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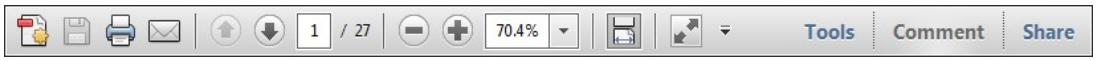

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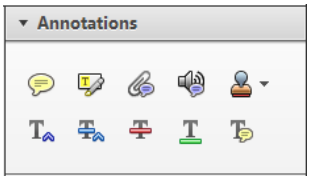

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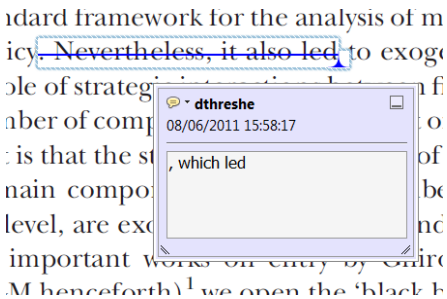

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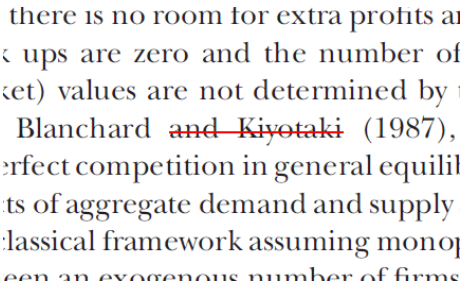

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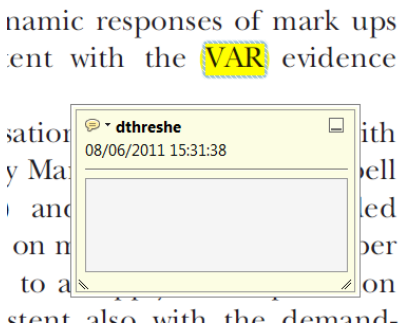

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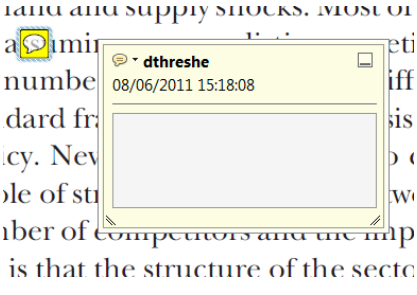

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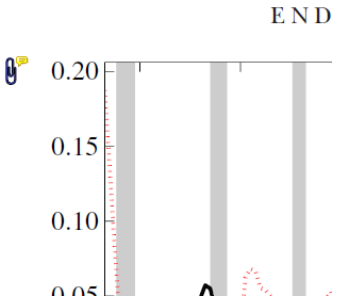

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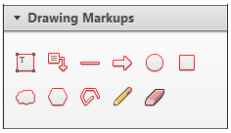

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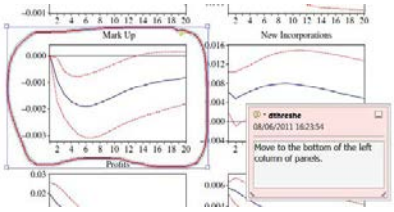

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Patient experiences of a bariatric group programme for managing obesity: A qualitative interview study

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Objectives. People with obesity experience a range of physical and psychological ill-health outcomes. This study examined patients' experiences of a group-based programme for the management of morbid obesity delivered within the UK National Health Service. The focus of the study was on the emerging dynamic of the group and patients' perceptions of its impact on health outcomes.

Design. A qualitative interview study was conducted and involved patients recruited from a Tier 3 bariatric service in ~~the~~ South West ~~of~~ England. Verbatim transcripts were analysed using thematic analysis.

Methods. Twenty patients (12 females) with a BMI $\geq$ 35 kg/m^2 participated in a semi-structured one-to-one interview. Participants had been registered with the bariatric service for at least 6 months. None of the participants had had bariatric surgery.

Results. Most participants felt that they had benefited from participating in the group programme and talked about the group as a resource for lifestyle change. Participants' narratives centred on the emergence of a sense of self based upon their participation in the group: establishing *psychological connections* to other patients, or shared social identity, was regarded as a key mechanism through which the programme's *educational material* was accessed, and underpinned the experience of *social support* within the group. Through interaction with other patients, involving the sharing of personal experiences and challenges, participants came to experience their weight 'problem' through a collective lens that they felt empowered them to initiate and sustain *individual lifestyle change*.

Discussion. Bariatric care groups have the potential to support lifestyle change and weight loss and may help address the psychological needs of patients. Nurturing a sense of shared social identity amongst patients with morbid obesity should be a core aim of the care pathway and may provide the foundation for successful translation of dietetic content in group programmes.

