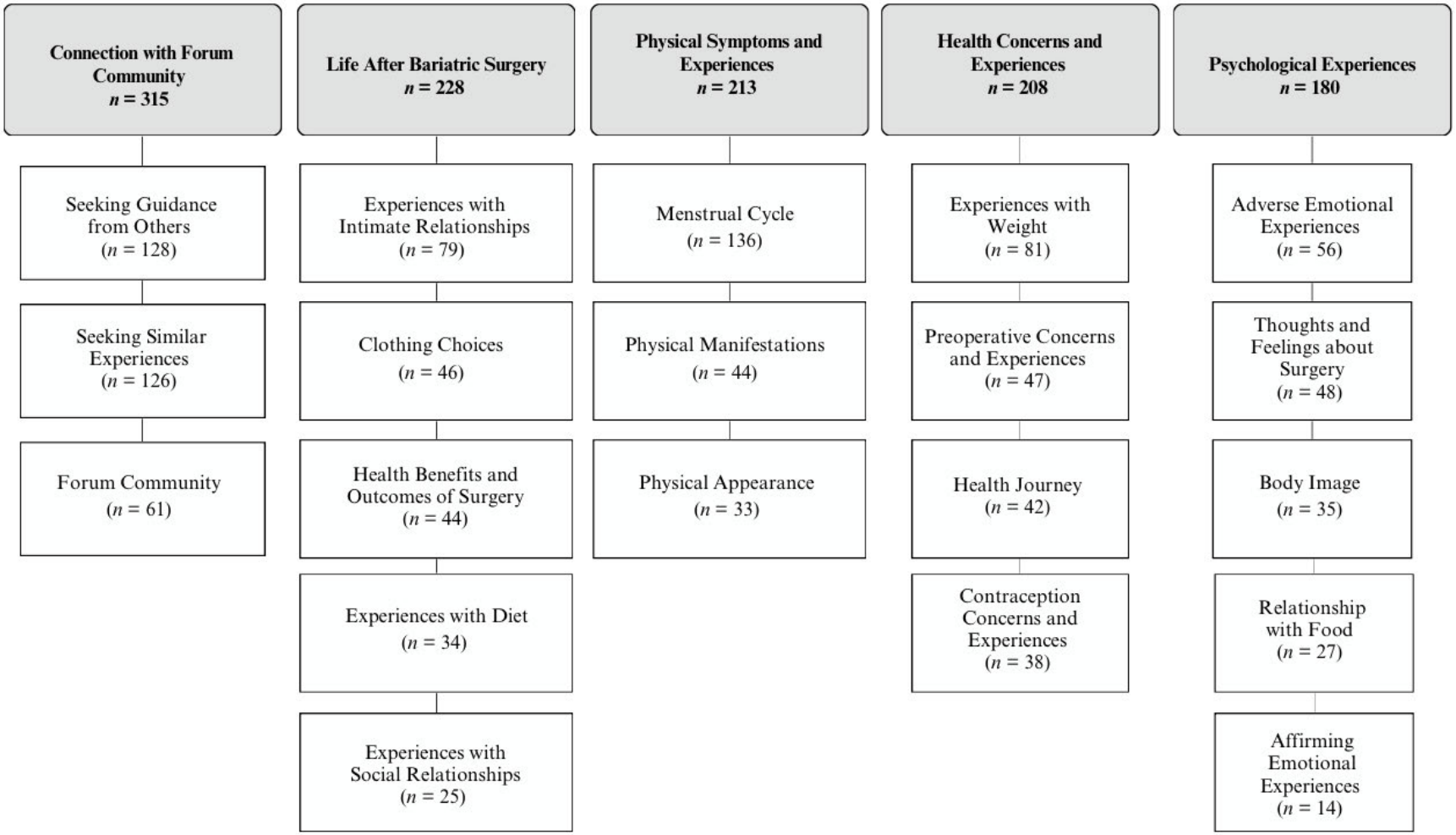
Note. N = 289

Categories, Subcategories, and Subcodes

From 289 posts, five overarching categories were derived from 20 subcategories, developed from 131 codes (see Appendix B for full analysis). Figure 2 illustrates the counts for the five overarching categories and subsequent subcategories. Counts indicate the number of participants whose posts made up textual data under each subcategory. The category counts exceed the total number of participants because the same participant could post under multiple subcategories.

Figure 2

Overarching Categories and Associated Subcategories with Counts



Note. Counts indicate the number of participants whose posts made up textual data under each subcategory.

Connection with Forum Community

The most prominent category was "Connection with Forum Community" consisting of three subcategories that captured experiences and concerns shared with the forum community. "Seeking Guidance from Others" was the most frequent subcategory (*n* = 128). Women sought advice before undergoing surgery (*n* = 32) and after undergoing surgery (*n* = 78). Women sought medical advice (*n* = 8) or wanted to know if their experiences were normal (*n* = 7). There were others that wanted to know what to expect after surgery (*n* = 2):

> For those who have had surgery ... if you look back, are there things that you wish you'd known about beforehand? I think I'm trying to find out as much as possible before having surgery and hoping I don't go into information overload but use it wisely instead. (Participant 97)

In the second subcategory "Seeking Similar Experiences" (*n* = 126), women sought others' medical (*n* = 63), psychological (*n* = 14), and social (*n* = 13) experiences after surgery and sought the experiences of others before undergoing the surgery themselves (*n* = 28). Women sought recommendations from others (*n* = 8) such as what diet to follow or what clothing to wear:

> So, does anyone have any good sports bra recommendations? I have started working out a lot and my regular VS [Victoria's Secret] bras are no longer cutting it. I of course can go to VS [Victoria's Secret] and get what they have but was kind of hoping for some other options. They have to be very supportive as I am a 38 DDD [Bra Size]. (Participant 2)

The third subcategory "Forum Community" (*n* = 61) included general interactions reflecting a sense of community. Women shared general life experiences (*n* = 18) to seek support from others. Similarly, women posted for the purpose of seeking a support network (*n* = 23) with others on similar surgical timelines. Other women expressed gratitude to the community (*n* = 6) or spread positivity (*n* = 8). Others felt misunderstood by the wider community, and experienced deeper understanding from the forum community (*n* = 6):

