Social Media and Body Image in Young Women: Examining the Positive and Negative Role of Appearance-focused Activities

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Declaration

CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Rachel Cohen, declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy (Clinical Psychology), in the Graduate School of Health at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research is supported by the Australian Government Research Training Program.

Signature: Production Note: Signature removed prior to publication. Date: 25/02/20

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Format of Thesis

This thesis is presented for examination as a thesis by compilation and comprises a combination of chapters and published works. The thesis includes a general introduction (Chapter 1) to establish context, review the relevant literature, and outline the aims of this thesis. This is followed by five distinct papers (Chapters 2-6) with the inclusion of a preamble to each chapter to establish the relationship between each paper. Each of the five papers presented in this thesis have already been published in peer-reviewed journals and incorporate their own introduction, methods, results, discussion, and references. Finally, the thesis concludes with a general discussion (Chapter 7), which synthesises the main findings, conclusions, and implications of this thesis as a whole, as well as the limitations and directions for future research.

Publication and Dissemination of Research Findings

The studies reported in this thesis have been published in peer-reviewed journals, presented at conference proceedings, and communicated to the public through various media channels as outlined below:

Peer-Reviewed Journal Articles

Cohen, R., Newton-John, T., & Slater, A. (2017). The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women. *Body Image*, *23*, 183-187. https://doi.org/10.1016/j.bodyim.2017.10.002

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Conference Presentations

Cohen, R., Newton-John, T., & Slater, A.'Selfie'-objectification: The role of selfies in self-objectification and disordered eating in young women. Poster session

presented at: Body Image & Related Disorders (BIRD) Conference; 3 November 2017; Melbourne, Aus.

Cohen, R., Fardouly, F., Newton-John., & Slater, A. Appearance-focused social media use and body image in young women: the role of body positive social media. Paper presented at: Appearance Matters 8 Conference; 12-14 June 2018; Bath, UK.

Research Dissemination in the Public Arena

Radio Interview with 2SER-FM, April 2017: https://2ser.com/social-media-body-image-dissatisfaction/

Article in Buzzfeed UK, October 2017: https://www.buzzfeed.com/kellyoakes/how-selfies-could-be-a-sign-that-someone-is-struggling-with

Article in Stuff.co.nz (Fairfax Digital), January 2018: https://www.stuff.co.nz/life-style/well-good/teach-me/99945975/think-that-selfie-is-real-think-again

Article in Buzzfeed Aus, August 2018: https://www.buzzfeed.com/elfyscott/heres-how-instagram-affects-our-psychology-according-to

Podcast Interview with Think: Digital Futures (2SER Radio), October 2018: https://player.whooshkaa.com/episode/?id=290815

Video Interview with Buzzfeed Aus, December 2018: https://youtu.be/i2QEylzTyqs

Article in The Conversation, March 2019: https://theconversation.com/women-can-build-positive-body-image-by-controlling-what-they-view-on-social-media-113041

Radio Interview with 2SER-FM, March, 2019: https://2ser.com/body-positivity-soars-on-instagram/

Article in Lorna Jane, March, 2019: https://www.movenourishbelieve.com/believe/the-psychological-social-media/

Article in the Daily Telegraph, April 2019:

https://www.dailytelegraph.com.au/lifestyle/hollywood-stars-ditching-fad-diets-and-loving-themselves-for-who-they-are/news-story/1f9bd52ef6c42e7ff20d920c73013555

Radio Interview with ABC Radio National, January 2020:

https://www.abc.net.au/radionational/programs/lifematters/challenging-body-shaming-attitudes/11889906

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Thesis Overview

Media has been identified as an important contributing factor to the development of body image concerns and disordered eating. Recent research demonstrates a relationship between time spent on social networking sites (SNS) and body image concerns. However, less is known about which aspects of SNS use are most relevant. This program of research used a mixed-methods approach to examine the specific aspects of SNS that are related to body image issues and disordered eating in young women, as well as to explore potential aspects of SNS that may promote positive body image.

Correlational studies (Papers 1 and 2) found that appearance-focused SNS use, rather than overall SNS use, was related to body image concerns in young women. Specifically, greater engagement in photo activities on Facebook, following appearance-focused accounts on Instagram (Paper 1), and greater investment in 'selfie' activities (Paper 2), were associated with body image concerns and eating disorder symptomatology. Moreover, self-objectification was found to moderate the relationship between photo investment and bulimia symptomatology (Paper 2).

In an experimental study (Paper 3), brief exposure to body positive posts on Instagram was associated with improvements in young women's positive body image, relative to thin-ideal and appearance-neutral posts. However, both thin-ideal and body-positive posts were associated with increased self-objectification relative to appearance-neutral posts. Furthermore, participants showed favourable attitudes towards body positive accounts with the majority being willing to follow them in the future.

A content analysis of popular body positive accounts on Instagram (Paper 4) found that body positive imagery typically depicted a broad range of body sizes and appearances. Additionally, while a proportion of posts were appearance-focused, the

majority of posts conveyed messages aligned with theoretical definitions of positive body image.

Finally, Paper 5 discussed the potential benefits and disadvantages of 'body positivity' on social media in light of pop-cultural criticism, positive body image theory, and the available research. A case was made in support of this emerging content, as well as recommendations for future research.

Overall, the findings of this thesis contribute to the existing body of research on the effects of social media on young women's body image by clarifying the role of specific aspects of SNS use that may be most harmful and beneficial in order to provide best practice guidelines and prevention efforts for social media users who may be at risk of body image issues. Similarly, the results provide further support for the application of sociocultural theory of body image disturbance, objectification theory, and positive body image theory to the social media environment.

CHAPTER 1: General Introduction

With high rates of body image concerns amongst young women (Grogan, 2016), and the associated eating disturbances (Stice, 2001), much of the extant literature is devoted to examining the factors that influence body image. An extensive research literature has established that traditional media depictions of an idealised and often unattainably thin body type, referred to as the 'thin-ideal', can have a negative effect on body image and eating disturbances (for meta-analyses see Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002). More recently, an emerging body of research has begun to investigate the relationship between social networking sites (SNS) and body image concerns (Holland & Tiggemann, 2016). However, the specific features of SNS use that might influence body image require further exploration and clarification. Moreover, no research to date has examined potential aspects of SNS use that may improve body image. Therefore, this thesis uses a mixed-methods approach to examine the role of specific aspects of SNS use, both on Facebook and Instagram, that are most relevant to body image concerns among young women, as well as aspects of SNS use that may promote positive body image. Young women are the focus of this thesis as body image issues and disordered eating are predominant amongst this demographic (Grogan, 2012), young women represent the largest users of SNS (Pew Research Center, 2018), and currently body positive accounts on Instagram are predominantly targeted at young women (Cohen, Irwin, Newton-John, & Slater, 2019b).

This general introduction chapter aims to provide a literature review and highlight relevant theoretical approaches. First, this chapter will outline the prevalence and impact of body dissatisfaction among young women and introduce the construct of positive body image. Next, this chapter will present research on the impact of traditional media on women's body image in light of sociocultural theory of body image

disturbance and objectification theory. This will be followed by a review of the current research on social media and body image concerns. Finally, gaps in the extant research will be identified and will provide the rationale for the current program of research. The chapter concludes with the main aims of this thesis.

Body Image

Body image is a multifaceted construct that refers to an individual's thoughts, feelings, and behaviours associated with their body and physical appearance (Cash, 2004). Body dissatisfaction refers to negative self-perceptions of one's physical body shape and weight (Stice & Shaw, 2002). Notably there are high rates of body dissatisfaction amongst young women in Western society, to such an extent that it is often referred to as 'normative discontent' (Tiggemann, 2011). In a recent survey of Australians, almost half of young women (18-30 years) reported being dissatisfied with their appearance (The Butterfly Research Institute, 2017). Body dissatisfaction has been consistently implicated in the aetiology and maintenance of eating disorders, obesity, low self-esteem, depression, unhealthy dieting, excessive exercise, and cosmetic surgery (The National Eating Disorders Collaboration, 2017). Given the prevalence of body dissatisfaction and its harmful implications, most research to date has focused on negative body image and its influencing factors (Cash & Smolak, 2011).

However, over the last decade, the body image literature has extended beyond a primary focus on body image disturbance towards a more comprehensive examination of the construct of positive body image (Halliwell, 2015). Positive body image has been defined as a distinct construct from negative body image and encompasses a love, respect, acceptance of, and appreciation for one's body (Tylka, 2011; Tylka & Wood-Barcalow, 2015b). Importantly, positive body image has been found to be associated with variables beyond body satisfaction, such as greater psychological wellbeing and

adaptive health behaviours (Andrew, Tiggemann, & Clark, 2016a; Swami, Tran, Stieger, & Voracek, 2015; See Preamble to chapter 4 for a more detailed account of positive body image). Accordingly, leading researchers in the field have argued that further research into positive body image may be crucial for prevention and treatment efforts aimed at improving body image (Tylka, 2011, 2012) and disordered eating (Cook-Cottone, 2015; Piran, 2015), by encouraging a focus on psychological and physical well-being in addition to preventing pathology.

