Full length article

From self(ie)-objectification to self-empowerment: The meaning of selfies on social media in eating disorder recovery

Jessica F. Saunders [a],[*], Asia A. Eaton [b], Sabrina Aguilar [b]

[a] *Werklund School of Education, University of Calgary, Canada*
[b] *Department of Psychology, Florida International University, USA*

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ABSTRACT

Selfies, or self-portraits taken on mobile devices, focus the viewer's attention on the subject's face and body, potentially objectifying the subject. Indeed, previous research finds that frequent taking and sharing of selfies on social networking sites correlates with high levels of self-objectification and disordered eating. However, evidence also suggests that the sharing of selfies has the potential to be positive and empowering for users. One population that may experience the dual correlates of selfies is women in eating disorder recovery, who are undergoing social-cognitive shifts in thinking that could transform the function their selfies serve. This qualitative study examines the role of selfies in the recovery process of 15 women. Guided by objectification theory, we analyze of the roles of selfies posted on social media during the recovery process using a photo-elicitation method and semi-structured interviews. A thematic analysis of the interviews and a content analysis of the photographs revealed both helpful and harmful roles of selfies in recovery, with the harmful images containing more objectifying content and the helpful images containing more humanizing content. The findings highlight the importance of monitoring and selectively supporting selfie use in clinical settings and populations to encourage empowering rather than detrimental effects.

1. Introduction

Body dissatisfaction is the strongest and most consistent predictor of disordered eating and clinical eating disorders (EDs; Stice & Shaw, 2002). Common to all EDs are body dissatisfaction, weight concerns, over-evaluation of shape and weight, binge eating and emotional eating (though less common in anorexia), compensatory behaviors to counteract perceived possible weight gain, dietary restriction, and low weight status (though less common in binge eating disorder; Culbert, Racine, & Klump, 2015). Though the etiology and maintenance of clinical EDs are generally considered within a biopsychosocial framework, the social and cultural components of disordered eating are often relegated to the outskirts of treatment settings and goals (Holmes, 2016).

Eating disorders affect both men and women; however, women are disproportionately harmed by these diseases (Javaras & Hudson, 2017). As a result, feminist theories and methods have been successfully used to explain body dissatisfaction and disordered eating. Objectification theory is one feminist framework that suggests women's eating problems must be understood in relation to social and cultural constructed female ideals (Saukko, 2008). Objectification theory posits that sociocultural norms encourage the judgement of women based on appearance (Fredrickson & Roberts, 1997), and that women then internalize these norms, resulting in self-objectification. Self-objectification is defined as the tendency to view one's body from an observer's perspective, disregarding physical cues and sensations (Fredrickson & Roberts, 1997). Self-objectification is highly correlated with body dissatisfaction (Saunders & Eaton, 2018a) and has cascading mental and physical health consequences for women, including depression, sexual dysfunction, and clinical EDs (Tiggemann & Williams, 2012). Self-objectification is thought to be one of the largest contributors to ED etiology and maintenance in college-aged women (Dakanalis, Timko, Clerici, Riva, & Carrà, 2017), and ED recovery requires shifts in self-objectification levels. Fitzsimmons-Craft, Bardone-Cone, and Kelly (2011) found that women in full recovery from clinically significant EDs presented with average self-objectification scores similar to non-selected samples, whereas women with active EDs or in partial remission presented with self-objectification scores higher than the other groups.

In the U.S. and other Western cultures, one of the primary ways that appearance norms are disseminated is through media, including social

networking sites (SNS). Sexualizing media, particularly video games and online media, have a strong direct effect on the tendency to self-objectify (Karsay, Knoll, & Matthes, 2018). The recent growth of SNS usage brings increased opportunity to objectify both the self and others (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015), with time spent on image-based SNS positively linked to self-objectification (Slater & Tiggemann, 2015). Given the opportunities for appearance-related feedback inherent in sharing images of the self via SNS, researchers postulate that individuals with high levels of body dissatisfaction may engage with social media more than their peers, as a mechanism for attaining appearance-related attention and gratification (Perloff, 2014).

1.1. Selfies, disordered eating, and self-objectification

Although some scholars have argued that social media impacts body dissatisfaction and disordered eating through mechanisms in ways similar to other mass media sources (Williams & Ricciardelli, 2014), others argue that social media presents unique social interactional aspects that have an amplified effect on body dissatisfaction (Tiggemann, Hayden, Brown, & Veldhuis, 2018). Social networking sites (SNSs) also offer the opportunity to post one's content, including self-portraits or "selfies." A selfie is a self-portrait taken on a smartphone camera and posted to a SNS (Qiu, Lu, Yang, & Zhu, 2015).