> It's obvious that I'm still learning how to get familiar with this awesome little bariatric world! Most people (family and friends) I socialise with out here in the real world don't really understand this whole bariatric lifestyle! So, I'm excited to be part of a virtual community who totally gets ME and YOU and You Too Girl! We are totally all in this together. (Participant 165)

Life After Bariatric Surgery

The second category was "Life After Bariatric Surgery" capturing women's experiences in different facets of life after bariatric surgery. The most frequent subcategory "Experiences with Intimate Relationships" (*n* = 79) included the concerns and experiences that women raised within intimate parts of life. Women expressed how bariatric surgery and weight loss had impacted their intimate relationships (*n* = 16). On one hand, women were grateful for supportive partners (*n* = 5). On the other hand, women experienced unsupportive partners (*n* = 8), divorce after surgery (*n* = 4), or concerns about conflict (*n* = 11) or breakdown (*n* = 8) in intimate relationships:

> First, he said he is worried something will happen to me, then he says I can do it [weight loss] by exercise and diet, and then today he said that he met me heavy, and

> he wants me to be like how I was when we first met. Honestly, I think he is worried that if I get thin that I will leave him, which I would not leave him, but he told me that he will not support me on my decision to have it [bariatric surgery]. He said we will get a divorce. (Participant 180)

Women were concerned about intimacy (n = 5) and libido (n = 4), sharing sexual experiences (n = 9) with the online community for support: "Because of my weight and specifically due to my large stomach, my husband and I have not been physically intimate in a very long time. Even creative positioning doesn't help and becomes embarrassing because of my size" (Participant 4). Further, women expressed concerns about dating after surgery and weight loss (n = 9), despite an increased confidence to enter the social world:

> I have just lost my first 50 lbs and I am starting to get a lot more confident in myself. I have started using the dating apps and now that the possibility of dating is more real, I am starting to get really freaked out. (Participant 83)

The second subcategory was "Clothing Choices" (n = 46). Women shared general clothing advice (n = 3) with the community, issues with bras and/or underwear fitting after surgery (n = 8), and future clothing goals (e.g., fitting into a smaller clothing size) (n = 3). Women discussed how clothing options have expanded after weight loss (n = 9), and how their sense of style had shifted after weight loss:

> Now that I am a size 10/12 and have lots of options, I find myself really enjoying fashion and style…I am starting to develop a kind of sexy professional style that is

> fun and funky - mixing up prints and pastels, wearing shorter length pants and different shape pants and lots of skirts! (Participant 41)

The third subcategory was "Health Benefits and Outcomes of Surgery" (*n* = 44) encompassing women's health and lifestyle outcomes after bariatric surgery. For example, many reported health and wellbeing benefits (*n* = 19) and shared this with the online community. Specifically, improvements in the menstrual cycle (*n* = 2), mobility (*n* = 4), continence (*n* = 1), and overall quality of life (*n* = 6) were reported:

> I am loving life again, and doing more things now that I could not do before I lost over 300 lbs. I don't need to use a scooter or walker wheelchair to get around, I'm finally out of my bed, tying shoes by myself, getting dressed by myself, and many other things. (Participant 84)

Women expressed excitement about non-scale victories (*n* = 12), defined as positive health victories unrelated to numerical weight: "I guess at 10 weeks out I'm still new with my sleeve, but I could FINALLY wear my bra without my bra extenders! I don't think that's happened in 8 years! I can also wear my engagement ring!" (Participant 46).

The fourth subcategory "Experiences with Diet" (*n* = 34) captured experiences and concerns about diet. Women shared their general eating habits and diet (*n* = 9) after bariatric surgery, including the challenges of inadequate water consumption (*n* = 6) or failure adhering to diet guidelines (*n* = 6), tainted with disappointment: "I've been having a lot of mixed feelings since my journey and I'm not sure how everyone else feels. Sometimes I have great eating days, other times I'm ashamed and realised I did a horrible job following my plan"

(Participant 90). Concerns about vitamin and mineral deficiencies after surgery (*n* = 2) were observed, along with food cravings (*n* = 5), sometimes during emotional distress:

> I am just over two years out and I have gained 40 pounds back. After surgery I had no complications. Nothing made me sick, there was no food that I couldn't eat or that I couldn't tolerate. I did good for a little over a year then I hit a rough patch in life and went completely downhill. I was craving and eating sweets like it was nothing. (Participant 143)

The final subcategory was "Experiences with Social Relationships" (*n* = 25) that encompassed experiences within the social facet of life after bariatric surgery. Several raised concern about perceived stigma from others (*n* = 9) or worries about others' opinions (*n* = 7), often expressed with frustration:

> Just today my sister is trying to give me advice to not feel nauseous. I just want to say to her you don't know what I'm going through so shut the hell up. She's like oh I talk to a friend of mine who had the surgery and she said this. It's OK for us to go back to each other because we've all been through it but when other people start interjecting saying oh, I read this, or I saw that. I want to shoot them. (Participant 53)

Women shared experiences with family that were supportive (*n* = 2) or unsupportive (*n* = 2) of their surgery choice, and were concerned about what impact their choice would have on their children (*n* = 5), fuelled by desire to set a healthy example:

> I am really stuck in my thinking on how this will affect my daughter. On the positive side if I had the surgery and lost weight, I would be active, healthier, and more outgoing and be a healthier example to my daughter. But I'm also thinking if I have the surgery and my daughter then sees the tiny portions that I could eat afterwards it may have a negative impact on her and her eating? (Participant 38)

Physical Symptoms and Experiences

The third overarching category was "Physical Symptoms and Experiences" capturing the experiences and concerns about physical symptoms or changes women encountered. The first subcategory was "Menstrual Cycle" (n = 136) in which women reported concerns about how the surgery had impacted their menstrual cycle (n = 52) and wanted to know if others had experienced changes too (n = 28):

> I'm too shy to talk to anyone about this. I have not had my period for over a year now and today I was surprised it came back. I heard that having bariatric surgery sometimes helps women get it. Does anyone know why? This may be TMI [Too Much Information] and if so sorry! (Participant 117)

Further, women experienced adverse menstrual symptoms, such as abnormal menstrual bleeding (n = 18), Premenstrual Syndrome (PMS) symptoms (n = 16), or menstrual cycle pain (n = 13):

> The universe just gave me it's highly polished F U [F*ck You]. I am on my third day post op, and my body decided it would be a GREAT time to get my period. But not

> just any period. No, no of course not. It's like the mother of all periods. Severe back pain, abdominal cramping, and super sore breasts. (Participant 34)

Some reported experiences with menopause (*n* = 9) and how this impacted their weight: "I'm wondering how everyone did weight loss wise with VSG [Vertical Sleeve Gastrectomy], after having went through surgical menopause? I gained most of my excess weight in the last 3 years due to this surgery" (Participant 44).