Traditional Media and Body Image Concerns

The portrayal of female beauty in Western society is narrow, with media imagery depicting the ideal female body as extremely thin and, in more recent years, also fit and toned (Homan, McHugh, Wells, Watson, & King, 2012; Tiggemann & Zaccardo, 2015). Such societal ideals of appearance are not representative of the diverse range of body shapes and sizes that exist in the general population and are physically unattainable for most women. Sociocultural theories of body image disturbance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999) assert that the media portrayal of the thin-ideal play a key role in body dissatisfaction and, in turn, eating disturbance. According to the Tripartite Influence Model this detrimental process occurs through two main pathways: internalisation of the thin-ideal societal standards of attractiveness, and a tendency to make appearance comparisons (Thompson et al., 1999). According to this model, when women internalise the thin-ideal and compare themselves to women they perceive as more attractive than themselves, they are likely to become dissatisfied with their own appearance, which in turn may contribute to disordered eating behaviours (Kalpidou, Costin, & Morris, 2011; Thompson & Stice, 2001; Van den Berg, Thompson, Obremski-Brandon, & Coovert, 2002). In support of sociocultural theory, a systematic review of 77 experimental and correlational studies found that media

exposure contributed to increased body dissatisfaction (d = .28) and dysfunctional eating behaviours (d = .30) in women (Grabe et al., 2008), with appearance comparison found to mediate this relationship (Groesz et al., 2002; Keery et al., 2004; Rodgers et al., 2011; Shroff & Thompson, 2006; Van den Berg et al., 2002; Yamamiya, Shroff, & Thompson, 2008). A more recent meta-analysis focusing only on experimental studies found a smaller effect (d = .03) for the impact of brief media exposure on mood and body image (Hausenblas et al., 2013). The authors argued, however, that the cumulative effects of consistent exposure to thin-ideal images may be detrimental to body image (Hausenblas et al., 2013), though further longitudinal research is necessary.

Objectification theory (Fredrickson & Roberts, 1997) provides another framework through which to understand the relationship between the media and body image for women. According to objectification theory, sexual objectification occurs when the female body is considered as an object to be evaluated on the basis of appearance rather than competence. The sexual objectification of the female body has permeated our cultural milieu and is particularly evident in media imagery. Exposure to sexually objectifying media images socialise women to self-objectify, whereby women internalise an observer's view of their own bodies and engage in habitual body surveillance (Fredrickson & Roberts, 1997). Such psychological processes have been posited to promote body shame and anxiety, and ultimately contribute to women's risk for depression, sexual dysfunction, and eating disorders (Moradi & Huang, 2008). In support, correlational and experimental studies have shown that exposure to objectified media images is associated with increased self-objectification, appearance anxiety, body dissatisfaction and disordered eating in female undergraduate populations (Aubrey & Gerding, 2015; Harper & Tiggemann, 2008; Morry & Staska, 2001; Ward, Seabrook, Monago, & Reed, 2016). A recent met-analysis of 50 correlational and experimental

studies found a positive, small to moderate effect (r = .19) of sexualising media exposure on self-objectification (Karsay, Knoll, & Matthes, 2018). Moreover, longitudinal research has found that exposure to objectifying media predicts an increase in self-objectification in female college students two years later (Aubrey, 2006a, 2006b).

Social Media and Body Image Concerns

With the recent proliferation of social networking sites (SNS), research has begun to investigate the relationship between social media and body image outcomes. SNS, such as Facebook and Instagram, are Internet based sites that enable the rapid sharing of user-generated photos, videos and comments via personal profiles (Perloff, 2014). Facebook has over 2.4 billion users and Instagram has over 1 billion users (Facebook, 2019), with users sharing more than 95 million photos a day on Instagram alone (Pew Research Center, 2018). SNS like Facebook and Instagram are particularly popular with young women, with over 80% of women aged 18-29 years who are online using Facebook, and over 60% using Instagram (Pew Research Center, 2018). SNS have been described as a dominant way in which individuals form perceptions of social norms (Morris et al., 2011). Research shows that young women spend significantly more time viewing online appearance-orientated media than traditional media forms such as magazines and television (Bair, Kelly, Serdar, & Mazzeo, 2012).

As in traditional media, thin-ideal and objectifying content pervades SNS and may affect body image by reinforcing thin-ideal internalisation, self-objectification, and fostering appearance comparisons. Social comparison theory (Festinger, 1954) posits that people are more likely to compare themselves to similar others for self-evaluative purposes. Since SNS are predominantly peer generated, they provide ample opportunity for appearance comparisons with similar others (Fardouly & Vartanian, 2015). A

content analysis of *thinspiration* (an amalgamation of the words 'thin' and 'inspiration') on popular photo-sharing SNS found that images tended to be sexually objectifying with a focus on ultra-thin women (Ghaznavi & Taylor, 2015). Moreover, the analysis of text accompanying such images revealed users' tendency to compare their bodies to the thin-ideal images evidenced by expressions of admiration of the thin bodies depicted, desire for perfection and disgust with fat, weight gain or the user's own body (Ghaznavi & Taylor, 2015). Similarly, a recent content analysis of *fitspiration* (an amalgamation of the words 'fitness' and 'inspiration') on Instagram found that the majority of images only depicted one body type: thin and toned (Tiggemann & Zaccardo, 2016), and viewing such images has been found to increase body dissatisfaction in young women via appearance comparisons (Tiggemann & Zaccardo, 2015). Taken together, these preliminary findings support the application of sociocultural and objectification theory to the social media environment by highlighting the roles of objectifying content, thin-ideal internalisation, and appearance comparisons in the relationship between SNS usage and body image.

To date, numerous cross-sectional studies have found a significant relationship between overall time spent on SNS (measured as hours per day or frequency of visits) and body image and eating concerns (de Vries, Peter, de Graaf, & Nikken, 2016; de Vries, Peter, Nikken, & de Graaf, 2014; Fardouly & Vartanian, 2015; Mabe, Forney, & Keel, 2014; Sidani, Shensa, Hoffman, Hanmer, & Primack, 2016; Tiggemann & Slater, 2013; Vandenbosch & Eggermont, 2012). Furthermore, preliminary longitudinal research suggests that SNS use is temporally antecedent to body dissatisfaction (de Vries et al., 2016; de Vries et al., 2014). However, there is a lack of research into the specific components of SNS use that are driving such effects, and findings from experimental studies have been inconclusive. In two experimental studies to date,

participants were randomly assigned to browse their Facebook accounts or alternate websites for 10-20 minutes (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015b; Mabe et al., 2014). Both studies found that brief exposure to Facebook did *not* impact young women's body image. One explanation for these findings could be the deficiant exposure time used (10-20 minutes), which may not have been enough time to capture the effects of real world Facebook use among young women (around 2 hours per day; Fardouly et al., 2015b; Mabe et al., 2014). Moreover, these studies simply instructed participants to browse Facebook for 10-20 minutes without specifying or monitoring the specific elements of Facebook that participants engaged with during that time. The content and images of participants' newsfeeds may vary widely as would their engagement in different Facebook activities (Fardouly et al., 2015b). Accordingly, some participants may have engaged in photo activities whilst others may have read news articles in the newsfeed, thus having divergent effects on appearance-related outcomes. Future research into specific SNS activities rather than general usage may help clarify the relevant effects of SNS use on body image and eating disorder outcomes.

Appearance-focused SNS Activities

Research into the effects of traditional media on body image found that exposure to specific appearance-focused television and magazine genres predicted body dissatisfaction, rather than overall media consumption (Levine & Murnen, 2009; Tiggemann, 2005). Similarly, it may be hypothesised that it is not overall SNS usage that is related to negative body image outcomes, but rather specific appearance-focused SNS use. Moreover, unlike traditional media formats, SNS provide users with opportunities to both consume and create appearance-focused content. This function is amplified by smartphones, which provide SNS users with continuous access to content-creating, viewing, and editing (Duggan & Brenner, 2013). Numerous studies have found

that SNS users selectively post content and even digitally alter images in order to project an idealised version of themselves based on perceived social norms (Chua & Chang, 2016; Haferkamp, Eimler, Papadakis, & Kruck, 2012; Haferkamp & Kramer, 2011; Kim, Lee, Sung, & Choi, 2016; Rodgers, Melioli, Laconi, Bui, & Chabrol, 2013; Stefanone, Lackaff, & Rosen, 2011). These unique SNS features have been argued to afford users exponentially more opportunities to internalise the thin-ideal, self-objectify, and engage in appearance comparisons than traditional media (Perloff, 2014).