Women typically post selfies on SNS with greater frequency than men (Sorokowska et al., 2016). Posting often follows gender-stereotypical patterns, with women sharing photographs featuring submissiveness and men highlighting muscle presentation (Döring, Reif, & Poeschl, 2016). Thus, it has been argued that selfies can reinforce gendered power dynamics by furthering negative stereotypes (Burns, 2015). Viewing and sharing these images, which are inherently focused on appearance, has been linked to higher self-objectification levels in adolescents (Zheng, Ni, & Luo, 2018), and greater body surveillance, body dissatisfaction, and disordered eating in adult women (Butkowski, Dixon, & Weeks, 2019; Cohen, Newton-John, & Slater 2017). The relations between selfie behavior and body dissatisfaction are likely bi-directional, with selfie sharing both preceding and resulting from appearance dissatisfaction (Veldhuis, Alleva, Bij de Vaate, Keijer, & Konijn, 2020). Likewise, the relation between SNS selfie behavior and self-objectification is bi-directional (Wang, Xie, Fardouly, Vartanian, & Lei, 2019). Frequently taking selfies that are not shared (i.e., offline selfies) is associated with greater ED symptom severity and is considered a form of body checking behavior (Yellowlees, Dingemans, Velhuis, & Bij de Vaate, 2019) through social comparison (Saunders & Eaton, 2018a). Moreover, viewing others' selfies is linked to decrements in self-esteem and life satisfaction (Wang, Yang, & Haigh, 2017). Some scholars go so far as to consider the act of posting images of oneself online to be a "corruption of the human spirit" (Ibrahim, 2017), and a technology-driven form of sexism (see Pham, 2015).

1.2. Empowering use of digital media

While the negative effects of selfie-taking and SNS use are well-documented, a growing body of literature highlights the positive and empowering aspects of these photographs. For example, Diefenbach and Christoforakos (2017) found that taking and sharing selfies resulted in improved affect for some subgroups of participants, such as those with a high tendency to promote their assets and those who score high on self-disclosure tendencies. In her analysis of young women's digital storytelling of their ED recovery process, Holmes (2017) highlighted how these groups shared selfies not to meet the cultural ideal of thinness, but instead to serve as both the creator and the object being created, helping them to better understand their own being.

Rather than an act of narcissism, selfie sharing can also be considered a politically-oppositional and appearance-oriented form of resistance (Murray, 2015), with the potential for empowerment under certain circumstances (Zhao & Zappavigna, 2018). Empowerment is defined as

the link between a belief that one is competent and the desire to use this competence to improve society (Segal, Silverman, & Temkin, 1995). Given this definition and its linkages to the self and the expressive medium of the selfie in public domains, it follows that selfie sharing, particularly on social media, may be empowering. For example, the self-reflective pattern of taking and sharing a selfie is thought to encourage women to practice exercising free speech and forming stronger interpersonal ties (Nemer & Freeman, 2015), and boosts digital media literacy (Choi & Behm-Morawitz, 2016). In qualitative one study supporting this hypothesis (Tiidenberg & Gomez Cruz, 2015), female participants reported producing selfies to be an agentic, sexual, and freeing process.

In terms of the relationship between selfies and well-being among those with EDs, a content analysis of ED-related images on Instagram revealed that some women use online communities to share selfies that enhance their recovery trajectory (Ging & Garvey, 2018). These findings challenge previously held views that social media and online ED communities are uniformly destructive. Similarly, some users of the SNS Tumblr actively share selfies to counteract fat shaming dialogues and images (Lupton, 2017). As empowerment has been identified as a key construct in reducing self-objectification and the resulting eating disturbance (Peterson, Grippo, & Tantleff-Dunn, 2008), the empowered use of selfies may accompany changes in self-objectification and eating patterns during ED recovery. This is likely to be reflected in the composition and cognitions behind the shared selfies. Prior research has found that the objectified processing of objects is ameliorated by providing humanizing context to the image of the body (Bernard, Gervais, Allen, Delmee, & Klein, 2015). The negative mental health consequences associated with objectification theory, including clinical EDs, are thought to be rooted in dehumanization along with their links to gender-based power imbalances (Fredrickson & Roberts, 1997). It is possible that women with clinical EDs process their selfies in a similar manner, and as levels of self-objectification change in during ED recovery (Fitzsimmons-Craft et al., 2011), so does their dehumanized view of the self.

1.3. Current study

Given the potential for selfies to have positive and negative effects (Webb, Vinoski, Bonar, Davies, & Etzel, 2017), the current study sought to qualitatively examine the role of selfies in young women's ED recovery process. Examining the use of selfies in ED recovery is important given the known differences in social-cognitive processes at various points in the recovery process (Bardone-Cone et al., 2010), and the emerging literature examining the role social media use has in the recovery process (LaMarre & Rice, 2016). No known study to date has primarily examined how women in ED recovery view and connect with photographs of themselves, and how those connections might affect the recovery process. To examine the subjective role of selfies in women's ED recovery process (Aim 1), we drew from the feminist participatory action research methodology of PhotoVoice (Wang & Burris, 1997). Photovoice, and participatory action research frameworks more generally, aim to center the research on the lived experience of the individuals directly impacted (Morrison & Lilford, 2001). The PhotoVoice method involves a group of participants, impacted by a common social issue, documenting their experience with this issue via photography (Wang & Burris, 1997). We selected this method to offer women a culturally-relevant lens through which to view their individual recovery process (McIntyre, 2003), while providing qualitative data to extract photographic content and meaningful themes to answer our research question. We were interested in recovering women because they experience many social-cognitive shifts during recovery, including decreases in self-objectification tendencies (Fitzsimmons-Craft et al., 2011). We anticipated finding individual differences in the ways in which viewing, taking, and posting selfies on SNS impacted women's overall recovery trajectory, with some self-portraits aiding in recovery and others making

the process more difficult.