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Statement of contribution

What is already known on this subject?

- Services for people with obesity who require specialist care are often supported by group-based bariatric programmes.
- There are no specific guidelines for the organization of bariatric groups beyond the recommendation for lifestyle interventions delivered by a multidisciplinary care team.
- Research with other health conditions suggests that the psychological connections formed between participants in bariatric programmes may play an important role in structuring programme effectiveness.

What does this study add?

- Establishing psychological connections with other patients underpins bariatric patients' group experience.
- Shared social identity structures behaviour change in patients on bariatric programmes.
- Nurturing shared social identity should be a core aim of the bariatric care pathway.

The negative health effects of obesity are well documented, being clearly linked to a variety of physical diseases (including type 2 diabetes, cardiovascular disease, stroke, and cancer: Haslam & James, 2005), and presenting a significant risk factor for many psychological problems (e.g., anxiety and depression, low self-esteem: Friedman *et al.*, 2005; Kim, Oh, Yoon, Choi, & Choe, 2007). Obesity rates have increased substantially in the last two decades and present a significant strain on health care services (Foresight, 2007). The need for effective interventions for the management of obesity, as well as those for its prevention, is a health, economic, and social priority (National Obesity Forum, 2014).

For people with morbid obesity (those with a body mass index – BMI – greater than 35 and presenting with obesity-related ill health), one such intervention is weight-loss, or bariatric, surgery. Recent data have evidenced the safety and effectiveness of bariatric surgery as a treatment for obesity (~~Jenson, *et al.*, 2014;~~ Wellbourn *et al.*, 2014). Bariatric surgery is endorsed by the National Institute for Health and Clinical Excellence (NICE, 2014), subject to patients meeting specified referral criteria. One criterion is that, prior to referral for surgery (delivered in the United Kingdom as part of 'Tier 4' care), patients should receive 'intensive management' from a specialized multidisciplinary medical care team (MDT). This 'Tier 3' service is often (although not always) delivered in secondary care with input from psychologists, bariatric physicians, and other specialists (e.g., dieticians). Tier 3 care is often supported by group-based programmes (hereafter referred to as 'bariatric care groups'), but there are no specific guidelines for the organization of these beyond the broad recommendation for lifestyle interventions, which may include dietary assessment and education for group members, and promotion of physical activity (NICE, 2014). This situation likely explains the observed variability and inconsistent MDT input across the care pathway (Martin, Smith, Mason, & Butt, 2012). It also reflects recent calls for research into the optimal organization and delivery of lifestyle interventions for obesity, and greater emphasis earlier in the care pathway on psychological assessment and support for patients to address the psychological problems commonly presented in this population (Chen *et al.*, 2012; Mühlhans, Horbach, & de Zwaan, 2009; Sansone, Wiederman, Schumacher, & Routsong-Weichers, 2008).

As a starting point for informing such an endeavour, the current study examined patients' experiences of participating in a hospital-based, Tier 3 bariatric care group programme delivered by the UK National Health Service (NHS). Our focus was on the dynamics of the group programme, and in particular, the psychological connections that

patients in it formed with each other. Very little is known about how patients relate to other members of group programmes like these, and whether and how the psychological connections they form with other patients might relate to their health outcomes. However, research in other health contexts leads us to expect that the psychological connections formed between bariatric care group members may play an important role in structuring the effectiveness of the group (Haslam, Jetten, Postmes, & Jetten, 2009; Tarrant, Hagger, & Farrow, 2012).

Several studies have shown that being presented with opportunities to form new connections in group settings (e.g., residential care; support groups for long-term conditions) affords tangible health benefits, including improved mental health and general well-being (Gleibs *et al.*, 2011; Wakefield, Bickley, & Sani, 2013). Social groups may provide a normative context for members that serves to frame health experiences, forming the basis of effective peer support, structuring health attitudes and cognitions, and supporting behavioural action (Hoey, Ieropoli, White, & Jefford, 2008; Oyserman, Fryberg, & Yoder, 2007; Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2011; Tarrant & Butler, 2011). In non-clinical populations, weight-loss interventions appear more effective when participants are supported by others with whom they identify (Wing & Jeffery, 1999), when participants have a sense of common purpose and ownership over the intervention (Renzaho, Halliday, Mellor, & Green, 2015) and when there are low levels of conflict between group members (Gleibs *et al.*, 2011). The elements of social support that contribute to its effectiveness (shared understanding and expectations, empathy, trust, and so on) may be most likely to be present in groups where participants are psychologically connected – that is, when they share a social identity (Haslam, Reicher, & Levine, 2012).