Specifically, the 'selfie' is a unique SNS practice that may be socialising users to self-objectify. The selfie is defined in the Oxford Dictionary (2014) as a photo that an individual takes of herself, typically with a smartphone and shared via SNS. More than one million selfies are posted on SNS each day (Šuk, 2014). It may be argued that SNS selfie activities directly involve body surveillance (the behavioural manifestation of self-objectification), whereby users can literally and figuratively zoom in, scrutinize, and alter disliked body parts. For example, the "RetouchMe: body and face" application, which has over one million users, enables users to edit their selfies before posting on SNS with key features including "breast augmentation", "waist slimming", "hips correction" and "legs lengthening" (iTunes, 2016). Research shows that Instagram photos containing people's faces are 38% more likely to get 'likes' and 32% more likely to get comments than photos without faces (Bakhshi, Shamma, & Gilbert, 2014). Such 'likes' and comments have been found to be highly reinforcing and are used by teenage girls as a source of feedback about their own self-worth and value (Chua & Chang, 2016). An experimental study found that young Dutch women who were primed with sexually objectifying content and told that their self-portrayals would be visible to others were subsequently more likely to self-objectify when creating their own profiles (de Vries & Peter, 2013). Thus, through SNS photo activities like selfies, women are

not only viewing objectified images of others online, but are also positioned to scrutinise images of themselves in the context of peer evaluation through comments and 'likes'.

Accordingly, preliminary research has begun to investigate specific components of SNS use related to body image such as appearance-focused activities. Meier and Gray (2014) found that engagement in photo-based activities (e.g., posting and viewing photos), rather than overall time on Facebook, was correlated with body image outcomes in adolescent girls (Meier & Gray, 2014). Similarly, McLean, Paxton, Wertheim, and Masters (2015) found that, amongst 101 13 year-old girls, those who regularly shared selfies on SNS reported higher over-evaluation of shape and weight, body dissatisfaction, dietary restraint, and thin-ideal internalization, compared to those who did not regularly post selfies. These preliminary studies highlight the role of SNS photo-based activities in the maintenance of body image and eating concerns in adolescent populations (McLean et al., 2015; Meier & Gray, 2014).

Gaps in Knowledge

There are several gaps in the literature regarding the relationship between social media use and young women's body image. First, to date SNS usage has been considered as homogeneous and most studies have measured overall SNS use in general, typically with one item measuring amount of time spent using SNS. Since SNS usage is in fact heterogeneous, and involves both active engagement and passive consumption, assessing overall usage time may mask important effects. Future research requires a nuanced approach to measuring SNS usage, particularly appearance-focused activities, in order to provide important insight into body image effects.

Second, in Prieler and Choi (2014)'s suggestions aimed to broaden the scope of body image research in relation to social media effects, they commented that most of

the research to date has focused on adolescent populations and proposed that future research investigate age groups other than adolescents. Social media usage statistics show that young adults (ages 18-29 years) are the highest users of social media, especially young women (Pew Research Center, 2018). Accordingly, research into specific SNS uses among young women is an important focus for future research into the relationship between social media use and body image.

Third, most research to date has examined Facebook with very little research into newer SNS platforms. A recent systematic review of the impact of SNS use on body image and disordered eating outcomes (Holland & Tiggemann, 2016) identified that one methodological limitation in the research to date is that majority of studies have solely investigated Facebook. Instagram would be of particular interest because it is purely a photo-based SNS, dedicated to the posting and sharing of photos, and has becoming increasingly popular among young women (Holland & Tiggemann, 2016). Instagram also provides an in-built application offering various digital alterations to enhance the appearance of photos. Instagram users can follow, and therefore view, 'like', and comment on photos of peers as well as other people they may not know personally such as celebrities or fitness 'experts' (Lup, Trub, & Rosenthal, 2015). Such interactive factors likely increase the opportunity for self-objectification, appearance comparisons, and thin-ideal internalization and warrant future research.

Finally, no research to date has examined potential ways to use SNS to improve body image. Arguably, the purpose of research into sociocultural influences of body image is to not only better understand, but ultimately to target, such influences on body image concerns. Whilst social media may present new avenues to promote and reinforce body image disturbances, they may also present new methods of positive intervention (Perloff, 2014). There is a growing body of research that shows that developing a

positive body image may be a protective factor against thin-ideal media influences (Andrew, Tiggemann, & Clark, 2015; Halliwell, 2013).[1] Similarly, there is an emerging trend of 'body positivity' on social media which purports to promote positive body image. Research is needed to better understand this type of content and how exposure to 'body positivity' on social media may impact body image compared to the more dominant appearance-ideal content. Accordingly, research into possible positive influences of social media on body image may be fruitful.

Aims of the Present Thesis

The program of research reported in this thesis uses a mixed-methods approach to address some of the gaps in the literature outlined above. Paper 1 describes a cross-sectional study which aimed to identify the specific Facebook features and type of Instagram accounts that are most relevant to body image concerns in young women. Paper 2 examines the relationship between specific selfie activities and body image and eating concerns in young women, as well as the moderating role of self-objectification. Paper 3 uses an experimental design to investigate the impact of viewing body positive Instagram posts on young women's body image and mood, compared to thin-ideal and appearance neutral posts. Paper 4 consists of a content analysis of physical appearance-related characteristics and key themes featured in body positive content on Instagram. Paper 5 provides a commentary on the potential benefits and disadvantages of 'body positivity' on social media in light of public discourse, positive body image theory, and current empirical evidence.

Together, these studies aim to provide a comprehensive investigation of the relationship between appearance-focused social media use and young women's body

[1] The literature on positive body image will be introduced in greater detail in the Preamble to Chapter 4, preceding Papers 3, 4, and 5.

image by identifying specific SNS activities that may be contributing to negative body image, as well as possible avenues for social media to promote positive body image among young women. As discussed previously, unlike traditional media formats, SNS users have agency in terms of what they consume and create online. Accordingly, it is intended that the findings from this body of research generate practical guidelines for SNS users, particularly those susceptible to body image issues, to use social media in a way that protects them from adverse body image outcomes and enables them to cultivate a more positive body image.

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CHAPTER 2: Paper 1 – The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women

Preamble to Chapter 2

As an initial step in this body of work, Paper 1 sets out to explore the relationship between specific types of social media use and body image concerns in young women. As most research to date has measured overall time spent on social media with mixed findings relating to body image, this paper is particularly interested in looking at the role of appearance-focused activities. Facebook and Instagram are examined as these are the most popular social networking sites amongst the demographic of interest and involve unique photo-based features.

The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women

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Abstract

The present study aimed to identify the specific social networking sites (SNS) features that relate to body image concerns in young women. A total of 259 women aged 18-29 years completed questionnaire measures of SNS use (*Facebook* and *Instagram*) and body image concerns. It was found that appearance-focused SNS use, rather than overall SNS use, was related to body image concerns in young women. Specifically, greater engagement in photo activities on *Facebook*, but not general *Facebook* use, was associated with greater thin-ideal internalisation and body surveillance. Similarly, following appearance-focused accounts on *Instagram* was associated with thin-ideal internalisation, body surveillance, and drive for thinness, whereas following appearance-neutral accounts was not associated with any body image outcomes. Implications for future SNS research, as well as for body image and disordered eating interventions for young women, are discussed.

Keywords: body image; social media; social networking sites; eating disorders; self-objectification

Introduction

In line with the sociocultural theory of body image disturbance (Thompson et al., 1999), research has consistently found that exposure to media depictions of the thin-ideal in television and magazine images leads to thin-ideal internalisation and appearance comparisons, resulting in body image concerns and eating disturbances in women (Grabe et al., 2008; Groesz et al., 2002). Similarly, objectification theory (Fredrickson & Roberts, 1997) suggests that the media's sexual objectification of women socialises women to self-objectify. Body surveillance, the behavioural manifestation of self-objectification, involves continuous self-monitoring of the body's appearance (McKinley & Hyde, 1996) and is a risk factor for eating disorders (Moradi & Huang, 2008). More recently, research has examined the role of social media and social networking sites (SNS) in body image concerns. A unique combination of factors including peer interactions, popularity of photo sharing, and the accessibility of mobile technology compounds the likelihood for SNS users to internalise the thin-ideal, self-objectify, and engage in appearance comparisons with peers. In support, a systematic review of research to date demonstrated a relationship between general SNS use and body image and disordered eating (Holland & Tiggemann, 2016). However, the studies reviewed by Holland and Tiggemann (2016) used broad measures of SNS use (such as total time spent on SNS and frequency of SNS use) and the majority of studies in this review investigated *Facebook* use only, with no studies investigating *Instagram.*

It has been argued that since SNS use is not homogenous, a more nuanced approach to measurement of SNS use is required (Smock, Ellison, Lampe, & Wohn, 2011). For example, *Facebook* use may involve a diverse array of activities including posting photographs, privately messaging friends, reading newsfeeds, and observing and interacting with friends' posts and updates. It is conceivable that time spent on

Facebook predominantly viewing attractive photographs of friends may lead to greater appearance comparison and thin-ideal internalisation, and thus have a greater impact on body satisfaction compared to time spent on *Facebook* reading the news or current affairs. Similarly, on *Instagram*, users following predominantly appearance-focused accounts (e.g., models and fitness bloggers) may be more preoccupied with their own appearance compared to users following appearance-neutral accounts (e.g., travel).