Upon examining the subjective experience of taking and sharing selfies for our participants, we analyzed the actual content of the selfies participants provided via the PhotoVoice method. Specifically, we sought to identify differences between subjectively helpful and subjectively harmful selfies in composition and content (Aim 2). Guided by objectification theory, we sought to examine if there were differences between the helpful and harmful photographs in terms of objectifying structure. We hypothesized that helpful selfies would contain more elements that humanize the subject, whereas harmful selfies would be more objectifying in content, focusing on the body as an object for third-party consumption.

2. Method

2.1. Participants

The current data are part of a larger PhotoVoice qualitative data set on the experiences and perspectives of women in ED recovery, a portion of which has been previously analyzed for other research questions (Saunders, Eaton, & Frazier, 2019; Saunders and Eaton, 2018b). Of the 30 interviews conducted with women self-identifying as in ED recovery, half ($n = 15$) included one or more selfies previously shared on social media and accompanying narrative. A sample size of 15 is considered adequate for qualitative research, especially with relatively homogenous samples, such as selfie-sharing emerging adult women in ED recovery (Sandelowski, 1995).

Participants in this sub-sample did not significantly differ from the full sample in terms of ethnicity ($x^2 (1,30) = 0.48, p = .49$, Cramer's V = 0.13), diagnosis ($x^2 (4, 30) = 3.88, p = .42$, Cramer's V = 0.36), whether they had sought treatment ($x^2 (2) = 1.42, p = .49$, Cramer's V = 0.13) number of photos shared during the interview ($t (28) = -1.13, p = .27, d = 0.41$), current age ($t (28) = -0.83, p = .42, d = 0.30$), age at ED onset ($t (28) = -0.11, p = .91, d = 0.04$), time in recovery ($t (28) = 0.44, p = .66, d = 0.16$), and time to recovery ($t (28) = -0.76, p = .46, d = 0.27$). All inferential statistics reported above were non-significant with an alpha of .05.

This sub-sample included women residing in the northeastern U.S. ($n = 5$) and the southeastern U.S. ($n = 10$). Women in self-defined ED recovery between the ages of 18–35 were invited to participate ($M = 24.07, SD = 4.73$, sub-sample age range 18–32). All participants were U. S. citizens, and were born in the U.S. The sample was ethnically diverse, matching the areas in which the study was performed, with nearly half of the sample self-identifying as White Hispanic (46.67%) and one participant identifying as Black Hispanic (6.67%). Participant demographic information appears in Table 1 below.

2.2. Procedure

Participants for the study were recruited via multiple methods, including the distribution of paper flyers across the campus of a large, Southeast, Hispanic-serving public university; electronic advertisements on both Instagram and Facebook; and snowball sampling from contacts made through the prior two methods. Participants were introduced to the study goals and provided informed written consent for participation and analysis and dissemination of photographs to the larger scientific community. Next, participants were provided with the study prompt in writing (Authors, Omitted for Blind Review):

"Give us insight into your recovery world. What are the **social and cultural pressures** and expectations in your world that support **you in your recovery**, and what are those that are **challenging for you in your recovery**? What role does comparison to others play in making recovery more challenging? What types of comparisons serve to support your recovery process? **Please take photos of the things you encounter in your everyday life to answer these questions and help me to better understand your recovery process**".

Participants spent seven days taking and collecting photographs to self-reflect and provide an individualized and personalized response to the prompt. While participants were offered a disposable camera to document their reply, all participants opted to take and share photographs from their smartphone camera. The total number of photographs shared by each participant varied widely, from four to 28 ($M = 11.36, SD = 6.49$). After taking the photographs, participants each took part in individual, in-person semi-structured interviews with either the first ($n = 8$) or third author ($n = 7$). The first and second authors developed the interview protocol and jointly trained the third author. Participants chose to hold their interview in either a private office on a public university campus ($n = 9$) or a semi-private coffee shop ($n = 6$). The interviews ranged in length from 30 min to 1 h and 11 min ($M = 49$ min 35 s, $SD = 9$ min 42 s). Seventy percent of participants shared older photographs in conjunction with new photos they took for the project. All photographs included in the current analyses were shared on social media.

The semi-structured interview began with rapport building between the interviewer and participant, and the sharing of brief demographic and ED background information. Participants answered a standard set of questions about each photograph they brought (see Hergenrather, Rhodes, Cowan, Bardhoshi, & Pula, 2009). With participant consent, interviews were recorded for transcription. Participants selected a pseudonym to preserve anonymity upon dissemination of key findings. Participants received a \$25 e-gift card as compensation for their time. All procedures were approved by the university's Institutional Review Board.