The next subcategory "Physical Manifestations" (*n* = 44) related to experiences and concerns with various physical symptoms. A range of adverse physical manifestations were reported, such as vaginal issues (*n* = 6), gastrointestinal (*n* = 5) or bladder issues (*n* = 3), nausea (*n* = 4), dehydration (*n* = 3), fatigue (*n* = 2), unpleasant bodily odour (*n* = 2), dry skin (*n* = 1), an unwell feeling (*n* = 1), and symptoms of dumping syndrome (n =2), where food moves from the stomach into the small bowel too quickly, inducing symptoms of nausea and vomiting (Ukleja, 2005). Women used the forum to seek advice and experiences with the issue in question:

> Did anyone else have vajayjay [vaginal] changes since surgery? I've always been a big water drinker which now isn't so much but also feel like I'm having the beginnings of yeast infection or something just super dry feeling. If this makes any sense at all. (Participant 17)

Several women reported experiences of pain or discomfort (*n* = 15). Pain and discomfort were reported when wearing a bra due to the location of surgical incisions:

> The real problem I am having is that every single bra I wear compresses on my diaphragm area - which I guess they typically do - but it is really uncomfortable (often seriously painful) since the surgery. The pain seems to be worse in the centre, so I don't know if it is pressing on the area at the top of the sleeve and it's still just sensitive (6 1/2 months out though...), but I am serious when I say it gets bad. (Participant 56)

The next subcategory was "Physical Appearance" (*n* = 33), where a number of those in the postoperative phase reported disdain towards loose skin (*n* = 16):

> I'm 36 and almost 8 months out at 80 lbs down. I've been reading about loose skin from WLS [Weight Loss Surgery] and saw one source that said it takes about 2 years for your skin to go back to "normal". While I'm grateful for my tool [Bariatric Surgery] and the weight loss, my wrinkled brown bag stomach looks sad and I'm not crazy about the turkey neck, either. (Participant 32)

Likewise, women reported issues with sagging breasts after weight loss (*n* = 5), and concerns about the appearance of their hair after surgically induced hair thinning or loss (*n* = 8): "I am noticing a lot of hair in my hands when I brush or wash it. I am starting to panic I have always had thick hair.... any tips or treatments to curb this would be wonderful" (Participant 111). Women in the preoperative phase expressed concerns about how their appearance might change after undergoing surgery (*n* = 4):

> Hi all, I'm 43 and am meeting a surgeon in 2 weeks to hopefully get on the road to having a gastric sleeve. I'm hopeful and excited visualising how I will look after -

> tummy flap and all. One thing though has been on my mind, will I look older after surgery when I've lost weight? (Participant 190)

Health Concerns and Experiences

The fourth category "Health Concerns and Experiences" captured the general health experiences or concerns faced. The most frequent subcategory "Experiences with Weight" (*n* = 81) encompassed the experiences or concerns related to weight. For example, women shared experiences with obesity-related disease (*n* = 17), such as Gastroesophageal Reflux Disease (GERD):

> Anyone have severe reflux preoperatively? I am scheduled for RNY [Roux-en-Y] in October…Wake up choking on reflux 5/7 nights per week even with head of bed elevated 45 degrees. Wondering if RNY [Roux-en-Y] will give me some relief? (Participant 50)

Women were concerned about amounts of weight loss (*n* = 12) and wanted to know whether they had lost enough weight: "I am new here and had the sleeve done on July 24, 2019. I started at 300 pounds and am now 223. I feel great but feel like I should have lost more. Is this normal?" (Participant 130). Concerns were expressed about weight loss stalls (*n* = 11) or struggles with weight loss after surgery (*n* = 7). Similarly, women reported issues with weight regain (*n* = 8) following initial weight loss: "I had my gastric bypass in 2011 I had lost 120 pounds. I have gained 60 pounds back. I am totally disappointed in myself. I have tried everything to get it back off" (Participant 142).

Alternatively, concerns were raised about significant and undesired weight loss off breasts (*n* = 12): "This morning the post op swelling in my abdomen has FINALLY taken a

hike, but it appears that my boobs hitched a ride with it…that was an undesired side effect!" (Participant 119). Some women shared how their weight impacted their daily life before surgery (*n* = 5), including simple tasks like tying their shoes. Women expressed worries about stretching their new stomach (*n* = 4) by eating too much, and wanted to rectify this:

> Just curious if there is anyone out there who is two years or more post-surgery. I'm gaining and quite sure that I have stretched my tiny stomach. I need strategies to turn this around and refocus on my original goals! If you're out there...what is working for you? (Participant 80)

The second subcategory "Preoperative Concerns and Experiences" (*n* = 47) encompassed the preoperative concerns and experiences raised. Firstly, women expressed personal goals for life after surgery (*n* = 9), citing increased motivation to lose weight and feel healthier: "I have been overweight almost my whole life and all I have ever wanted was just to be a normal girl, have boys like me, make friends, have confidence, and be able to shop in a normal store" (Participant 139). Secondly, women expressed financial concerns regarding surgery (*n* = 2), and general worries about surgery (*n* = 8), including concerns about losing too much weight preoperatively to qualify (*n* = 8): "I've been told that if I lose 17 lbs, which can realistically happen in 6 months, that I will no longer qualify [for bariatric surgery]. Which is causing some issues for me" (Participant 73). Thirdly, women expressed experiences with the preoperative diet (*n* = 8), with some struggling to cull foods or liquids such as sugar or caffeine that hold addictive characteristics:

> I am not having fun coming of caffeine before surgery. Probably after the headaches go away, I will be fine. Then the artificial sweeteners will be next. I have 2 months so

> I am sure I can do this…I hope I have not gained since last visit. How did you do in breaking your caffeine addiction? (Participant 103)

Lastly, women became frustrated with surgery delays (*n* = 3), expressed uncertainty around telling others about their upcoming surgery (*n* = 4), and were uncertain whether to undergo the surgery (*n* = 5): "I'm so stuck thinking I should try and lose the weight naturally again (I have been overweight most of my life and dieted most of my life too). Or I should bite the bullet and go for surgery?" (Participant 38).