Understanding patient experiences of group programmes for bariatric care can help illuminate the mechanisms of impact underpinning any health benefits, but also articulate how guidelines for that care can be implemented (Moore *et al.*, 2015) – outcomes of clear utility to those responsible for its delivery. This is particularly important with the large number of bariatric surgeries now being performed in Western countries (~~Jenson, *et al.*, 2014;~~ Livingston, 2010), the increasing pressure on health care providers to offer bariatric surgery (NICE, 2014), and also the variability in bariatric care (Martin *et al.*, 2012). The study addressed the following two research questions:

1. To what extent do patients with obesity establish a sense of psychological connection to other patients enrolled on the bariatric care group programme?
2. How are patients' psychological connections to other patients valued, and do these connections structure their progression through the bariatric care group programme?

Method

Research context and group programme

Participants were recruited from a Tier 3 NHS bariatric service in the South West of England, United Kingdom. None of the participants had had bariatric surgery. Ethical approval for the study was provided by the National Research Ethics Service (NRES ref: 13/SW/0050). Admittance to the Tier 3 service was based on specified criteria: (1) body mass index (BMI) $\geq$ 40 kg/m^2; or (2) BMI $\geq$ 35 kg/m^2 with comorbidities (type 2 diabetes, uncontrolled hypertension, hyperlipidaemia, sleep apnoea, and/or severe osteoarthritis).

Approximately 10% of patients admitted to the service do not participate in the group programme (e.g., because of time constraints, or psychological problems) and are instead offered one-to-one consultations with a health care professional.

The bariatric care group programme we examined comprises six sessions, delivered across a 6-month period. Between 10 and 12 patients are invited to each group and group size typically ranges from 4 to 12 patients, reflecting variability in patient attendance. The sessions predominantly focus on dietary education and are led by a dietician experienced in group facilitation and motivational interviewing, supported in some sessions by a clinical psychologist. After completion of the programme, patients' weight and dietary and lifestyle behaviour are assessed at a follow-up physician consultation. Local commissioning agreements for bariatric surgery funding at the time of the study stipulated that patients should be considered for surgery if they do not have surgical contraindications and can demonstrate a sustained commitment to lifestyle change, objectively assessed by weight loss of at least 5% across the programme.

Sample

Participants were 20 patients who had been registered with the bariatric service for at least 6 months and consented to participate in one-to-one interviews about their experiences. This sample size was anticipated to ensure a sufficient range of experiences necessary for saturation (Guest, Bunce, & Johnson, 2006; Mays & Pope, 1995). The sample consisted 12 females and eight males (mean age = 52.3 years; range = 34–77 years; *SD* = 12.2). Participants had attended between two and nine group sessions (mean = five sessions; *SD* = two sessions) at the time that they were interviewed.[1] Table 1 presents more information about participant characteristics, along with data on weight lost between enrolment on the programme and follow-up dietician consultation. At the time of the interview, eight participants had been referred for surgery.

Data collection

Information about the research was provided during one of the scheduled group sessions. Interested patients were subsequently contacted by a member of the research team (~~XX~~) and provided with further information about the study and given the opportunity to ask questions. Patients who remained interested in the research following this were sent an information sheet and allowed at least 24 hr to decide whether or not to participate. All those who reiterated their interest at this stage, and were eligible to participate, subsequently consented to do so. A time and place for participants to provide informed consent and undertake the interview was then arranged. Interviews were conducted in a private meeting room at the hospital (n = 13) or participants' own homes (n = 7).

The interview was semi-structured and consisted of questions addressing participants' perspectives on their experiences of the group sessions, with a particular focus upon the forms and functions of psychological connections established with other group members. The questions were refined through consultation with an independent group of patients who had previously been through the group programme (see Appendix for the interview

[1] *Some participants had attended more than the scheduled six group sessions (e.g., if they had remained in the programme due to not yet fulfilling criteria for surgery).*

Table 1. Participant characteristics

Participant number	Gender	Age	Sessions attended	Interview length	Weight change*
1	Female	67	6	00:28:40	−9% (11-Months)
2	Female	57	6	00:17:21	−4% (7-Months)
3	Male	45	5	00:32:16	0% (9-Months)
4	Female	37	5	00:18:39	−5% (6-Months)
5	Female	40	8	00:26:05	−1% (7-Months)
6	Female	42	4	00:35:08	Data not available
7	Male	57	2	00:49:41	−11% (6-Months)
8	Female	63	6	00:25:11	−6% (7-Months)
9	Female	55	2	00:34:51	−10% (8-Months)
10	Male	48	7	00:22:45	−7% (8-Months)
11	Male	41	6	00:21:09	+1% (8-Months)
12	Female	34	6	00:21:19	+1% (11-Months)
13	Female	40	5	00:27:20	+2% (6-Months)
14	Male	66	5	00:26:58	−6% (9-Months)
15	Male	67	5	00:35:23	−6% (8-Months)
16	Female	64	9	00:23:27	−6% (7-Months)
17	Female	43	3	00:21:05	−6% (6-Months)
18	Female	57	4	00:23:02	−9% (8-Months)
19	Male	47	6	00:32:52	−26% (11-Months)
20	Male	77	5	00:20:55	−7% (6-Months)