Table 1
Demographic and ED characteristics of study participants.

Nickname	Age	Ethnicity	Race	Received Treatment	Age at Onset (yr)	Time in recovery (yr)	Diagnosis
Riley	21	Non-Hispanic	White	yes	16	1.2	AN
Steph	31	Non-Hispanic	White	yes	23	2	More than 1
Car	27	Non-Hispanic	White	yes	14	5	AN
Ber	32	Non-Hispanic	White	yes	10	1	More than 1
Jane	30	Non-Hispanic	White	no	13	0.25	OSFED
Gina	27	Non-Hispanic	White	yes	9	3	AN
Rachel	24	Non-Hispanic	White	yes	16	0.75	More than 1
Nina	21	Hispanic	White	yes	14	1.75	BN
Lola	20	Hispanic	White	no	15	1	AN
Katherine	18	Hispanic	White	no	14	0.75	AN
Kat	18	Hispanic	Black	yes	13	0.16	AN
Lily	25	Hispanic	White	yes	13	0.5	BED
Kelly	23	Hispanic	White	yes	14	1	AN
Ana	20	Hispanic	White	yes	20	0.16	OSFED

AN = Anorexia Nervosa, BN = Bulimia Nervosa, BED = Binge Eating Disorder, OSFED = Otherwise Specified Feeding and Eating Disorder.

2.3. Data transcription and analysis

A team comprised of the second author and five undergraduate research assistants transcribed the full set of 30 interviews. A random selection of six interviews (20%) were evaluated by an independent transcriber for accuracy. The primary goal of the overarching study was to examine the types, targets, and effects of social comparison for this population (Saunders and Eaton, 2018b). After viewing the photos the participants shared and conducting the semi-structured interviews, the authors noted the pervasive presence of selfies in the visual and interview data. Hence, common to data interpretation from PhotoVoice projects (Han & Oliffe, 2016), the data were re-examined using thematic analysis to extract patterns of meaning from the interviews (Braun & Clarke, 2006) regarding the potentially transformational role of selfies from self-objectifying to self-empowering. Upon establishing the pervasive themes within the data, the first author drew from existing literature on objectification and the visual processing of images of women (i.e., Bernard, Gervais, Allen, Delmee, & Klein, 2015) to develop a content analysis codebook.

2.3.1. Thematic analysis of transcribed interviews

The research team coded the interview data using an iterative approach. We coded 1080 complete comments. The first and second author met to identify the transcripts containing content relevant to selfie images. The second author then developed an initial codebook using a series of steps customary to qualitative research to reinforce reliability and consistency between coders (Strauss & Corbin, 1998). The first and third authors reviewed the 15 transcripts, and extracted participant commentary relevant to selfies across four categories: (1) the harmful role of selfies during the disorder, (2) the role of selfies in motivating recovery and its benefits, (3) willingness to be seen, (4) and increases in self-esteem and self-confidence. These domains were chosen given prior work on social media (Ging & Garvey, 2018) and social-cognitive changes that occur during recovery (Bardone-Cone et al., 2010), paired with the salient themes that appeared with frequency across the sub-sample. The first author and third author then coded a random 20% of the transcripts and met to discuss the codes and assess reliability ($\kappa = 0.82$, 95% CI [0.70, 0.94]). To assure continued reliability, both authors then coded the remaining 80% of the transcripts ($\kappa = 0.84$, 95% CI [0.71, 0.97]). The second author resolved any coding discrepancies between the other two coders. All quotations that follow in the results section were extracted from the semi-structured interviews during which participants spoke about their experiences depicted in the photographs.

2.3.2. Content analysis of photographs

Next, 23 self-portraits shared first on social media and then within the interview were grouped based on whether the participant, in her narrative, had categorized the photo as harmful to the recovery experience, making the process more challenging, or as helpful to the recovery process, either by motivating recovery, encouraging one to be seen, or supporting self-esteem and self-confidence. The first author created a coding scheme (per Neuendorf, 2017) to assess whether the images from each group predominantly featured objectifying or humanizing depictions of women. The coders rated whether or not the images emphasized the subject's face, personality, interactions or events (humanizing), as opposed to images that highlighted individual body parts, obscured participants' faces, or drew the eye to the body rather than the whole being (objectifying) on a binary scale (humanizing vs. objectifying). We statistically tested our hypotheses using binomial tests of relative frequency, comparing the number of photographs classified as objectifying or humanizing against a test value of .50. Two participants pre-edited their shared selfies for confidentiality purposes, removing their head and face from the image. These photographs were not included in the content analysis. The first and second author independently coded all 21 images and obtained reliability ($\kappa = 0.82$, 95% CI

[0.70, 0.94]). The two discrepancies in code were resolved by the third author.