Previous research found that exposure to appearance-focused traditional media, rather than overall media consumption, predicted body dissatisfaction (Levine & Murnen, 2009; Tiggemann, 2005). Similarly, research into specific components of SNS use related to body image may be more informative than simply measuring total time spent on SNS. In support, Meier and Gray (2014) measured and examined the relationship between specific *Facebook* features and body image outcomes in in a sample of 103 adolescent females. Participants reported their total *Facebook* use, specific *Facebook* feature use, and completed measures of weight dissatisfaction, drive for thinness, thin-ideal internalisation, appearance comparison, and self-objectification (Meier & Gray, 2014). It was found that engagement in photo-based activities on *Facebook* (such as posting and viewing photographs), but not overall time on *Facebook*, was correlated with body image outcomes (Meier & Gray, 2014). Similarly, a correlational study of 101 adolescent girls showed that girls who regularly shared selfies on SNS reported greater thin-ideal internalisation, body dissatisfaction, over-evaluation of shape and weight, and dietary restraint, compared to those who did not regularly post selfies (McLean et al., 2015).

Young adults (ages 18-29 years) are the highest users of SNS (Perrin, 2015) and therefore an exploration of appearance-focused activities on SNS would help clarify the relationship between SNS use and body image in this demographic (Perloff, 2014).

Moreover, given the increasing popularity of *Instagram* amongst young women, and that *Instagram* is purely a photo-based SNS with users sharing more than 80 million photos a day (Instagram, 2016), more research into the relationship between *Instagram* and body image is warranted. To date, most studies have focused solely on *Facebook* and, to the best of the authors' knowledge, no study has explored both *Instagram* and *Facebook* use together in their relationship with body image.

Thus, the present study seeks to extend upon Meier and Gray's (2014) preliminary findings by identifying the specific *Facebook* and *Instagram* features that relate to body image concerns in a population of young women (age 18-29 years). It was hypothesized that *Facebook* "appearance exposure" (e.g., viewing friends' photos), but not total time spent on SNS, would correlate positively with body image concerns; conceptualised here as appearance evaluation, thin-ideal internalisation, appearance comparison, body surveillance, and drive for thinness. Similarly, it was hypothesised that following appearance-focused *Instagram* accounts (e.g., 'health and fitness', and 'celebrities') will positively correlate with body image concerns, whereas following appearance-neutral accounts (e.g., travel) will not be related to body image concerns.

Method

Participants

Participants were 259 Australian women aged 18-29 years (M = 22.97, SD = 3.25) with an average reported body mass index (BMI) of 22.45 (SD = 3.89), which is within the normal weight range (WHO, 2006). Participants were recruited via various social media outlets promoting the study (e.g., University's *Facebook* page). Participation was voluntary. Sixty-eight percent of participants were currently students and 61% had completed at least an undergraduate degree. The majority of participants (77.5%) identified as Caucasian, with others reporting to be Asian (15.1%), Middle

Eastern (2.7%), African (0.8%), Aboriginal/Torres Strait Islander (0.8%) and other (3.1%).

Measures

Demographics. Participants reported age, gender, ethnicity, level of education, height, and weight. BMI (kg/m^2) was calculated using height and weight data.

Social networking site use. Preliminary yes/no items asked if participants had a *Facebook* and/or *Instagram* account. Participants indicated the amount of times they access/check their respective accounts daily on a 7-point scale: *hardly ever, 1 or 2 times, 3-5 times, 5-10 times, 11-15 times, 15-20 times, more times than I can count.* Participants also indicated the average amount of time they spent on SNS (*Facebook* and *Instagram*) a day on a 12-point scale: *0-15 minutes, 15-30 minutes, 1-2 hours, 2-3 hours, 3-4 hours, 4-5 hours, 5-6 hours, 6-7 hours, 7-8 hours, 8-9 hours, 9-10 hours, 10 or more hours*.

The Facebook Questionnaire (FBQ; Meier & Gray, 2014) was used to assess total *Facebook* use and *Facebook* appearance exposure. Participants were asked to indicate their frequency of engagement with 23 individual *Facebook* activities on a 5-point scale (1 = *almost never*, 5 = *nearly every time I log on*). Whilst the original questionnaire consisted of 24 items, pilot testing revealed that "write a *Facebook* note" is no longer available as a *Facebook* activity, so was deleted. Individual item responses were summed to calculate the total FBQ score. Eight of the activity items that were photo-based activities (e.g., "update your profile photo" and "view friends' photos of themselves") comprised the photo subscale (PS). Frequency scores for these items were summed and divided by the overall FBQ score to comprise the appearance exposure score (AES; range = 0-1.0). For this study alpha was .86 for the total FBQ and .71 for the PS. Participants were also asked how often they follow three categories of

Instagram accounts: (1) 'Health and Fitness' (e.g., fitness bloggers, diet plans); (2) Celebrities (e.g., models, the Kardashians); and (3) Travel. Responses were recorded on a 5-point scale (1 = *never*, 5 = *very often*). Travel accounts were included as an appearance-neutral category to compare with the two-aforementioned appearance-focused categories of Instagram accounts.

Thin-ideal internalization. The Internalisation-General subscale of the Sociocultural Attitudes Toward Appearance Questionnaire–Version 3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004), was used to measure thin-ideal internalisation. Participants rate the extent to which they agree with nine statements (e.g. "I wish I looked like the models in music videos") on a 5-point scale (1 = *definitely disagree*, 5 = *definitely agree*). This scale has demonstrated excellent psychometric characteristics amongst non-clinical female college students (Thompson et al., 2004); in the present study alpha was .93.

Appearance comparison. The five-item Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff-Dunn, 1991) was used to measure appearance comparison tendencies. Participants indicate on a 5-point scale (1 = *never*, 5 = *always*) how often they engage in appearance comparisons in social situations (e.g. "In social situations, I sometimes compare my figure to the figures of other people"). The scale has shown satisfactory construct validity and internal consistency in a sample of college women (Thompson et al., 1991); in the present study alpha was .73.

Appearance Evaluation. The Appearance Evaluation (AE) subscale of the Multidimensional Body-Self Relations Questionnaire-Appearance Scales (MBSRQ; Cash, 2000) was used to measure appearance satisfaction. Participants rate the extent to which they agree with seven statements (e.g. "Most people would consider me good-looking") on a 5-point scale (1 = *definitely disagree*, 5 = *definitely agree*) with lower

scores indicating lower appearance satisfaction. The scale has shown good internal consistancy in a female undergraduate sample (Ata, Thompson, & Small, 2013); in the present study alpha was .90.

Body surveillance. The Body Surveillance Subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) was used to measure body surveillance (the behavioural manifestation of self-objectification). Participants rate the extent to which they agree with eight statements (e.g., "During the day, I think about how I look many times") on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). McKinley and Hyde (1996) showed good construct and discriminant validity in their undergraduate female sample; in the present study alpha was .83.

Drive for thinness. The Drive for Thinness Subscale of the Eating Disorder Inventory-3 (EDI-3; Garner, 2004) was used to measure disordered eating symptomatology. Participants rate seven statements (e.g., "I think about dieting") on a 6-point scale (1 = *never,* 6 = *always*). This subscale showed good reliability and validity in a non-clinical sample of women aged 18-30 years (Clausen, Rosenvinge, Friborg, & Rokkedal, 2011); in the present study alpha was .89.

Procedure

Following approval by the University's Ethics Committee (UTS HREC REF NO. 2015000482-26), participants accessed a participant information statement, consent form, and questionnaires online using Qualtrics software. After providing informed consent, participants completed the demographic items, followed by the SNS questions, and finally the body image measures. The survey took approximately 10-15 minutes to complete.