*The period of weight change is calculated as the difference between participants' weight on entry to the bariatric programme and first follow-up consultation with a dietician (approx. 6 months later).

schedule). A male interviewer (XX), trained in qualitative research, conducted the interviews. Interviews were audio-recorded and lasted 17–50 min (mean = 27 min.)

Analytical framework

One of the authors (XX) and an assistant (XX) transcribed the interview audio recordings verbatim; XX reviewed the transcriptions, correcting transcription errors and deciphering inaudible parts audio recordings. Speech disfluencies, such as false starts and word trips, were removed from the transcripts to minimize distraction from the main interview content (MacLean, Meyer, & Estable, 2004). Final transcripts were uploaded into NVivo 10 for analysis.

Preliminary analysis of the transcripts was conducted by a member of the research team (XX) who was naïve as to the study's specific research questions. Transcripts were analysed using thematic analysis following the six-step process delineated by Braun and Clarke (2006), and specifically involved: (1) familiarization with the data; (2) generation of initial codes; (3) searching for themes; (4) reviewing themes; (5) defining themes; and (6) producing theory and report. The final step in the process is primarily reported herein.

On completion of the preliminary analysis, XX and XX reviewed the themes by repeating the six-step process outlined above. At this stage, greater focus was placed on refining and unearthing themes concerning the forms and functions of psychological connections between participants in the group sessions, and their impact on progression through the bariatric programme.

Results

The overarching narrative going through the interviews was of the bariatric care group programme as a potential resource for lifestyle change. However, whether or not this resource was accessed in ways that promoted individual change depended on the emergent group dynamics. To the extent that participants established psychological connections, or a sense of shared social identity, with other group members, the bariatric care group was experienced as a supportive influence on their individual progression. Below, we outline the key dynamics, or themes, that underpinned this sense of empowerment and change.

It is important to note that while most participants felt that they benefited from attending the group sessions, a few participants regarded attendance at the group sessions as a means to an end, namely to become eligible for bariatric surgery.

> So personally myself, if I didn't have to do them to be able to get the operation, I wouldn't be doing them. (P15)

For this minority of participants, the group sessions were not experienced as engaging and they 'switched off' as a result. In contrast, participants who experienced the programme as having a positive impact on their lives described the group as an important resource that empowered them to initiate and sustain lifestyle change.

The group as a resource underpinning individual lifestyle change

Accessing education

Regardless of whether they felt that they ultimately benefited from the group programme, participants evidenced clear understanding of its objectives, specifically in terms of its focus on providing dietary and physical activity advice. In some ways, the content of the educational material provided during the group sessions was similar to that provided by commonly available commercial weight-loss programmes. However, the participants regarded the bariatric service as offering something distinct from commercial programmes. This distinctiveness was attributed to the programme's delivery by qualified facilitators (dieticians, psychologists).

> I mean I suppose because you've got two professional people taking the group and they've got a lot of expertise between them. So I mean they come up with some very good ideas and strategies and so I think having the two professional people there rather than just having the group of patients is very useful so I think that helps. (P20)

For these participants, expert input into the programme was regarded as important to their ability to regulate and change behaviour, and ultimately lose weight. However, facilitator expertise was seen as going beyond the nutritional aspects of diet. The facilitators' ability to understand and discuss psychological and emotional underpinnings of behaviour was also valued by participants.

> I just think they explained things to me more, they had the time, they explained perhaps why that was happening to me, they explained that it was probably emotional, that I hadn't even given a thought to, they were just, they were marvellous, absolutely marvellous. (P16)

Facilitators were perceived to work hard to communicate with appropriate sensitivity and appreciation of group members' personal experiences. Many participants felt that the facilitators established a positive relationship with the group early during the programme, encouraging interaction and presenting the educational materials in engaging ways. These actions contributed to the emergence, over time, of an environment, or group culture, in which participants could discuss and share experiences.