3. Results

Of the 15 women who shared a selfie and accompanying narrative, 46.7% were in recovery from a restrictive ED, 14% were in recovery from a binge eating disorder, 21.4% were in recovery from multiple EDs, and 18.9% were in recovery from an otherwise specified feeding and eating disorder. Eleven of the 15 participants (73.3%) had sought medical or psychological treatment. On average, these participants developed an ED at age 14.5 ($SD = 3.57$), had been in recovery for a little bit more than a year ($M = 1.32$, $SD = 1.31$), and engaged in disordered eating behaviors for an average of 8.2 years ($SD = 5.87$). This information appears in Table 1 above. We did not collect information about specific treatment providers sought out by each participant, as such information was not germane to our research question.

3.1. Thematic analysis

In addressing Aim 1 of the current study, the narratives surrounding selfies fell into four distinct, complimentary categories: (1) the harmful or hindering role of selfies on ED recovery, (2) the health promoting role of selfies, (3) willingness to be seen during ED recovery, and (4) the role of self-confidence and self-esteem in both sharing selfies and maintaining recovery. The latter three themes highlight the ways in which selfies can serve to bolster women's recovery experiences. Each theme is discussed in detail below. Participants across the age spectrum and of all races and ethnicities contributed to each of the four themes.

3.1.1. Harmful or hindering role of selfies on ED recovery

The vast majority (82.5%) of the sample noted how selfies can serve to perpetuate and exacerbate disordered eating cycles. Participants noted a tendency to use selfies to make negative body comparisons when in the depths of their disorder ($n = 5$), wishing that the body portrayed in the image was smaller or better aligned with the bodies portrayed in mass and social media. According to Ber (age 32):

> …. I tend to use selfies and pictures as another form of comparison, which is dangling … teetering on a line of like slipping right back into everything, because you're comparing what you used to look like, and what you look like. This one in particular has the "pretty" filter on it, so I think a lot of times when you do this, you're comparing to some ideal of "that's how I want to look all of the time.

Others ($n = 4$) spoke of how viewing selfies from the time when they were ill was very challenging, and a behavior they needed to avoid in order to remain in a solid recovered state. In each of the instances when participants spoke of the detrimental role of selfies, they were applying a lens of objectification, focusing fully on the body's form rather than function, and comparing and objectifying both the self and other. For example, Ana (age 20), commented on one of her shared images:

> I got to the hotel, got super drunk, took that picture cause like, this girl did my hair all pretty and I'm like "oh let me take a selfie … I look so skinny!" and then I don't know. I was like out of it. And then I looked at that picture, the week, the, like the week after that all happened, and I'm like – and I still felt horrible about the whole weekend, about seeing all those girls and being so envious. And then I was like "damn, I'm skinnier than all these girls, but I still hate how I look." I still don't feel as good as them.

3.1.2. Health promoting role of selfies

Selfies also took on a transformational role in the recovery process of these women, and provided an empowering, resilient framework from which participants were able to view themselves upon ceasing ED behaviors. Five participants (33.3%) reported using selfies (both current and old) to support their trajectory toward health. These participants

approached their selfies from a social comparison perspective, recognizing the psychological and physical pain and illness that accompanied a lower body weight. Participants drew on these photographs as evidence of the relief and overall sense of well-being that health brings with it. According to Riley (age 21):

… what was I thinking? Like who was I trying to impress, like what does it even matter is what I think. And then like here (healthy selfie) I think look happier and like I'm over it and I don't what … I don't think anyone should think they need to look like that (sick selfie) … to I don't know, to feel powerful? I mean I know that eating disorders occur as a way to mask anxiety and depression, a way to cope with it, but there's other ways. In this one I feel like I wasn't even a person. I don't know. I didn't think that I found anything interesting or happy, I would like hide in my room or go to sleep. And to me like I said I don't know who that is because it's weird to look at. It's like … was that really me, like did I really do that to myself?" And then I guess here it's like I came to realize like that it doesn't matter and that I should just focus on being happy. So that's the difference … Like although I struggle, I think I'm a little overweight now, I'd rather just be happy and overweight than, like, sad and skinny.

In her narrative, Riley shares how her attention shifted from focusing on being thin and aiming to meet the unachievable societal standards of appearance, to concentrating on the mental and physical health benefits that follow countercultural movements towards health and self-acceptance. Lillian (age 25) touched on a similar experience with the research team, and shared a selfie as a form of ownership over her recovery process, rather than focusing on the physical body represented. She said:

Okay, uh, this is just a selfie (laughs) … So a lot of, like … I did, I did go see someone on campus, like a body empowerment program, and I'm not saying that the program wasn't great, like it gave me a lot of insight to things but, it really wasn't all on her (the therapist), you know, it was like definitely like an effort on my part too … So that's kind of what that picture represents, like, it was just my own self like … preservation … I like had to do a lot of [work] like my own, like yeah, I would go to therapy once a week but then I would … like the rest of the week what am I doing? You know, like I had to definitely, find the strength within myself, so a lot of self-love … I had to teach myself how to [love myself].