Results

SNS Use

Almost all participants had a *Facebook* account (99.2%, $n = 257$), and 90.3% ($n = 234$) of participants checked their *Facebook* account at least 3-5 times per day. Most participants (81.5%, $n = 211$) had an *Instagram* account with over half (57.5%) of participants checking Instagram at least 3-5 times a day. Almost one quarter of participants (24.0%) reported using SNS for 3 or more hours a day. Appearance exposure scores in this sample ($M = 0.39$, $SD = 0.04$) were similar to scores in Meier and Gray's (2014) adolescent sample ($M = 0.40$, $SD = 0.05$) indicating similar engagement in appearance-focused *Facebook* activity between adolescent girls and young women. Relationships between SNS use variables were as expected; for example, *Facebook* checking, *Instagram* checking, and overall usage of both forms of SNS were significantly positively correlated (see Supplementary Table 1 linked online to this article).[2]

Relationship between *Facebook* Use and Body Image Concerns

Means and standard deviations for all variables are displayed in Table 1. Missing data (ranging from <1% on various subscales to 5% on the body surveillance subscale) were handled with pairwise deletion. Pearson correlations were run on all main variables, controlling for BMI (see Table 2). Because multiple correlations were conducted, a more conservative significance threshold of $p < .01$ was set to minimise type 1 error rate. Controlling for BMI, *Facebook* appearance exposure, but not total SNS use, was significantly positively correlated with thin-ideal internalisation ($r = .23$, $p < .01$) and body surveillance ($r = .24$, $p < .01$).

[2] See Appendix A for Supplementary Table 1.

Table 1.

Scores ranges, means (M), and standard deviations (SD) for BMI, SNS variables, and body image variables

	Possible Range	*M* (population norms)	*SD*
BMI	-	22.45	3.89
SNS Variables:			
Time Spent on Social Media	1-12[a]	3.81	1.44
Facebook Appearance Exposure[b]	0-1	0.39	0.04
Instagram – follow health and fitness accounts	1-5	2.69	1.40
Instagram – follow celebrity accounts	1-5	2.25	1.25
Instagram – follow travel accounts	1-5	2.61	1.32
Body Image Variables:			
Thin-ideal Internalisation	5-45	26.37 (23.76)	8.77
Appearance Comparison	5-25	14.56 (16.68)	3.54
Appearance Evaluation	1-5	3.21 (3.36)	0.87
Body Surveillance	1-8	4.47 (4.22)	1.00
Drive for Thinness	0-32	9.01 (7.24)	8.14

Notes. [a] 1= 0-15 mins, 12 = 10 hours or more. [b] Facebook Appearance Exposure represents participants' photo-based activity relative to their overall Facebook activity.

Table 2.

Partial correlation coefficients for social media use, Facebook appearance exposure, Instagram accounts, and body image variables, controlling for BMI.

	Thin Ideal Internalisation	Appearance Comparison	Appearance Evaluation	Body Surveillance	Drive for Thinness
Time spent on Social Media	-.11	.00	.07	-.09	-.13
Facebook Appearance Exposure	.23**	.09	-.02	.24**	.13
Instagram – 'Health and Fitness' Accounts	.18*	.16	.01	.15	.30**
Instagram - Celebrity Accounts	.22**	.12	-.11	.18*	.11
Instagram - Travel Accounts	.12	.07	.04	.09	.13

*$p < .01$, **$p < .001$

Body Image Concerns in *Instagram* Users and non-*Instagram* Users

Independent samples *t* tests were conducted to compare body image variables in *Instagram* users and non-*Instagram* users. Participants who reported having no *Instagram* account ($n = 48$) or checking *Instagram* "hardly ever" ($n = 33$) were combined to make up the 'non-*Instagram* users group' ($n = 81$). Participants who reported checking *Instagram* at least "1 or 2" times per day made up the '*Instagram* users' group ($n = 178$). There was a significant difference between *Instagram* users ($M = 4.56$, $SD = 1.00$) and non-users ($M = 4.26$, $SD = 0.98$) for body surveillance $t(243) = -2.18$, $p = 0.03$, $d = .30$. There were no significant differences between *Instagram* users and non-users on any of the other body image variables (*p*s range between .32-.55).

Relationship between Body Image Concerns and *Instagram* Accounts

Controlling for BMI, following 'health and fitness' accounts was significantly positively correlated with thin-ideal internalisation ($r = .18$, $p = .007$) and drive for thinness ($r = .30$, $p < .001$). Following celebrity accounts was significantly positively correlated with thin-ideal internalisation ($r = .22$, $p < .001$) and body surveillance ($r = .18$, $p = .009$). By contrast, following travel accounts did not significantly correlate with any of the body image variables.

Discussion

The current study used sociocultural theory of body image disturbance (Thompson et al., 1999) and objectification theory (Fredrickson & Roberts, 1997) to expand the current literature on social media and body image by identifying the specific SNS features that relate to body image concerns in a sample of young adult women. Consistent with our hypothesis, total time on SNS was not related to body image outcomes, but rather greater engagement in photo activities on *Facebook* was associated with greater thin-ideal internalisation and body surveillance. Similarly, following

appearance-focused accounts on *Instagram* (‘celebrities’) was associated with both thin-ideal internalisation and body surveillance, and the following of ‘health and fitness’ accounts also demonstrated a relationship with thin-ideal internalisation as well as increased drive for thinness. Following appearance-neutral accounts (‘travel’) was not associated with any of the body image variables. These results support and extend Meier and Gray’s (2014) findings with adolescent girls, by demonstrating that appearance-focused SNS use (on both *Facebook* and *Instagram*), rather than overall SNS use, may be more relevant to body image concerns in young women. The findings highlight that measuring overall time may mask important effects and stress the importance of a nuanced approach to ongoing SNS research.

Of interest, appearance-focused SNS use correlated with some body image measures but not others. This pattern of results is consistent with comparable studies (e.g., McLean et al., 2015; Meier & Gray, 2014; Tiggemann & Miller, 2010), and may suggest that not all SNS activities relate to body image outcomes in the same way. Nevertheless, the appearance-focused activities on both *Facebook* and *Instagram* were correlated with thin-ideal internalisation and body surveillance, which are established risk factors for disordered eating (Moradi & Huang, 2008). Accordingly, these results offer support to sociocultural and objectification theories of media and body image (Fredrickson & Roberts, 1997; Thompson et al., 1999), and contribute to the growing literature on social media and body image. The lack of relationships found here between appearance-focused SNS activities and both appearance evaluation and appearance comparisons could be a result of the measures chosen to assess these constructs, which may not be sufficiently sensitive to the SNS environment. Future research would benefit from the development and validation of body image measures specific to the SNS environment.

While the correlational nature of the research precludes causal inferences, it is likely there exists a bidirectional relationship between appearance-focused SNS engagement and body image outcomes in young women. Accordingly, young women higher in thin-ideal internalisation and with a greater tendency to self-objectify may be more likely to engage in photo activities on *Facebook* and follow appearance-focused accounts on *Instagram*, which in turn may reinforce existing body image concerns (Perloff, 2014).

Exploratory analyses revealed that *Instagram* users scored significantly higher on body surveillance compared to non-*Instagram* users. Unlike *Facebook*, *Instagram* is purely a photo-based platform and is renowned for the ubiquitous 'selfie' as well as 'fitspiration' imagery. It may be that young women higher in body surveillance tendencies are more likely to use *Instagram* regularly due to the unique self-presentation opportunities it offers beyond *Facebook* (Chua & Chang, 2016), or that using *Instagram* is associated with greater body surveillance in young women via its focus on the outward qualities of appearance.

The current research is limited by its correlational and exploratory design. Experimental and longitudinal methods are necessary to clarify the nature of this relationship between appearance-focused SNS use and body image concerns. Moreover, the sample was predominantly Caucasian, and therefore has limited generalisability to more culturally diverse samples. Finally, although the size of the correlation coefficients were relatively small, the large population of SNS users with over 2 billion users on *Facebook* and 500 million users on *Instagram* (Perrin, 2015) indicates that these findings are meaningful at a population level.

In conclusion, the present study adds to the literature on social media and body image by demonstrating the importance of appearance-focused versus non-appearance-

focused SNS activity on both *Facebook* and the more photo-focused SNS platform of *Instagram* in a sample of early adult women. The findings emphasise that particular types of SNS use, such as engaging in photo-based activities on *Facebook*, and following appearance-focused content on *Instagram*, relate to various body image concerns, whereas overall SNS consumption may not. The results not only provide additional support to sociocultural theory (Thompson et al., 1999), but they emphasise body surveillance as particularly relevant to appearance-focused SNS use, thus contributing to the field of objectification theory (Fredrickson & Roberts, 1997) and encouraging further consideration of objectification in future SNS and body image research. Moreover, the current findings illustrate the complexity of the relationship between social media and body image, and thus have important theoretical implications for this growing body of literature by highlighting the utility of measuring specific SNS user activity in providing greater insight into this relationship. At a practical level, these findings suggest that recommendations to limit overall SNS use may not only be impractical but also unnecessary in preventing body image concerns in young women. Rather, appearance-focused SNS activities may be more relevant to body image concerns, and thus should be the focus of targeted interventions and practical suggestions for young women vulnerable to body image issues.