The third subcategory "Health Journey" (*n* = 42) captured the healthcare experiences and anecdotes that women shared unrelated to weight. For example, women shared experiences with pregnancy (*n* = 2), medication (*n* = 7), or other medical procedures (*n* = 7). Women shared experiences and struggles with reproductive illness, such as endometriosis and adenomyosis (*n* = 5), both reproductive conditions where endometrial tissue grows outside the uterus in endometriosis or inside the uterine muscle in adenomyosis, causing pelvic pain with menstruation (World Health Organization, 2023a). Experiences with Polycystic Ovary Syndrome (PCOS), a complex hormonal condition of the ovaries (Skubleny et al., 2016), were also observed (*n* = 13):

> So, all my life I have had period issues. When I was a teen and into my early 20's I was on birth control pills to give me more normal and regular periods. Was also told that it would help my PCOS [Polycystic Ovary Syndrome], Endometriosis and Adenomyosis. My GYN [Gynaecologist] really wanted me to get a hysterectomy saying that was really the only thing that would cure that stuff, but I wasn't ready. I was also young and not sure if I wanted another kid or not. So, I didn't get it and stuck to the pills. (Participant 184)

This subcategory captured women's interactions with health professionals, of which one participant felt supported (*n* = 1), but others (*n* = 5) experienced contradiction between medical opinions, leading to uncertainty:

> On one hand, my surgeon is telling me that in his experience, PCOS [Polycystic Ovary Syndrome] goes away in women who successfully complete and keep the weight off after surgery. On the other hand, my OB-GYN [Obstetrician-Gynaecologist] is telling me she doesn't think it will change anything other than I won't have to take Metformin [medication] anymore… I'm so confused! I have no idea what to believe and I have never met anyone else in this situation before. (Participant 123)

This study captured the Coronavirus (COVID-19) pandemic (2020), with one participant commenting on the impacts of COVID-19 (*n* = 1) and how the lockdowns contributed to weight gain: "I had my gastric sleeve surgery done on September 11th of 2018. Well since this stay in home thing, I have gained some weight and I am not liking it one bit" (Participant 140).

The fourth subcategory "Contraception Concerns and Experiences" (*n* =38) encompassed the concerns and experiences about contraceptive use. Foremost, women raised questions about contraceptives (*n* = 12), questioning others' experiences with a certain contraceptive and whether it was appropriate to take after surgery:

> I'd like to reach out to my gyno [Gynaecologist] and see about birth control options. I was on the pill before, but I am a little curious about the arm implant and the IUD [Intrauterine Device]. What has been everyone's experience? (Participant 77)

Similarly, women raised concerns about contraceptive use causing weight gain (*n* = 7), and greatly desired to avoid this: "Has anyone had any experiences with getting the depo shot post-surgery? My surgery was Nov. 23rd, 2018. I'm terrified of the weight gain aspect, and I was thinking of switching to the patch instead" (Participant 90). Others shared adverse experiences with contraception (*n* = 4), such as anxiety or depression, and breakthrough bleeding. Generally, women shared experiences with the contraceptive pill (*n* = 7), IUD (Intrauterine Device) (*n* = 5), or other less common contraceptives (*n* = 3), such as the contraceptive patch, with the aim of seeking advice from others after surgery:

> I am seven days postop with the Sleeve. I have had an IUD [intrauterine device] for 8 months and thankfully because of the IUD I don't have periods. However, 6 days postop I started to spot. Could this be related to the surgery? Had anyone experienced this? (Participant 67)

Psychological Experiences

Finally, the last overarching category was "Psychological Experiences" which encompassed the psychological issues and experiences women faced. The most frequent subcategory was "Adverse Emotional Experiences" (*n* = 56), capturing disadvantageous or negative affect. For example, women sought support through expressing that they felt worried or stressed (*n* = 5), depressed (*n* = 4), resentful (*n* = 5), scared (*n* = 6), upset or overwhelmed (*n* = 7), and frustrated or angry (*n* = 9):

> I'm 4 weeks post RNY [Roux-en-Y] operation. I've noticed that now that I'm unable to eat food I get angry about food. I get mad that I can't eat, mad at my friends and

> family because they can eat what they want, and I even get angry at the fact that I drive past so many restaurants etc. (Participant 94)

Some women felt alone (*n* = 5), experienced embarrassment related to weight (*n* = 1), and experienced other mental health issues (*n* = 3). Some women spoke unfavourably about themselves (*n* = 5) and expressed disappointment in themselves (*n* = 6) for failing to reach weight loss or health goals:

> I am nervous that I have stretched out my stomach and I don't know what they can do for that? I am so disappointed in myself, because I did so good for 3 years and kept it [weight] off, and I felt so good, and now these past 2 have just been downhill? (Participant 108)

The second subcategory was "Thoughts and Feelings about Surgery" (*n* = 48). Some women were excited and hopeful for surgery (*n* = 17): "Though I don't have a surgery date yet, exceedingly excited for where this journey is about to take me" (Participant 101). However, fear of lifestyle change (*n* = 2), nervousness for surgery (*n* = 6) and hesitance about surgery (*n* = 3) was also reported:

> Although I'm excited for this journey and ultimately the surgery, I'm a little apprehensive about it. Like it may not actually be a reality and I'm going to wake from this dream, and it'll be psych! The jokes on me. My weight has been a struggle since puberty and I'm ready for that to end and start life as the woman I've always wanted to be. (Participant 73)