3.1.3. Willingness to be seen during ED recovery

Three of the fifteen participants (20%) shared a selfie with the research team as an explicit depiction of their willingness to be seen by others, regardless of perceived flaws. As shared by Jane (age 30), concerning a photograph she took following her now-husband's marriage proposal:

Yeah, it was a happy, ugly-cry, but like, my hair's a mess … and I leave them on Facebook, because that is what I looked like, and I get really frustrated with the false marketing on Facebook, where people only put up attractive pictures … like everybody looks so beautiful all of the time. And their families are beautiful! And their homes are beautiful! Blah blah blah blah blah. And I am over there in this picture looking like a lump. And like it's … but, I leave the lump pictures up, because I don't want people to look at my pictures and be like "look at how perfect and beautiful everything is over there."

Similarly, Ber (age 32) noted how, in the depths of her ED, she was not willing to have her picture taken, or to appear in photographs with her friends and family, largely because she could not tolerate positive commentary about her appearance. While sharing another selfie with the research team, she explained:

Again, another selfie. It was just when I was going out, so I actually felt decent. Which is very rare. Some days I just, not some days, just most of the time I don't feel like.. I don't know how to explain. Not take the effort, but … for me, because I never wear makeup or never really do anything, even just putting on a little bit of lip gloss and a little bit of mascara, that means a) I felt great doing it, but b) everyone is now going to look at me and notice that difference, and then comment, and I have to be able to handle that comment, and not spin it, and not get stressed out by it. So, with this one, I guess it is

more of a … (pause) being more comfortable knowing that people are going to be judging and saying things. Or knowing that it is "a drastic difference" for me. Ah, I don't know how to explain it. Yeah, I guess, it's not really being the center of attention, but every one of my friends would have said something to me that night if they saw me. It's not that much make-up. It literally was a flannel shirt with jeans, lip gloss, and a little bit of mascara.

Although she acknowledges that her perception of being the center of attention is a bit unrealistic, Ber has assumed a role during her recovery in which she allows others to see her, to notice her. This is a position she was completely uncomfortable with during adolescence and at the peak of her disorder.

3.1.4. Self-confidence/self-esteem

Each of the three participants in this category noted the self-esteem benefits of looking at pictures of themselves in recovery. All three women also noted how both the typical cultural and disordered response is to criticize perceived flaws and find aspects of the selfie to change. However, in recovery, women must develop a self-accepting stance toward ones' appearance, and participants in the current study spoke of how they have acted counter to their inner critic. According to Nina (age 21):

It's such a cute photo (chuckles) but I mean, I still see the photo and I see like I have a little bit of like a double chin … you know … kind of thing but … I notice that for a split second then it goes away because, I mean my highlights look, my hair looks good. So I started like blocking out the negatives with something positive that would look good in the photo.

3.2. Content analysis of selfie photos

Ten (47.7%) of the shared selfies were self-categorized as images participants found harmful to their recovery process. When the content of these images was analyzed, most of these images ($n = 9$, 90%) were objectifying. The objectifying selfies included images in which the phone blocked the subject's face, drawing the viewer's attention downward to the body ($n = 3$). The other images simply featured body parts disconnected from the rest of the subject's being ($n = 5$): a self-portrait of one's upper or lower thighs ($n = 2$), upper arm when bent into a muscle ($n = 1$), or midsection ($n = 2$). The one humanizing selfie that was participant-categorized as harmful to the recovery process was the image described in the harmful selfie example above (Ber, age 32). This one image was indistinguishable from the selfies included in the helpful to recovery grouping, and drew the viewer's eye to the participant's face and smile. The use of the "pretty" filter led the participant to categorize the image as recovery hindering. This picture notwithstanding, recovery hindering images were more objectifying than humanizing, supporting our hypothesis (95% CI for proportion [0.61, 1.00], $p = .01$). Examples of harmful and objectifying selfies appear in Fig. 1.

The remaining 11 photographs (52.3%) were considered recovery supportive selfies by the participants. The content analysis indicated that all 11 of these images contained humanizing, rather than objectifying, elements. These images situated the subject in a lived context: in her bedroom ($n = 3$), in the workplace or at school ($n = 3$), outside with a focus on nature ($n = 2$), socializing at a restaurant ($n = 1$), exercising on a treadmill ($n = 1$), or in the car ($n = 1$). None of these images were of a sole body part. Likewise, none of these images obscured the subject's face. Three of the 11 images featured just the subject's face and upper torso; the remaining eight included the entire person and emphasized her face and the surroundings over individual body parts. Our hypothesis was further supported by these humanizing images, as the binomial probability that a photograph would be classified as humanizing was significantly different from 0.50 (95% CI for proportion [0.76, 1.00], $p < .001$). Examples of recovery supportive and humanizing selfies appear in Fig. 2. Participants across the age spectrum and of all races and ethnicities shared photographs that were both objectifying and humanizing.