> . . .the group started huge and I think it finished with five people, but those five or six people all sort of interacted with each other and told each other about our problems, and we all got on as a group. . . (P5)

It was through participation in the group sessions that participants together contributed to a group dynamic defined through principles of interaction and sharing. This dynamic did not emerge spontaneously (e.g., as a result of mere attendance at the sessions) but was an outcome of active participation and engagement with group activities on the part of the participants. Thus, while the educational material was *available* to all participants enrolled on the programme, it only became a *resource* for lifestyle change when it was accessed, digested, and shared *by the group*. In the following section, we see that the psychological connections participants formed with other group members underpinned this process. In this way, the group came to be experienced as an important resource for pursuing change.

Establishing psychological connections

Social interaction, involving the sharing of health knowledge, dietary and exercise advice, and experiences, encouraged the formation of new psychological connections between group members. The sense of commonality between group members, strengthened through recognition of shared experiences and being able to relate to others' problems, was an important starting point for the groups' exploration of strategies for pursuing lifestyle change.

> We're all around the table, we're all overweight, so let's talk about how we can lose the weight between ourselves, and if I've got an experience that helps me lose weight and pass on to the other person, you know, this is how I do it. . . (P7)

> Tips, you get tips off people, people bring recipes in for things that they make, which is good, lower calorie and different things. It's just nice to be in an environment where everybody's the same. That's the main thing. (P10)

The nature of shared information varied between participants. As can be seen above, participants used the group to share simple, pragmatic information, including healthy recipes, cookery tips, and signposting opportunities within the community (e.g., for pursuing physical activities). The information shared was not substantially different from that readily available elsewhere (e.g., Internet, cookery books), but it was the provision of it by other group members that made it relevant to participants.

> What other people have done, what they've tried, what they failed on, what they're going to try. It's, for me, always easier to take in rather than having like a diet sheet in front of you, if that makes sense (P4).

Other information shared within the groups was considerably more complex and personal. However, regardless of the type of information being shared, being able to relate to others' experiences was a defining characteristic of the emerging group dynamic. Coming to learn that other members had a shared perspective on a problem was reassuring to participants.

> Yeah, it is nice to know that other people feel the same. That you're not alone in how you feel. That is good. That is really good. (P16)

> What it's done for me is helped to realise that you know, sometimes you look at yourself and you're the only one in the world that's overweight, but within the group situation you've got shared values. (P7)

One participant explicitly described the psychological connections formed with others on the group programme in terms of a new, emerging identity as a group member.

> Yeah, well I think, I think, adopting that identity, within the, oh what's the word, within the context of the group, oh. . . I think, I can sort this out, I probably don't need to diet that much, because, this is what is putting all the weight on, yeah, and I want to identify with it, because, I've found some kindred spirits, and, I can see the positive, changes, that I think will happen as a result of having that identity. (P6)

Participants' narratives in this theme highlight a critical starting point for the potential utilization of the educational resource in their daily lives. Starting with the sharing of experiences and perspectives with other group members, and recognizing similarities in these, participants came to see that they were not alone – either in terms of their past experiences, or the challenges they now faced in initiating lifestyle change. The resulting connections participants formed with other group members underpinned the emergence of a new, shared, identity as a member of the bariatric care group.

Supporting individuals

Through the process of forming a new, shared identity, participants came to experience the group as a significant source of social support. The nature of the experience of group-based support varied, and included the celebration of individual successes in relation to personal goals (e.g., meeting weight-loss targets, increasing physical activity), as well as the provision of consolation and encouragement to members when these goals were not met. Participants were able to draw on this support in dealing with the challenges of their own lifestyle change goals.

> I didn't realise that we were going to get weighed at the beginning of every meeting, so everybody sits in the waiting room and everybody goes off and comes back and says I've lost half a kilo or I've put on half a kilo or something and everybody else you know gives them encouragements and says if they've put on weight "oh never mind" you know or if they've lost

> weight they encourage them and say "oh that's really good you've done a good job". So I think pretty supportive of each other, which is nice. (P18)

> I think it gives you support. It's good to know that there are other people going through the same thing... you get support and off you go again. It's the support mainly more than anything. (P2).

Being connected to other group members who shared their experiences made it easier for participants to share their own experiences, both positive (e.g., dietary change) and negative (e.g., weight gain), and to benefit from the support resulting from this sharing. Moreover, through relating to other group members and valuing each others' perspectives, participants came to recognize that the challenges (and failures) they experienced in pursuing their personal goals were not unique, solely individual experiences but were often experienced by other members as well.

> I've realised I'm not on my own, with the particular issues I have... yeah, that's been pretty huge (P6).