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CHAPTER 3: Paper 2 – 'Selfie'-Objectification: The Role of Selfies in Self-Objectification and Disordered Eating in Young Women

Preamble to Chapter 3

The preceding paper, documented in Chapter 2, examined the relationship between more passive consumption of photo-based activities on SNS and body image outcomes. Paper 2, as presented in this chapter, focuses on the relationship between active user-generated engagement in SNS photo-based activities, specifically selfie behaviours, and body image and disordered eating outcomes.

Additionally, Paper 1 found that Instagram users scored significantly higher on body surveillance compared to non-Instagram users. Since body surveillance is an important risk factor for disordered eating (Moradi & Huang, 2008), the relationship between specific Instagram activities and body surveillance warrants further research. Given that Instagram is purely a photo-based platform that encourages self-presentation activities like taking, editing, and posting selfies, an examination of these selfie activities may help further clarify the relationship between Instagram use and self-objectification.

Accordingly, given the exploratory findings of Paper 1, the potential objectifying experiences encouraged by selfie behaviours, and previous research showing that self-objectification moderates the relationship between objectifying experiences and disordered eating (Fitzsimmons-Craft, 2011; Moradi & Huang, 2008), Paper 2 also investigates the potential moderating role of self-objectification on selfie activities and disordered eating.

‘Selfie’-Objectification: The Role of Selfies in Self-Objectification and Disordered Eating in Young Women

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Abstract

Existing research demonstrates a relationship between social networking site (SNS) use and body-related concerns and disordered eating amongst females. Preliminary evidence indicates that SNS photo activities (e.g., taking and sharing 'selfies') may play a particularly important role. The present study aimed to use self-objectification as a framework to examine the relationship between SNS photo activities and body-related and eating concerns in a population of young women. Participants were 259 young women (age 18-29; *M*=22.97, *SD*=3.25) who completed self-report questionnaires of SNS use and body-related and disordered eating concerns. Results showed that SNS 'selfie' activities, rather than general SNS usage, were associated with body-related and eating concerns. Specifically, greater investment in 'selfie' activities was associated with increased body dissatisfaction and bulimia symptomatology, even after accounting for known risk factors such as thin-ideal internalisation and body mass index (BMI). Moreover, self-objectification was found to moderate the relationship between photo investment and bulimia symptomatology. These findings indicate that active engagement with SNS photo activities, rather than general SNS use, shows an association with body-related and eating concerns. Interventions targeting specific SNS photo activities may be an effective avenue for the prevention and management of body-related concerns and disordered eating in young women.

Keywords: social networking sites, social media, body image, self-objectification, disordered eating

Introduction

Social networking sites (SNS), such as Facebook and Instagram, are internet-based sites that enable users to create personal profiles and share, view, comment and 'like' peer-generated content (Perloff, 2014a). Importantly, SNS have become more popular than traditional media formats (i.e., television, magazines) among young women (Bair et al., 2012) with 90% of young adults (ages 18-29) reported to be active SNS users (Perrin, 2015). The unique combination of peer influences and media depictions of idealised female bodies inherent to the SNS environment provide ample opportunity for women to internalise the "thin-ideal" (i.e., thin-ideal internalisation) and scrutinise their own appearance based on these perceived norms. Such processes typically lead to body dissatisfaction and disordered eating (Rodgers et al., 2011). In support, recent research has found a significant relationship between SNS use and thin-ideal internalisation, self-objectification, body dissatisfaction and eating disorder behaviours in teenage girls (Tiggemann & Miller, 2010; Tiggemann & Slater, 2013; Vandenbosch & Eggermont, 2012) and undergraduate women (Cohen & Blaszczynski, 2015; Fardouly, Diedrichs, Vartanian, & Halliwell, 2015a; Fardouly & Vartanian, 2015; Mabe et al., 2014). However, most research to date has focused on SNS usage in general, operationalised by time spent using SNS. Unlike traditional media consumers, SNS users are both passive recipients of content as well as 'active' content creators (Perloff, 2014a). Therefore, further research is needed to investigate the impacts of active user-generated engagement and the specific SNS activities that are most relevant for body image and eating concerns (Prieler & Choi, 2014).

Specifically, SNS 'selfie' behaviours may play an important role in body image issues and disordered eating. According to Objectification Theory (Fredrickson & Roberts, 1997), women's daily encounters with sexually objectifying experiences, for

example exposure to media depictions of female bodies and interpersonal encounters, socialise women to internalize an observer's view of their own bodies as objects to be evaluated. This *self-objectification* manifests behaviourally as body surveillance (McKinley & Hyde, 1996), the habitual monitoring of the body's appearance, and contributes to women's risk for eating disorders (Moradi & Huang, 2008). Over one million selfies (self-images) are taken globally each day, with Australians reported to take the most selfies worldwide (Šuk, 2014). Moreover, two-thirds of Australian women aged 18-35 years report taking selfies (Šuk, 2014). Importantly, SNS users have been found to carefully pose for, select, and even edit selfies as per thin-ideal norms before posting them online to be evaluated by their peers (Chae, 2017; Chua & Chang, 2016; Fox & Vendemia, 2016; Haferkamp & Kramer, 2011).

In accordance with Objectification Theory (Fredrickson & Roberts, 1997), these selfie behaviours may foster self-objectification by positioning women to scrutinise their own image from an observers perspective, which is then further reinforced by instant feedback on their appearance through the form of comments and 'likes' (de Vries & Peter, 2013). Accordingly, SNS selfie activities may provide a novel medium through which women engage in self-objectification, thus contributing to body image and eating disturbances and indicating an important area for future research.

Lending preliminary support, Meier and Gray (2014) found that engagement in photo activities on Facebook, rather than general Facebook usage, was associated with body image disturbances and self-objectification in adolescent girls (age 12-18 years). McLean et al. (2015) found that selfie sharing, and in particular photo investment and photo manipulation, was associated with higher body dissatisfaction, dietary restraint, and thin-ideal internalisation in a sample of 13-year-old girls. Photo investment refers to

the effort involved in selecting selfies to post on SNS, whereas photo manipulation refers to the editing of the appearance of selfies prior to posting (McLean et al., 2015).

These preliminary studies in adolescent samples implicate the importance of SNS photo activities, rather than general SNS use, in the maintenance of body image and eating concerns (McLean et al., 2015; Meier & Gray, 2014). However, whilst Meier and Gray (2014) found an association between photo activities and self-objectification, they did not differentiate between active (i.e. posting) and passive (i.e. viewing) SNS photo activities. Similarly, although McLean et al. (2015) did investigate selfie behaviours more specifically in relation to body image, the authors did not include self-objectification as a variable of interest. Given that self-objectification may be theoretically intrinsic to selfie behaviours, research that investigates the relationship between selfie behaviour and self-objectification appears warranted.

Moreover, young adults (ages 18-29 years) are the highest SNS users (Perrin, 2015), yet research into the relationship between SNS selfie activities and body image and eating disturbances in this age group is lacking. Given the high rates of body dissatisfaction amongst young women (Neighbors & Sobal, 2007) and the known popularity of SNS use within this population (Perrin, 2015), research into user-generated photo activities on SNS in this population is needed.

The Current Study

The current study aims to extend upon McLean et al.'s (2015) preliminary findings by using an objectification theory framework to examine the relationship between SNS selfie activities and body-related and eating concerns in a population of young women (age 18-29 years). In particular, we investigate how photo investment and photo manipulation, as proposed by McLean et al. (2015), are related to self-objectification, body satisfaction, drive for thinness, and bulimia. It is hypothesised that

greater SNS selfie activity (selfie-taking, selfie-posting, photo investment, photo manipulation), rather than general SNS usage, will be related to lower body satisfaction and greater disordered eating. Further, given that self-objectification has been found to act as a moderator between sexual objectification experiences and disordered eating (Fitzsimmons-Craft, 2011; Moradi & Huang, 2008), we hypothesized that self-objectification will moderate the relationship between SNS selfie activities and disordered eating.

Method

Participants

Participants were 259 women aged 18-29 years (*M*=22.97, *SD*=3.25) from various locations in Australia with an average reported body mass index (BMI) of 22.45 (*SD*=4.20), which is within the normal weight range (WHO, 2015). Participants were recruited via several Australian University psychology departments and various social media outlets promoting the study (e.g., the University's Facebook page). Participation was voluntary and participants received no reward for participation. Sixty-eight percent of participants were currently students and 61% had completed at least an undergraduate degree. The majority of participants (77.5%) identified as Caucasian, with others reporting to be Asian (15.1%), Middle Eastern (2.7%), African (.8%), Aboriginal/Torres Strait Islander (.8%) and other (3.1%).

Measures

Demographics. Participants reported age, ethnicity, level of education, height and weight. BMI (kg/m^2) was calculated using height and weight data.