After surgery, women experienced mixed feelings about weight loss (*n* = 3), and difficulty adjusting (*n* = 8) to their new stomach and lifestyle. Further, some women were regretful of their surgery choice (*n* = 3), but most were pleased with their decision (*n* = 6) and wanted to share positive experiences:

> I am so much happier and healthier, after I got my surgery, I just wish that I did it sooner and had not let my weight get so high that I weighed over 600 lbs. I know I still have a long way to go but I weigh 400 lbs. I can do a lot more things now that I couldn't before. My goal is to write a book about my journey and help people with their surgery. (Participant 84)

The third subcategory "Body Image" (*n* = 35) outlined women's experiences with body image or body confidence throughout weight loss. Many women reported insecurity about their body (*n* = 15) or felt self-conscious about their body (*n* = 5), especially when wearing revealing clothing or swimwear: "There are so many cute swimsuits out there, but I have very large thighs that rub together and chafe. It's also cellulite city around there and I prefer to keep them covered up" (Participant 18). Some women feared the bodily change associated with weight loss (*n* = 5) and sought support from others:

> So, I am finishing the pre surgery process here in a couple weeks and it is starting to be real that I'm really going to get the surgery and life as I know it now is going to change. Has anyone dealt with fear of what their new body will look like? I've been plus size my entire life. I'm nervous as to what my new body will look like…Has anyone else felt this way? (Participant 203)

Women revealed a distorted body image (*n* = 7) within their posts despite improved physical health. However, some did report increased body confidence after surgery (*n* = 3), sharing a newfound body confidence with the community: "In an effort to embrace reality and with a healthy dose of encouragement from "Shrill" [TV Show], I decided I'm wearing a bikini this summer. Stretch marks, scars, loose skin, and all" (Participant 74).

The fourth subcategory "Relationship with Food" (*n* = 27) encompassed women's psychological relationship with food, including if it was healthy or disordered, and whether it changed after surgery. For example, women experienced adverse emotions towards food or alcohol after surgery (*n* = 5), treated food as a comfort (*n* = 7) during times of emotional distress or upset, or displayed maladaptive eating behaviours (*n* = 15):

> I'm on the 2nd week of my puréed diet and I've really struggled with it. I keep eating food that's not puréed and I know that it's not what I'm supposed to be doing. I'm just hungry all the time and then I eat too much and hurt. I did some soul searching and realised that I can't do this to myself, or I'll ruin my chance of success…I'm realizing just how much food effects every facet of my life. (Participant 94)

The final subcategory "Affirming Emotional Experiences" (n = 14) captured validating emotions. For example, women reported satisfaction with their weight loss progress (*n* = 7) or were proud of themselves (*n* = 3). Some women enjoyed rewarding themselves for reaching weight loss milestones (*n* = 2) and reported improved security within themselves after surgery and weight loss (*n* = 2): "I feel great. I don't feel like people are staring at me because of my size (not that they probably ever were). I don't feel like I stick out like a sore thumb standing next to my thin family" (Participant 34).

Discussion

Overview of Findings

This study is the first qualitative study to focus on women's experiences with multiple bariatric procedures using the Bariatric Pal online forum. Only one other qualitative study has used the Bariatric Pal forum, reporting findings on the biopsychosocial complications occurring after gastric sleeve surgery for all genders (Schofell-Williams, 2020).

Importance of Online Peer Support Networks

Consistent with the social aspect of the biopsychosocial model, this study highlights the importance of online forum communities as a peer support resource (Hossain et al., 2021). Three types of social support were observed. Women offered emotional support using empathy when sharing challenging experiences. Provision of informational and appraisal support through sharing successful experiences and advice was observed, with women posting after surgery to compare experiences with others. Online forums facilitate social support between peers experiencing health challenges (Hossain et al., 2021; Hwang et al., 2010). After engagement in online peer support, individuals report improved psychological health and feelings of empowerment and hope (Hossain et al., 2021). In the present study, women expressed empowerment and understanding after engaging with peers online.

Preoperative Evaluation and Education in Bariatric Surgery

Preoperative education is important to manage unrealistic weight loss expectations and inform individuals about potential long-term complications (Marek et al., 2016; Schlottman et al., 2018; Sogg et al., 2016). A preoperative evaluation is completed by a team of endocrinologists, dieticians, psychologists, and bariatric-metabolic surgeons (Mechanick et al., 2019; Schlottman et al., 2018). Nutritional evaluation provides general diet education and advice, and psychological evaluation prepares individuals for psychosocial outcomes (Mechanick et al., 2019; Schlottman et al., 2018; Wee et al., 2013). Individuals electing

bariatric surgery may not receive adequate information about the biopsychosocial challenges associated with rapid weight loss (Wright et al., 2022). This was demonstrated in the present study with lack of preoperative education evident in multiple areas.

Experiences with Interpersonal Relationships

Social support within women's interpersonal relationships varied in this study. In Ogle et al. (2015), family support was present for women undergoing bariatric surgery, however, women felt misunderstood by those who hadn't undergone surgery themselves (Hansen & Dye, 2018). Consistently, the present study found that women's social relationships were impacted by perceived social stigma. However, this study reported novel findings regarding women's experiences with intimate relationships. Conflict and divorce in intimate relationships after surgery and weight loss have been observed (Applegate & Friedman, 2008; Bramming et al., 2021; Bruze et al., 2018; Köhler et al., 2021). Multiple qualitative studies have focused on men's intimate relationships (Moore, 2012; Moore & Cooper, 2016; Natvik et al., 2015; Nimbi et al., 2022), with limited literature focusing on women's experiences. For example, in the current study women reported that their male partners resisted weight loss or changes in body shape. Further research is needed but these insights can inform preoperative education for women regarding potential impacts on existing relationships. Further, these insights into interpersonal relationships enhance the importance of peer support networks. Conflict in the personal social network highlights online peer support as an alternative resource for social support engagement (Hossain et al., 2021; Hwang et al., 2010).