To summarize, participants' narratives about the group programme referenced an emerging sense of self as a *group member*. The process of identifying with others was seen as the property of an interactive culture defined by the sharing of experiences. Social support was seen as a natural outcome of participation in this culture and helped to motivate lifestyle change. In this sense, the educational material available in the care groups was largely no different to that which could be obtained from other sources (e.g., commercial weight-loss groups). However, participants were more likely to take ownership of the material – to appreciate its relevance, to engage with it, and to utilize it in their daily lives – when they processed it through the 'lens' of their new group membership.

Effecting individual lifestyle change through the group

The above themes describe the sense of self as a group member that emerged across the programme. The final theme focuses on the perceived cognitive and behavioural outcomes of forming this shared identity which underpinned health improvements.

One immediate consequence of identifying as a member of the bariatric care group was to perceive shared ownership of the weight 'problem' that originally brought participants into the programme. Participants no longer regarded excess weight solely as an individual problem but, instead, saw it as a collective problem requiring a collective response. Participants did not see this transformation, from the individual to the collective, as absolving them of personal responsibility for changing lifestyle: they remained well aware that, ultimately, lifestyle changes could only be made through concerted personal effort. However, the recognition that their past experiences overlapped in meaningful ways with those of other members reinforced a sense of common predicament and naturally encouraged the joint engagement with the educational resource. Several participants described an emerging group norm – or 'way of being' – defined in terms of a collective commitment to lifestyle change.

> Before you're sort of thinking I'm a fat bastard what am I going to do about it. But now you've got everybody else is sort of thinking we need to change our lifestyle. (P7)

> You're not alone, yes. And it's like a rallying cry isn't it, you know like the olden days, you get a rallying cry and everybody gets together. People have a common cause, that's what it's all about. (P10)

While the general ethos of the groups centred on supporting broad lifestyle change, there was considerable flexibility at the level of the individual in the pursuit of that change. Thus, we saw a subtle interaction between the *collective* values of the group and the *individual* behavioural expression of those values: while one member might set a personal target for establishing a particular physical activity routine, for another member the focus might be more on introducing change to aspects of his or her diet. Therefore, the groups were very much a collective force for pursuing personal change trajectories.

> We're all in the same sort of boat, and we've all had the same sort of problems and we're all there for the same reason. And it just kind of gives you that whole group feeling, that whole belonging feeling, it's the fact that you're going through the same thing and you're all wanting the same thing. It might differ slightly to how you get there but in the end you all want the same thing and that's how I think, I think that's why I feel part of the group. (P12)

Inevitably, there was some variability in the rate at which lifestyle change was achieved. Some participants reported immediate changes in their behaviour.

> Like tonight I'm going to have a jacket potato with a few beans on it, that's my tea, and if I get hungry I'll have an orange. Where before I used to have a bar of chocolate or a pack of crisps, it's a big change isn't it (P10)

Other participants talked about the groups as putting in place the necessary cognitive and motivational structures – new ways of thinking about their own health – to empower them to lose weight over the longer term.

> It's changing my life in a way that, I can honestly say, just in four weeks, it's been life-changing, and I'm not suddenly losing weight, and, completely functional where eating is concerned, but, yeah, it's been totally life-changing (P6)

To summarize, the psychological connections that participants formed with other group members led them to experience their weight 'problem' through a collective lens that was focused on a shared set of values. There was individual variability in how participants responded to the collective challenge of losing weight but the process of identifying with other group members was felt to empower them to initiate and sustain a programme of lifestyle change consistent with the emergent group norm.

Discussion

Psychological connections formed between group members were seen by participants in this study as integral to their progression through the group-based bariatric care programme on which they were enrolled. The *shared social identity* developed through

participation in the group was regarded as a key mechanism through which the programme's dietetic content was accessed and utilized by participants. Shared social identity was seen to structure participants' progression through the programme in two main ways. First, establishing psychological connections was regarded as the starting point for the provision and receipt of social support within the bariatric care group, involving the sharing of problems or challenges with other members and celebrating each others' successes (e.g., weight loss). This finding resonates with those from research in other health contexts that have established shared social identity as an important determinant of social support (Haslam *et al.*, 2012). By feeling supported in the group, participants came to realize that they were not alone in dealing with their health issues.

Second, shared social identity served to structure participants' personal motivation and capacity to make lifestyle changes. While individual change goals varied between participants, these goals were rooted in a commitment to change that was shared across the group and experienced by the participants as empowering. More formally, participants' narratives referenced an increased self-efficacy stemming from sharing social identity. Thus, our study speaks to the interplay between the individual and the group (e.g., Bettencourt & Sheldon, 2001) by highlighting how participation in a group with clearly articulated *collective* values can help individual members achieve goals that reflect *personal* aspirations.