SNS Use. Participants indicated the average amount of time they spent on SNS a day on a 12-point scale: *0-15 minutes, 15-30 minutes, 1-2 hours, 2-3 hours, 3-4 hours, 4-5 hours, 5-6 hours, 6-7 hours, 7-8 hours, 8-9 hours, 9-10 hours, 10 or more hours*.

Selfie Activities. The Photo Activities measure (McLean et al., 2015) was used to assess practices of taking and sharing selfies online. Selfie-taking frequency was assessed with two items asking participants i) how frequently they take selfies with only themselves in the photo, and ii) how frequently they take selfies which include others, on an 8-point Likert scale ranging from "less than once a month" to "more than twice a day". In accordance with McLean et al. (2015), the mean of the two items was summed with higher scores indicating higher selfie-taking frequency. McLean et al. (2015), reported good internal consistency for this two-item scale (r_s = .86). For this study the scale showed good internal consistency *(*r_s = .81).

Selfie sharing behaviour was assessed with one item asking how often participants post photos of themselves on SNS like Facebook, Snapchat or Instagram. The item was scored on a 5-point Likert scale ranging from "never" to "very often" with higher scores reflecting more frequent photo-posting activity.

The 8-item Photo Investment scale (McLean et al., 2015) was used to assess participants' investment, effort, and concern regarding posting selfies on SNS. Items were presented using visual analogue scales ranging from 0-100 and were anchored by contrasting statements such as "I take a long time to choose the photo" and "I choose the photo very quickly". In accordance with McLean et al. (2015), the mean for items was summed with higher scores reflecting higher investment in SNS photo sharing. McLean et al. (2015) reported good reliability in their female adolescent sample (*alpha* = .85). For this study the scale showed good reliability (*alpha* = .79).

A modified version of McLean et al.'s (2015) Photo Manipulation scale was used to assess the extent to which participants manipulated or edited photos of themselves prior to sharing on scoial media. The 2-items asked whether particpants edited their photos in general (e.g., add a filter) and whether they edited their photos to

make themselves look better (e.g., make themself skinnier). Items were scored on a 5-point likert scale ranging from “never” to “very often”. The scale showed acceptable reliability (r_s = .67).

Thin-ideal internalisation. The 9-item Internalisation-General subscale of the Sociocultural Attitudes Toward Appearance Questionnaire–Version 3 (SATAQ-3; Thompson et al., 2004) was used to measure thin-ideal internalisation. Participants rate the extent to which they agree with statements like “I would like my body to look like the models who appear in magazines” on a 5-point scale ranging from “definitely disagree” to “definitely agree”. Items are summed with higher scores indicating greater internalisation of the thin-ideal. Thompson et al. (2004) found excellent psychometric characteristics amongst non-clinical female college students. For this study the scale showed excellent reliability (*alpha* = .93).

Body Satisfaction. The 7-item Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire-Appearance Scales (Cash, 2000) was used to measure body satisfaction. Participants rate the extent to which they agree with statements like “My body is sexually appealing” on a 5-point likert scale ranging from “definitely disagree” to “definitely agree”. Items are summed with lower scores indicating lower body satisfaction. The scale has shown good internal consistancy in a female undergraduate sample (Ata et al., 2013). For this study the scale showed excellent reliability *(alpha* = .90).

Self-Objectification. The 8-item Body Surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996) was used to measure self-objectification. Participants rate the extent to which they agree with statements like “During the day, I think about how I look many times” on a 7-point Likert scale ranging from “strongly disagree” to “strongly agree”. Items are summed and averaged, with

higher scores indicating higher levels of body surveillance. McKinley and Hyde (1996) showed good construct and discriminant validity in their undergraduate female sample. For this study the scale showed good reliability *(alpha* = .83).

Disordered Eating. The 7-item Drive for Thinness and 8-item Bulimia subscales of the Eating Disorder Inventory-3 (Garner, 2004) were used to measure disordered eating symptomatology. An example item from the Drive for Thinness subscale includes, "I think about dieting" and from the Bulimia subscale, "I have thought of trying to vomit in order to lose weight". Both scales are scored on a 6-point Likert scale ranging from "never" to "always" (using the 0-4 scoring format, Clausen et al., 2011; Garner, 2004). Items are summed with higher scores indicating higher levels of eating disorder symptoms. Both scales showed good reliability and validity in a non-clinical sample of women aged 18-30 years (Clausen et al., 2011). For this study the scales showed good-excellent reliability (*alpha* = .89 drive for thinness, .93 bulimia).

Procedure

The University's ethics committee granted approval for the study to proceed (UTS HREC REF NO. 2015000482-26). Participants were given a URL to access the participant information statement, consent form and questionnaires online using Qualtrics software. After providing informed consent, participants completed the demographic questionnaire, followed by the SNS questions, and finally body image, and disordered eating measures. The survey took approximately 10-15 minutes to complete.

Data Analyses

Correlational analyses were used to examine associations between all main variables. Separate hierarchical linear regressions were conducted to take into account covariates, and determine the relative contributions of SNS usage and selfie activities on

each outcome variable: body satisfaction, drive for thinness, and bulimia. The objectification literature highlights the intrinsic link between thin-ideal internalisation and self-objectification, whereby the conceptualisation of self-objectification assumes a prior internalisation of beauty standards (Fitzsimmons-Craft, 2011; Vandenbosch & Eggermont, 2012). Accordingly, thin-ideal internalisation was conceptualised as an important covariate and entered at step 1 along with age and BMI. Overall SNS usage was entered at step 2, followed by selfie-taking, selfie-posting, photo-investment and photo-manipulation (step 3). Multicollinearity was not indicated for the independent variables with the highest correlation between variables being $r = .45$, (VIF < 10). Finally, moderation analyses were conducted using the SPSS PROCESS macro (Hayes, 2013) to explore whether self-objectification moderated the relationships between the selfie activities and disordered eating outcomes (drive for thinness and bulimia symptomatology).

Results

Preliminary Analyses

For all regression analyses, the assumptions of linearity, independence of errors, homoscedasticity and normality of residuals were examined and found to be satisfactory. Overall there were minimal missing values, ranging from <1% on various subscales to 5% on the self-objectification subscale. Missing data were handled with pairwise deletion. All statistical analyses used an alpha level of .05 for significance with obtained *p* values reported.

SNS Use and Selfie Activities

In terms of frequency of SNS use, the majority of participants (64%) reported using SNS around 2 hours per day ($M = 3.81$, $SD = 1.44$, range = 1-12). Almost half of the participants (48.7%) reported taking selfies at least once per fortnight and just over

half of participants (53%) reported posting selfies “sometimes” to “very often”. Over half of the participants (62.2%) reported editing their photos (e.g., adding a filter) “sometimes” to “very often”, but most participants (80.7%) reported “rarely” or “never” editing photos to make themselves look better (e.g., remove blemishes, make yourself skinnier). Only 19.3% of participants reported editing in this way “sometimes” to “very often”. Descriptive statistics for selfie activities, body image, and eating concerns are presented in Table 1, and are comparable with data reported in previous samples (Ata et al., 2013; Clausen et al., 2011; Greenleaf & McGreer, 2006).

Table 1

Range, Means and Standard Deviations for Selfie activities, Body image and Disordered Eating Variables (N = 259)

	Scale Range	M	SD
Selfie Activities			
Selfie-taking frequency	1-8[a]	2.76	1.53
Selfie-posting	1-5[b]	2.60	.90
Photo Investment	0-100	55.36	17.80
Photo Manipulation	1-5[b]	2.33	1.05
Body Image			
Thin-ideal internalisation	9-45	26.37	8.75
Appearance comparison	5-25	14.56	3.54
Body satisfaction	1-5	3.21	.87
Self-objectification	1-7	4.47	1.00
Disordered Eating			
Drive for thinness	0-28	9.01	8.08
Bulimia	0-32	4.97	5.71

[a]1 = less than once a month, 8 = more than twice a day; [b]1 = never, 5 = very often

Correlations

Table 2 displays the correlations between all variables. As predicted, overall SNS usage did not demonstrate a significant relationship with any of the outcome variables, whereas the SNS selfie activities did. Specifically, selfie posting was significantly correlated with body satisfaction; photo investment was significantly

associated with thin-ideal internalisation, body satisfaction (negatively), self-objectification, drive for thinness, and bulimia; and photo manipulation was significantly correlated with thin-ideal internalisation and self-objectification. Since selfie taking was not significantly correlated with any of the outcome variables, it was not explored further in the regression analyses.