Outcomes of Bariatric Surgery Unique to Women

Biologically, women reported improved physical health post-surgery (Liao et al., 2022; Engel, 1977). However, novel findings are presented regarding experiences with reproductive health. Polycystic ovary syndrome (PCOS) and endometriosis were common

discussion topics. Women sought online support and advice from peers that seemed unavailable from medical professionals. Research on reproductive illness in women is underfunded and understudied, with lack of public awareness and societal stigma fuelling this research gap (As-Sanie et al., 2019). This is evident in bariatric research, with lack of focus on how reproductive health is impacted postoperatively.

Anovulation is common in women with obesity due to hormonal imbalances, usually resolving after weight loss (Teitelman et al., 2006). Women posted concerns about their menstrual cycle returning after surgery and weight loss, and often questioned if this was normal. This finding informs a need for preoperative education on the impacts of rapid weight loss on the menstrual cycle. Moreover, reoccurrence of ovulation may imply reinstatement of contraception. Women with obesity may avoid hormonal contraception due to fear of weight gain (Mody & Han, 2014). Literature states that contraception education after bariatric surgery is lacking, especially during a time of rapid hormonal change where pregnancy is not advised (Mengesha et al., 2016; Riedinger et al., 2020). The present study supports this, with women concerned about whether contraceptive use was still appropriate after surgery. Women were unsure of the contraceptive options (e.g., the Intrauterine Device (IUD)) available to them. Further, improved education from medical professionals surrounding contraceptive options postoperatively needs to be considered to avoid unwanted pregnancy, amongst other impacts of improper contraceptive use (Mengesha et al., 2016; Mody & Han, 2014).

Implications for Psychological Care

This study recognises that bariatric surgery is a life changing operation with impacts on mental wellbeing. Most psychological experiences posted by participants were adverse. Previous literature suggests that those seeking bariatric surgery can have unrealistic expectations for weight loss (Homer et al., 2016). Consistently, women were disappointed

with a lack of weight loss during unrealistic timeframes. Similarly, concerns about weight regain were tainted with distress, disappointment, and frustration.

In terms of diet, Assakran et al. (2020) found that individuals cited low self-discipline and motivation to justify diet non-adherence. Further, emotional eating in people with obesity is reported in vast literature, with these eating habits proving hard to break after surgical intervention (Craven & Fekete, 2019; Rusch & Andris, 2007). Consistently, in the present study, women treated food as a comfort during times of emotional distress and cited lack of discipline to justify diet non-adherence.

In the present study, women reported body insecurity and self-consciousness. Weight loss did not alleviate these insecurities in some cases, and instead, replaced them with insecurities about excess skin (Lyons et al., 2014; Mento et al., 2022). These findings support literature urging for body contouring cosmetic surgery to be offered following bariatric surgery in obesity management (Aldaqal et al., 2013; Altieri et al., 2017). Some women embraced their bodies and took pride in their weight loss achievements. These findings support the importance of ongoing psychological support to aid in maintenance of healthy body image and eating habits after bariatric surgery.

Participant and Forum Characteristics

Of the 154 women that had surgery, 85 women underwent a vertical sleeve gastrectomy (gastric sleeve), consistent with trends in bariatric surgery techniques, with the gastric sleeve becoming the gold standard over the Roux-en-Y gastric bypass (Alalwan et al., 2021). Forum activity decreased over five years (January 2018 until March 2023). The 2020 Coronavirus (COVID-19) pandemic provides reason for this decline as bariatric surgical rates decreased substantially during this time (Angelo et al., 2023). There was only one participant that commented on COVID-19. Further research is needed to evaluate the impacts of the COVID-19 pandemic on bariatric communities.

Strengths

A qualitative methodology enabled for rich accounts of participant's concerns and experiences to be explored. Further, the use of online forum data enabled for naturalistic participant account, with raw and unfiltered data observed. Trustworthiness and rigour were evident, with the researcher keeping an audit trail throughout the research process to facilitate reflexivity. Further, a percentage of the data was checked by an experienced health psychologist who consults with individuals that have undergone or are planning bariatric surgery.

Limitations and Suggestions for Further Research

Whilst there are strengths and meaningful findings to the present study, discussed findings should be interpreted with the acknowledgement of methodological limitations. Firstly, 93% of participants were from the United States of America (USA), a country with unique socio-political and economic conditions. Hence, concerns and experiences specific to USA individuals are overrepresented in this research. Further research could be undertaken with individuals from Australia and other countries.

There is an issue concerning the credibility of data collected from an online forum. Forum posts are naturalistic accounts of real persons. However, not every member of a certain socioeconomic group can access the internet, and therefore this research cannot be applied to specific populations (Holtz et al., 2012). Similarly, this study deliberately focussed on women. Future research could investigate an online forum dedicated to male or nonbinary individuals to further close the knowledge gap surrounding the gender specific outcomes of bariatric surgery. Due to the anonymous nature of the study, it was not possible to contact participants to seek clarification. Further research could triangulate the results of this analysis with other qualitative methodological approaches like interviews or surveys (Holtz et al., 2012).

There are implications for preoperative education and care. Further research could investigate existing preoperative education to inform better practice. Specifically, development of preoperative education to include the impact of bariatric surgery and rapid weight loss on women's interpersonal relationships, reproductive health, the menstrual cycle, and body image could be considered. Further, implementation of preoperative education for others in a person's family system can promote better social support systems. Similarly, this study provides support for peer support networks. Previous research has demonstrated that peer support is important for surgical success and that online peer support networks should be recommended (Robinson et al., 2020). Further research could investigate ways in which these peer supports could be made more accessible.

Conclusion

This study discussed several biopsychosocial considerations that are unique to women before and after undergoing bariatric surgery. Existing research in this area broadly focuses on all genders, exposing a lack of qualitative literature on the gender specific influences. This study attempted to close this knowledge gap through exploring women's experiences and concerns. Further, as this study was the first to qualitatively explore women's experiences using the online forum Bariatric Pal, it provides insights into the use of online peer support networks.

Meaningful biopsychosocial findings unique to women surround the impact of bariatric surgery on interpersonal relationships, reproductive health, the menstrual cycle, contraceptive use, and body image. Findings of the present study indicate need for improvement in preoperative education. Based on this study, current preoperative education seems to lack depth in multiple areas, and further research is needed to explore how preoperative education and postoperative care can be better structured to facilitate informed decision-making and psychological support.