Recent evidence that bariatric surgery is effective in helping people lose weight has led to recommendations for its provision more widely across the NHS (NICE, 2014). Increasing provision of bariatric surgery for people with obesity has implications for the delivery of associated care pathways, including the input provided by multidisciplinary specialist teams (Ratcliffe *et al.*, 2014). In the United Kingdom, group programmes often comprise part of the bariatric care pathway, partly because they are seen as cost-effective (Greaves & Campbell, 2007; Hoddinott, Allan, Avenell, & Britten, 2010). The current findings have implications for the organization and delivery of bariatric care, highlighting a mechanism – shared social identity – through which group programmes may be optimized. Positive engagement of participants in bariatric care groups can encourage adoption of dietetic/educational materials and has potential to contribute health and well-being benefits. In particular, by forming psychological connections with other group members, bariatric candidates may draw an important sense of support that is not necessarily available (or valued) elsewhere. Supporting and validating each others' experiences may contribute to improved well-being, empowering bariatric candidates to cope better with personal health challenges, and effecting a collective change mindset which can motivate and enable lifestyle change. Accordingly, a core aim of group programmes, such as the one studied, could be to nurture an early sense of shared social identity amongst participating bariatric patients.

While developing a shared social identity was a central feature of the participants' experiences in the group, the process of identity formation did not occur automatically, or for everyone. One goal for future research therefore is to articulate ways that shared social identity can be deliberately established amongst bariatric candidates (or indeed in participants of more general weight management services) – especially those who might initially be resistant to participating in a group (Tarrant, Warmoth, Code, Dean, Goodwin, Stein, & Sugavanam, 2016). New care group programmes informed by such research would also benefit from studying patient attrition data from existing group programmes to identify potential barriers and facilitators of initial group engagement. Despite their similarly high BMI, patients enter bariatric care with diverse experiences and expectations, and with differing

motivations and personal goals. Managing this diversity and finding common ground between participants is critically important to establishing shared social identity and group facilitators (or lifestyle interventionists; Jenson, *et al.*, 2014) may have an important role to play in this regard (Tarrant *et al.*, 2016; Haslam, Reicher, & Platow, 2010). Indeed, beyond providing the necessary dietary expertise, participants here viewed facilitator input in creating a positive group dynamic as essential to their successful personal progression through the programme. Showing empathy and understanding of patient perspectives and individual needs, and being able to elicit trust from the group, were considered part of an effective facilitator skill set. Facilitators also need to be aware of the possibility that an unexpected consequence of forming strong psychological connections amongst group members might be to isolate other group members who less readily connect to the group. Facilitators need to be aware of this possibility and may require additional support to develop effective group management skills to prepare for them the challenges presented: to become *entrepreneurs of identity* (Haslam *et al.*, 2010). Such support may include training to prevent the formation of dysfunctional groups (e.g., groups comprising disruptive or unengaged patients), or the emergence of maladaptive group norms (e.g., norms reinforcing negative health behaviours) (e.g., Hollywood, Ogden, & Pring, 2012).

Limitations

Participants in the current study were clear about the psychosocial (e.g., support, motivation, efficacy) and behavioural benefits (e.g., lifestyle change) of participating in the group programme. While most participants had lost weight since enrolling on the programme (Table 1), it cannot be concluded that their participation actually led to weight loss. Additional research is therefore needed to track the path from group participation to health outcomes. Given the reported association between obesity and disorders such as depression and anxiety (Friedman *et al.*, 2005; Kim *et al.*, 2007), it is also important to consider how participation in bariatric care groups may impact on mental health outcomes. At least in research with other patient groups (e.g., Gleibs *et al.*, 2011; Wakefield *et al.*, 2013), there is emerging evidence that participation in social groups plays an important role in this regard. A related issue concerns the longer term sustainability of psychological connections that are developed in clinical contexts. While sharing a social identity with other members of a bariatric care group seems conducive to behaviour change within the parameters of the programme, the impact of this clinically based identity on behaviour beyond the programme is not known. A recognized priority is to devise longer term follow-up plans for supporting individuals *after* bariatric surgery (Hollywood *et al.*, 2012; Martin *et al.*, 2012).

A final challenge relates to patient attrition across the course of group programmes like this one. Group size in the current programme varied from 4–12 patients per group. We cannot say that attrition occurred mainly amongst those patients who failed to establish psychological connections with other group members, but this seems likely to be a contributing factor. Providing early opportunities for group participants to interact with other members, and nurturing the exploration of patient commonalities, may be core activities of early group sessions that serve to limit attrition. Early engagement with patients to deliver group sessions at convenient times, consistent with principles of shared decision-making (Coulter & Collins, 2011), may also increase participant commitment and reduce attrition.