Fig. 1. Examples of images classified as harmful by participants and objectifying by the research team.
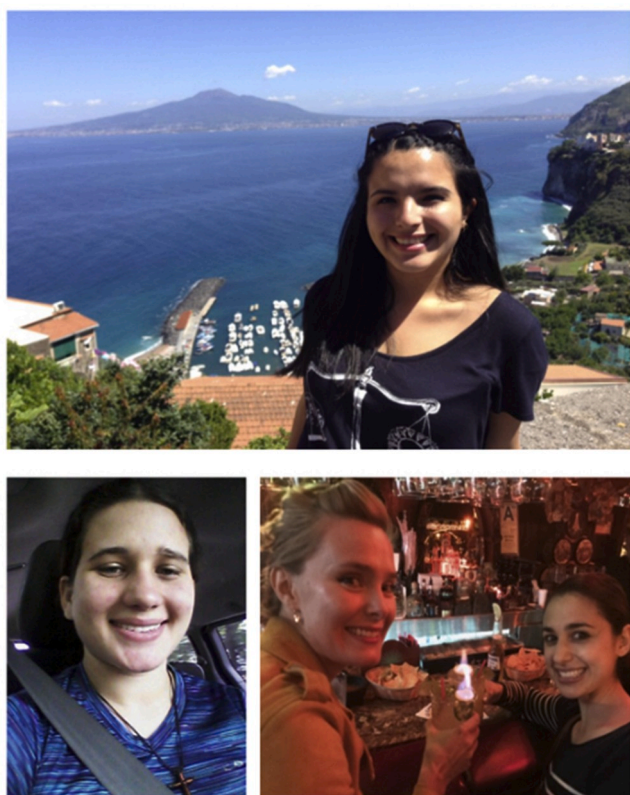

Fig. 2. Examples of images classified as helpful by participants and humanizing by the research team.

4. Discussion

Using the PhotoVoice method, the current study explored the role selfies play in young women's ED recovery journeys. The current data lend empirical support to the potentially transformational use of selfies in women's ED recovery. Without explicit prompting, half of the overall sample shared a selfie with the research team, and the narratives accompanying those self-images fell into one of four categories: (1) the harmful or hindering role of selfies on ED recovery, (2) the health promoting role of selfies, (3) willingness to be seen during ED recovery, and (4) the role of self-confidence and self-esteem in both sharing selfies and maintaining recovery. Overwhelmingly, the photographs participants identified as detrimental to their recovery contained objectifying content, whereas the photos that promoted health, a willingness to be seen, or a self-confidence and self-esteem boost contained predominantly humanizing features. The recovery process is often conceptualized as a journey to self, cultivated through self-care and self-discovery (Moulding, 2016), and as such, these results highlight the ways in which the selfie functions as a mechanism to share this journey with a global audience (Iqani & Schroeder, 2016), and depict oneself as a multi-dimensional human being on social media.

Just as the tendency to socially compare to others can both help and hinder recovery (Saunders and Eaton, 2018b), the act of taking and sharing a selfie emerged as a behavior that both supported and made recovery more challenging, depending upon the circumstance. The participants highlighted the potential for selfies shared on social media to exacerbate ED symptomology and to perpetuate the cycle of objectifying the self and other women (Strelan & Hargreaves, 2005) when viewed from a disordered and distorted lens. While visibly edited images minimize this effect (Vendemia & DeAndrea, 2018), taking selfies and viewing others' selfies on image-rich social media are empirically linked to higher levels of self-objectification (Feltman & Szymanski, 2018; Zheng et al., 2018). These behaviors are also associated with higher levels of disordered eating in non-selected samples (Cohen, Newton-John, & Slater, 2017). Thus, it follows that these interrelations do not dissipate immediately during periods of healthy eating for women in ED recovery.

Most ED cognitions and symptoms take time to resolve, despite the resumption of healthy eating (Bardone-Cone et al., 2010). Body dissatisfaction often lingers well into the recovery period and does not necessarily resolve with cessation of disordered behaviors (Bardone-Cone, Hunt, & Watson, 2018). Moreover, women in partial ED recovery (recovered behaviors and weight but still experiencing disordered cognitions; Bardone-Cone et al., 2010) demonstrate levels of body surveillance and body shame similar to those of individuals with active EDs, and only women in full ED recovery (recovered behaviors, weight, and cognitions) are indistinguishable from healthy control samples in these domains of objectified body consciousness, a close correlate to self-objectification (Fitzsimmons-Craft et al., 2011). While we did not categorize the extent to which participants were "in recovery," and allowed contributors to self-define as in recovery from an ED, it is

possible that the participants who continued to struggle with taking and sharing selfies fell into the partial recovery criteria and those who experienced a dramatic shift in their selfie experience would be categorized in full recovery, per Bardone-Cone and colleagues' (2010) criteria. We recommend future research gather quantitative data concerning ED recovery status in tandem with information about selfie engagement to further clarify this relation.