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Appendix A

Bariatric Pal Registration Terms of Service

https://www.bariatricpal.com

Welcome to BariatricPal!

A warm welcome from the entire BariatricPal team! The following terms of service refer to all services, products and content provided by BariatricPal.com, also referred to as "BariatricPal," "us," the "company" and the "site." Users are also referred to as "members" and "you." Please contact us if you do not understand the terms of service.

Agreement Between BariatricPal and Users

Use of the site is voluntary and indicates user acceptance of the terms and conditions. Registration is free. BariatricPal provides the service "as is," and is unable to promise error-free service or content. Service may be interrupted or discontinue without notice. We reserve the right to modify and amend these terms at any time without notice. It is your responsibility to remain informed of current BariatricPal policies.

Forum Moderation and Community Standards

BariatricPal administrators moderate the forums. All posts must follow the Forum Guidelines. To maintain BariatricPal's high standards, we reserve the right to remove, modify or move any post or thread at our discretion and without explanation. BariatricPal strives to maintain an encouraging atmosphere and civil community. BariatricPal administrators and moderators attempt to prevent or remove all objectionable messages. To help us, users should use the "Report Post" link to let us know when you see a post that violates the forum guidelines. A moderator will look into the matter.

Rights Reserved

BariatricPal.com reserves the right to accept or dismiss user complaints at its sole discretion. BariatricPal may remove posts, threads and accounts without notice or explanation. The site

may re-use user generated content, including, but not limited to, posts, threads and photos, at any time without requesting additional permission from you. When you post to this forum, you offer to us a royalty-free, irrevocable, perpetual, worldwide right to use your content as we see fit. We may use, distribute, display and/or create derivative works from this content, in any and all media, in any manner, in whole or in part, without any restriction from you or responsibilities to you.

Account Modifications

We do not remove member forum accounts on request**.** You are welcome to stop visiting BariatricPal at any time. Members have the ability to change or update their display names and any information available in their public profiles. Members can stop receiving email notifications from BariatricPal.

Limitation of Liability

Member use of BariatricPal does not imply a doctor-patient relationship. The site does not provide professional medical services or advice, and its content should not be interpreted as such. BariatricPal content is not a substitute for the advice of a medical professional, and should not be relied upon when making medical decisions, or to diagnose or treat a medical or health condition. You hereby agree that, before using BariatricPal, you shall consult your physician or surgeon. BariatricPal is not responsible for any harm that may arise from your use of the site. BariatricPal.com is not responsible for ensuring the accuracy of content or information on the site. The site does not verify member identities or information provided.

User Responsibilities

Users are responsible for adhering to the terms of service, knowing the privacy policy and adhering to Forum Guidelines. The user is responsible for all content provided, including, but not limited to, profile information, posts, photos, blog posts and any other content provided to BariatricPal.com. Users may not conduct illegal activities in connection with

BariatricPal.com. Users are also responsible for avoiding copyright infringement when using the site; do not copy copyrighted work without permission. Be aware that your posts and other information are available to the public and are visible in search engines, such as google and yahoo.

Privacy Policy Agreement

All BariatricPal users agree to the complete Privacy Policy.

Copyright Policy

REPORTING CLAIMS OF COPYRIGHT INFRINGEMENT

We take claims of copyright infringement seriously. We will respond to notices of alleged copyright infringement that comply with applicable law. If you believe any materials accessible on or from this site (the "Website") infringe your copyright, you may request removal of those materials (or access to them) from the Website by submitting written notification to our copyright agent designated below. In accordance with the Online Copyright Infringement Liability Limitation Act of the Digital Millennium Copyright Act (17 U.S.C. § 512) ("DMCA"), the written notice (the "DMCA Notice") must include substantially the following:

- Your physical or electronic signature.
- Identification of the copyrighted work you believe to have been infringed or, if the claim involves multiple works on the Website, a representative list of such works.
- Identification of the material you believe to be infringing in a sufficiently precise manner to allow us to locate that material.
- Adequate information by which we can contact you (including your name, postal address, telephone number, and, if available, email address).
- A statement that you have a good faith belief that use of the copyrighted material is not authorized by the copyright owner, its agent, or the law.

- A statement that the information in the written notice is accurate.
- A statement, under penalty of perjury, that you are authorized to act on behalf of the copyright owner.