Conclusions

Bariatric care groups can provide opportunities for patients to form psychological connections with each other, and the resulting social identity *as group members* can structure their engagement with educational materials and progression through a programme. By providing a collective 'lens' for patients to understand and share their health experiences, the use of groups in bariatric care may support change mechanisms underpinning personalized action plans and may help address the psychological needs of patients across the care pathway.

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Conflict of interest

The authors declare they have no competing interests.

Authors' contributions

MT, funded principal investigator and project lead, conceived of the study, study design, analysis of data, interpretation of results, and led manuscript write-up. SK, funded research fellow, helped in study design, conducted interviews and reviewed transcription, analysis of data, interpretation of results, and manuscript write-up. CF, funded co-investigator, contributed to study design, interpretation of results, and manuscript write-up. PS, research assistant, involved in ~~transcribed~~ interviews and analysis of data. MD, funded co-investigator, helped in study design. KK, funded co-investigator, contributed to study design, interpretation of results, and manuscript write-up.

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Appendix: Interview schedule

1. Background
   (a) How long have you been using [GROUP NAME]?
   (b) How many group meetings have you attended to date?
   (c) What do you think are the most positive and useful aspects about the group meetings at [GROUP NAME]?

2. Sharing, support, and understanding in group meetings
   (a) Have/do the group meetings at [GROUP NAME] given/give you the opportunity to share your experiences with other users concerning the challenges of implementing healthy lifestyle changes and weight loss?
   (b) Regarding other users attending group meetings at [GROUP NAME], do you feel that they have shown/show an understanding of your personal needs and goals (concerning the implementation of healthy lifestyle changes and weight loss)?
   (c) Regarding other users attending group meetings at [GROUP NAME], do you feel that they have been/are supportive of your personal needs and goals (concerning the implementation of healthy lifestyle changes and weight loss)?
3. Social identification as a [GROUP NAME] user
   (a) You may have a range of social identities based upon different group memberships. For example, some may be based upon gender (e.g., being Woman or Man), some upon religious belief (Protestant or Catholic), some upon nationality (British or English), and some upon regional identity (Cornish or Devonian). Furthermore, you may also have a range of social identities based upon group memberships in clubs, organizations and other types of collectives, such as, for example, membership in a fitness club, knitting club, and/or a charity.
   Most people tend to identify with at least a couple of group memberships. Some of these social identities may be more important than others, and some may be more important at particular times and in particular situations.
   Now focusing upon [GROUP NAME], in general, would you say that you had/have a social identity as a [GROUP NAME] user?
      (i) If yes: Please explain why and how?
      (ii) If yes: Was/is this social identity important to you? Why and how was/is it important to you?
   (b) Would you say that other [GROUP NAME] users, in general, have a social identity as [GROUP NAME] users?
4. Composition of [GROUP NAME] groups
   (a) In terms of creating an understanding and supportive environment in the group meetings at [GROUP NAME], do you think that it is important that the group meetings comprise of the same users from beginning to end? Specifically, do you think that it is important that not too many users dropout and/or are added throughout the duration of the group meetings?
5. Social-support outside [GROUP NAME]
   (a) Have/do you stayed in contact with any other users (that you have met through group meetings) privately outside the [GROUP NAME] clinic?
      (i) If yes: Did/does this contact serve to provide one another support to achieve your respective personal goals (concerning the implementation of healthy lifestyle changes and weight loss)?
      (ii) If yes: Could you please give me an/some examples of ways in which you gave/give and received/receive support to and from other users outside the [GROUP NAME] clinic?
      (iii) If no: Why not? Were/are there any barriers from establishing contact with other users privately outside the [GROUP NAME] clinic?
   (b) Has/is your contact/interactions with other users outside the [GROUP NAME] clinic been important to you?

6. Concluding questions
   (a) Whether your overall experience of [GROUP NAME] has been positive or negative, would you say that your participation in the group meetings has had/has an impact on your life and your goals (concerning the implementation of healthy lifestyle changes and weight loss)?
   (b) Is there anything about the group meetings that you think could be improved in general?

Author Query Form

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19	**AUTHOR: As per the journal style doi numbers should be present for all journal references. Please check and provide doi numbers for missing journal references.**	
20	**AUTHOR: Please provide the publisher location for reference Haslam et al. (2010).**	
21	**AUTHOR: The journal style is to include up to 7 author names. If there are eight or more than eight authors, the journal style is to include the first six authors' names, then insert three ellipses, and add the last author's name. Therefore, please replace "et al." with three ellipses and the last author's name to conform to the journal style.**	