For women who spoke of the transformational selfie experience, this revolution boosted their recovery experience, and was marked by an increased willingness to be seen by others via SNS, paired with increased self-esteem and self-acceptance. Self-esteem deficits are a robust predictor of eating pathology (Smink et al., 2018), with self-esteem improving over the course of treatment and recovery (MacDonald, McFarlane, Dionne, David, & Olmstead, 2017). Given the connection among selfies shared on SNS and the concepts of authenticity and self-expression, it follows that selfies can be used to boost and maintain gains in self-esteem during the recovery process. This is consistent with previous work finding that women in recovery from chronic anorexia nervosa credit increased insight into their disorder, awareness of their needs for recovery, and connection to the community as key factors that promoted sustained recovery (Dawson, Rhodes, & Touyz, 2014). Future research should maximize these factors that promote sustained recovery by designing and implementing an intervention in which individuals in ED recovery are encouraged to engage with SNS in ways that foster insight, attention to one's needs, and connection to the community.

The reduction in self-objectification and move toward empowerment demonstrated in our analyses may serve to erode the beliefs that maintain the harmful cultural practice of sexual objectification and the pervasiveness of objectifying images on SNS. While the system of sexual objectification is harmful to people of all genders, women are more likely to report a willingness to disrupt the status quo and take collective action (Guizzo, Cadinu, Galdi, Maass, & Latrofa, 2017). Self-objectification serves to maintain the sexually-objectified lens society places on women (Calogero & Jost, 2011). In taking an empowered stance over one's appearance and body and the composition of the photographs they share, these women are moving towards disruption of the established patriarchal system of sexual objectification that subjugates the position of all women (Calogero & Tylka, 2014), a system that must be challenged for the betterment of society. Simultaneously, they are also moving to make social media platforms a space of growth and empowerment, limiting their potential negative consequences.

4.1. Limitations and future directions

Despite providing a foundational understanding of the shifting role the selfie has in young women's ED recovery trajectory while offering a unique method to redirect the self-objectifying gaze, the current study comes with limitations. First, although we found no significant differences in ethnicity, diagnosis, whether they had sought treatment, number of photos shared during the interview, current age, age at ED onset, time in recovery, and time to recovery between individuals who did and did not share a selfie with the research team, it is possible that these inferential analyses were underpowered and significant demographic differences between groups would emerge with a larger sample. Future research should more closely explore differences between women in ED recovery who do and do not take and share selfies. The current sub-sample, as with the larger sample this one was drawn from, demonstrated heterogeneity in both recovery progress and ED diagnoses. Though the decision to allow women to self-identify criteria for recovery aligns with the recent meta-synthesis of the literature (De Vos et al., 2017), collecting more in-depth data concerning behavior use, ED cognitions, and lapses and relapses would better highlight how progress in recovery relates to the shift in selfie usage. The repeated administration of the Eating Disorders Examination-Questionnaire (Fairburn & Beglin, 1994) alongside measures of selfie engagement would provide quantitative evidence relating ED-related behaviors and

cognitions to selfie usage. We also note that though participants provided pictures from a variety of time-points during their illness, the interviews about the photographs occurred at one time-point, limiting our ability to draw causal inferences or to comment on how selfie usage changes over time. Future research should take a closer lens to the individual differences and transformations in selfie usage seen in the current data set, to better understand when this change happens and under what conditions. A future mixed-methodological study could examine how the content in shared selfies changes over time, while quantitatively assessing related shifts in ED symptomology.

The current research has important therapeutic implications, as selfie taking and sharing is supportive of the recovery process, but not for all women in the current sample. Recent research efforts (i.e., Lindner & Tantleff-Dunn, 2017) have attempted to better quantify self-objectification, and future mixed-methodological research integrating quantitative measures of self-objectification during recovery would shed additional insight into the current findings and clarify the ways in which self-objectification tendencies shift over time. Finally, as ED recovery is a process not many women are willing to be transparent about, the women who shared their stories with the research team via photographs also share a self-selection bias (Braver & Bay, 1992).

5. Conclusion

Selfies have been viewed in recent empirical literature as both detrimental to mental health outcomes (Cohen et al., 2018), and as an empowering tool of self-expression (Nemer & Freeman, 2015) in non-clinical samples. The current study lends support to both of these views for women in ED recovery, highlighting how selfies can make the recovery process more challenging, and when viewed from a holistic, whole-person perspective, can serve as empowering agents of progress and change. While building a stronger and healthier relationship with food, exercise, and oneself, we found that women in ED recovery take and share selfies via social media as a way to bring a face to the struggle of recovery from a clinical ED. In doing so, these women's internal recovery labor and its social manifestations help to challenge the existing societal system of self- and sexual-objectification and to temper the potential negative consequences of social media.

Declaration of competing interest

The authors declare no conflict of interest.

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CRediT authorship contribution statement

Jessica F. Saunders: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Project administration, Writing - original draft, Writing - review & editing. **Asia A. Eaton:** Conceptualization, Methodology, Supervision, Formal analysis, Writing - original draft, Writing - review & editing. **Sabrina Aguilar:** Data curation, Formal analysis, Writing - original draft.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.chb.2020.106420.

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