Appendix B

Data Analysis

Categories, Subcategories, and Sub-Codes with Counts

Category	Subcategory	Sub-Code	*n*	% of N
Connection with Forum Community	Seeking Guidance from Others *n* = 128 (62.0%)	Seeking advice from others after undergoing surgery	78	38.0%
		Seeking advice from others before undergoing surgery	32	15.0%
		Seeking medical advice	8	4.0%
		Asking if their experience is normal	7	3.0%
		Asking others what to expect	2	1.0%
		Asking for hope	1	0.5%
	Seeking Similar Experiences *n* = 126 (61.0%)	Seeking the medical experiences of others after surgery	63	30.0%
		Seeking the experiences of others before undergoing surgery	28	13.0%
		Seeking the psychological experiences of others after surgery	14	7.0%
		Seeking the social experiences of others after surgery	13	6.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Seeking recommendations from others	8	4.0%
	Forum Community *n* = 61 (29.0%)	Seeking a support network	23	11.0%
		Sharing life experiences	18	9.0%
		Spreading positivity to the community	8	4.0%
		Feeling understood by the community	6	3.0%
		Thankful to the community	6	3.0%
Life After Bariatric Surgery	Experiences with Intimate Relationships *n* = 79 (38.0%)	Impacts of surgery on intimate relationships	16	8.0%
		Conflict in intimate relationship	11	5.0%
		Dating after surgery	9	4.0%
		General sexual experiences	9	4.0%
		Concerns about relationship breakdown	8	4.0%
		Unsupportive partner	8	4.0%
		Concerns about intimacy	5	2.0%
		Supportive partner	5	2.0%
		Divorce after surgery	4	2.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Experiencing low libido	4	2.0%
	Clothing Choices *n* = 46 (22.0%)	Questions about clothing	12	6.0%
		Experiences with clothing	11	5.0%
		Changes in clothing choices after weight loss	9	4.0%
		Issues with bras and underwear	8	4.0%
		Clothing goals	3	1.0%
		Sharing clothing advice	3	1.0%
	Health Benefits and Outcomes of Surgery *n* = 44 (21.0%)	Improvement in overall health and wellbeing	19	9.0%
		Non-scale victories	12	6.0%
		Improved quality of life	6	3.0%
		Improved mobility	4	2.0%
		Improved menstrual cycle	2	1.0%
		Improved continence	1	0.5%
	Experiences with Diet *n* = 34 (16.0%)	General eating habits and experiences	9	4.0%
		Diet after surgery	6	3.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Issues with inadequate water consumption	6	3.0%
		Not adhering to diet guidelines	6	3.0%
		Experiencing food cravings	5	2.0%
		Concerns about vitamin and mineral deficiencies	2	1.0%
	Experiences with Social Relationships *n* = 25 (12.0%)	Perceived stigma from others	9	4.0%
		Worried about other's opinions	7	3.0%
		Concerns about the impact of their surgery on their children	5	2.0%
		Supportive family	2	1.0%
		Unsupportive family	2	1.0%
Physical Symptoms and Experiences	Menstrual Cycle *n* = 136 (65.0%)	Impacts of surgery on the menstrual cycle	52	25.0%
		Concerns about the menstrual cycle changing after surgery	28	13.0%
		Experiencing abnormal menstrual bleeding	18	9.0%
		Experiencing Premenstrual Syndrome (PMS) Symptoms	16	8.0%
		Experiencing pain during menstrual cycle	13	6.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Experiences with menopause	9	4.0%
	Physical Manifestations *n* = 44 (21.0%)	Experiencing discomfort or pain	15	7.0%
		Vaginal issues	6	3.0%
		Gastrointestinal Issues	5	2.0%
		Nausea	4	2.0%
		Dehydration	3	1.0%
		Bladder Issues	3	1.0%
		Fatigued	2	1.0%
		Symptoms of Dumping Syndrome	2	1.0%
		Unpleasant bodily odour	2	1.0%
		Dry Skin	1	0.5%
		Feeling unwell	1	0.5%
	Physical Appearance *n* = 33 (16.0%)	Issues with loose skin	16	8.0%
		Concerns about hair	8	4.0%
		Issues with sagging breasts	5	2.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Concerns about how appearance will change after surgery	4	2.0%
Health Concerns and Experiences	Experiences with Weight *n* = 81 (39.0%)	Experiences with obesity-related disease	17	8.0%
		Concerns about amount of weight loss	12	6.0%
		Experiencing significant weight loss in breasts	12	6.0%
		Concerns about weight loss stalls	11	5.0%
		Experiencing weight regain	8	4.0%
		Struggling with weight loss	7	3.0%
		Long term struggle with weight	5	2.0%
		Impacts of weight on daily life	5	2.0%
		Concerns about stretching stomach	4	2.0%
	Preoperative Concerns and Experiences *n* = 47 (23.0%)	Goals for life after surgery	9	4.0%
		Concerns about qualifying for surgery	8	4.0%
		Experiences with preoperative diet	8	4.0%
		General concerns about the surgical process	8	4.0%
		Unsure about surgery	5	2.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Unsure how to tell others about surgery	4	2.0%
		Frustrated at surgery delays	3	1.0%
		Cannot afford surgery	2	1.0%
	Health Journey *n* = 42 (20.0%)	Experiences with Polycystic Ovary Syndrome (PCOS)	13	6.0%
		Experiences with medication	7	3.0%
		Experiences with other medical procedures	7	3.0%
		Interactions with medical professionals	6	3.0%
		Experiences with endometriosis and adenomyosis	5	2.0%
		Experiences with pregnancy	2	1.0%
		Experiencing strange dreams	1	0.5%
		Impacts of COVID-19 Pandemic	1	0.5%
	Contraception Concerns and Experiences *n* = 38 (18.0%)	Questions about contraception	12	6.0%
		Concerns about contraception causing weight gain	7	3.0%
		Experiences with the contraceptive pill	7	3.0%
		Experiences with IUD's	5	2.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Adverse experiences with contraception	4	2.0%
		Experiences with other forms of contraception	3	1.0%
Psychological Experiences	Adverse Emotional Experiences *n* = 56 (27.0%)	Frustrated or angry	9	4.0%
		Upset or overwhelmed	7	3.0%
		Disappointed in self	6	3.0%
		Scared	6	3.0%
		Feeling alone	5	2.0%
		Resentful	5	2.0%
		Unfavourable self-talk	5	2.0%
		Worried or stressed	5	2.0%
		Depressed	4	2.0%
		Experiencing mental health issues	3	1.0%
		Embarrassment	1	0.5%
	Thoughts and Feelings about Surgery *n* = 48 (23.0%)	Excited and hopeful for surgery journey	17	8.0%
		Difficulty adjusting after surgery	8	4.0%

Category	Subcategory	Sub-Code	*n*	% of N
		Pleased with decision to have surgery	6	3.0%
		Nervous for surgery	6	3.0%
		Experiencing mixed feelings about weight loss	3	1.0%
		Hesitant about surgery	3	1.0%
		Regretful of decision to have surgery	3	1.0%
		Fear of lifestyle changes	2	1.0%
	Body Image *n* = 35 (17.0%)	Insecure about body	15	7.0%
		Distorted body image	7	3.0%
		Fear of new body	5	2.0%
		Feeling self-conscious about body	5	2.0%
		Increased body confidence after surgery	3	1.0%
	Relationship with Food *n* = 27 (13.0%)	Maladaptive eating behaviours	15	7.0%
		Food as a comfort	7	3.0%
		Adverse emotions towards food and alcohol	5	2.0%

Category	Subcategory	Sub-Code	*n*	% of N
	Affirming Emotional Experiences *n* = 14 (7.0%)	Pleased with weight loss progress	7	3.0%
		Proud of self	3	1.0%
		Feeling more secure in self	2	1.0%
		Rewarding self after weight loss	2	1.0%

Note. Counts were calculated based on the number of participants that posted under each code. Percentages were calculated using the total number of participants (N = 208).