Table 2

Correlations Between Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	1											
2. Body Mass Index	.004	1										
3. Thin Ideal Internalisation	-.02	-.08	1									
4. Body Satisfaction	.15[a]	-.24[c]	-.40[c]	1								
5. Self-Objectification	-.16[b]	.003	.59[c]	-.45[c]	1							
6. Drive for Thinness	-.04	.08	.50[c]	-.55[c]	.59[c]	1						
7. Bulimia	-.008	.18[b]	.26[c]	-.45[c]	.36[c]	.53[c]	1					
8. SNS Usage	-.15[b]	.13[a]	-.06	.03	-.03	-.06	-.04	1				
9. Selfie-taking	-.33[c]	.11	.14[*]	.04	.11	.03	-.02	.25[c]	1			
10. Selfie-posting	-.10	.12	.09	.14[a]	.09	.03	.03	.247[c]	.45[c]	1		
11. Photo Investment	-.14[a]	.002	.38[c]	-.30 [c]	.50[c]	.28[c]	.27[c]	.07	.08	.04	1	
12. Photo Manipulation	-.07	.03	.14[a]	.02	.23[c]	.12	.04	.18[b]	.29[c]	.44[c]	.19[b]	1

Note. [a]$p < .05$, [b]$p < .01$, [c]$p < .001$

Hierarchical Multiple Regression

Table 3 displays the summary statistics for the regression models for the three dependent variables. For all three dependent variables, when controlling for age, BMI and thin-ideal internalisation (step 1), the addition of SNS usage (step 2) did not explain additional variance. The addition of selfie posting (step 3) explained significant additional variance for body satisfaction, such that higher levels of selfie posting were associated with higher body satisfaction. Photo investment also explained additional variance for body satisfaction and bulimia, but not drive for thinness, such that higher

levels of photo investment were associated with lower levels of body satisfaction and higher levels of bulimia symptomology.

Table 3

Summary of Hierarchical Regression Analyses Predicting Body Satisfaction, Drive for Thinness and Bulimia

	R^2	ΔR^2	F	β	t	p
DV: Body Satisfaction						
Step 1	.27	.27	30.54[c]			
Age				.15[b]	2.77	.006
BMI				-.28[c]	-5.11	<.001
Thin-ideal Internalisation				-.43[c]	-7.93	<.001
Step 2	.28	.004	1.49			
SNS Usage				.07	1.22	.224
Step 3	.35	.07	8.69[c]			
Selfie Posting				.22[c]	3.75	<.001
Photo Investment				-.13[a]	-2.23	.026
Photo Manipulation				.06	.93	.351
DV: Drive for Thinness						
Step 1	.29	.29	33.37[c]			
Age				-.04	-.65	.518
BMI				.14[b]	2.63	.009
Thin-ideal Internalisation				.53[c]	9.80	<.001
Step 2	.30	.005	1.68			
SNS Usage				-.07	-1.29	.197
Step 3	.31	.008	.90			
Selfie Posting				-.05	-.85	.397
Photo Investment				.07	1.18	.240
Photo Manipulation				.05	.74	.458
DV: Bulimia						
Step 1	.11	.11	10.14[c]			
Age				-.002	-.03	.978
BMI				.21[c]	3.39	.001
Thin-ideal Internalisation				.28[c]	4.59	<.001
Step 2	.11	.002	.46			
SNS Usage				-.04	-.68	.499

Step 3	.15	.04	3.54[a]			
Selfie Posting				.002	.03	.980
Photo Investment				.22[c]	3.25	.001
Photo Manipulation				-.03	-.37	.710

Note. [a]$p < .05$, [b]$p < .01$, [c]$p < .001$; β=standardised regression coefficient

Moderation Analyses

No selfie behaviours were found to significantly predict drive for thinness in the regression analyses and therefore moderation analyses were conducted with bulimia as the only disordered eating outcome variable. Controlling for age, BMI, and thin-ideal internalisation, self-objectification was found to moderate the relationship between photo investment and bulimia $\Delta R^2 = .23$, $F(6, 230)=6.83$, $p<.001$. Simple slopes for the association between photo investment and bulimia symptomology were tested for low (-1 SD below mean), medium (mean), and high (+1 SD above mean) self-objectification. As depicted in Figure 1, among women high in self-objectification, there was a significant positive relationship between photo investment and bulimia symptomology, $b=.11$, $t(230)=2.89$, $p=.004$, however this relationship was not significant among women with low, $b=-.03$, $t(230)=-1.08$, $p=.28$, or medium self-objectification, $b=.04$, $t(230)=1.74$, $p=.09$. Thus, for women who are high in self-objectification, greater investment in their selfies is associated with increased bulimia symptomatology.

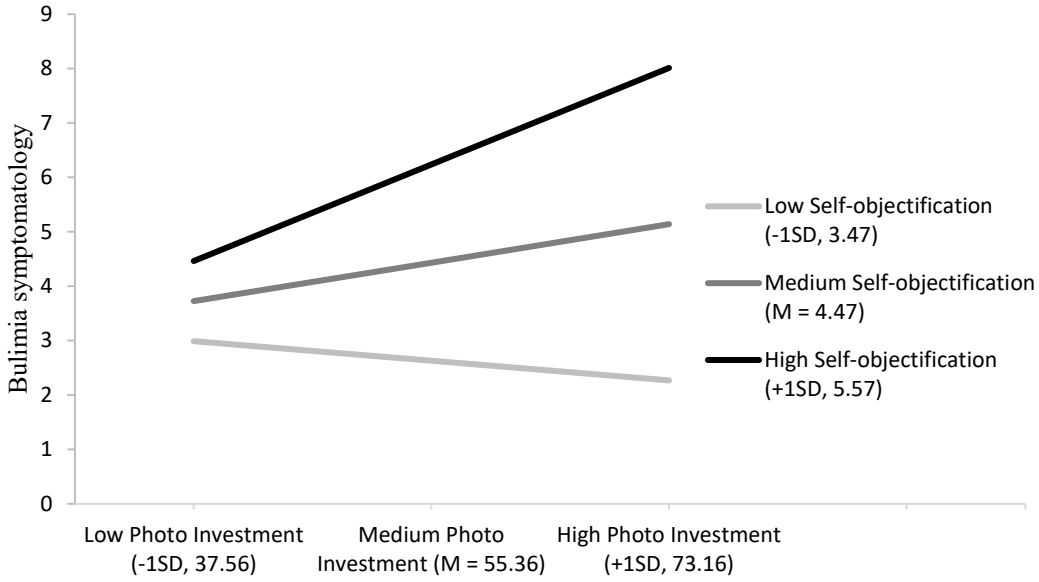

Figure 1. Simple slopes for the relationship between photo investment and bulimia symptomology for different levels of self-objectification.

Discussion

The primary aim of this study was to use objectification theory as a framework to explore the relationship between SNS selfie activities and body-related and disordered eating outcomes in a sample of young adult women. Consistent with previous research in adolescent samples (McLean et al., 2015; Meier & Gray, 2014), the results of this study supported the hypothesis whereby SNS selfie activities, rather than SNS usage per se, were associated with body-related concerns and disordered eating in young women. The current findings may help to clarify previous inconsistencies in the literature, with several studies finding a positive association between time spent on SNS and poorer body image outcomes (Fardouly & Vartanian, 2015; Mabe et al., 2014; Tiggemann & Slater, 2013) and others finding no association (Ferguson, Munoz, Garza, & Galindo, 2013), or even a negative association (Rutledge, Gillmor, & Gillen, 2013). Importantly, however, these studies did not assess how users spent their time on SNS and thus contradictory findings may be explained by the homogenous conceptualisation

of SNS usage (Kim & Chock, 2015). By contrast, as demonstrated by the current findings, a more nuanced approach to specific SNS user activity may more accurately relate to body-related effects.

Selfie Activities and Body Satisfaction

Interestingly, in the current sample, greater selfie-posting was associated with greater body satisfaction. Whilst this positive association was not found in McLean et al.'s (2015) adolescent sample, it was consistent with Ridgway and Clayton's (2016) finding that higher body satisfaction was associated with greater Instagram selfie-posting in an adult sample. This finding might be understood in a number of ways. Firstly, research shows that appearance-focused images like selfies receive more positive reinforcement in the forms of 'likes' and comments in comparison with neutral images (Bakhshi et al., 2014). Accordingly, those who post more selfies are likely to get more positive reinforcement about their appearance, thus leading to an increase in body satisfaction. Alternatively, those who have greater body satisfaction to begin with are more likely to post more selfies (Ridgway & Clayton, 2016). The disparate findings may also point to the potential for different relationships between selfie-posting and body satisfaction in adolescent and young adult samples. Experimental research is needed to further understand the direction and causation of such effects.

By contrast, greater photo investment was associated with decreased body satisfaction. It may be that whilst those higher in body satisfaction tend to post selfies more frequently, those lower in body satisfaction tend to invest more in the selection and presentation of their photos before posting online. This is plausible given that those women lower in body satisfaction also endorsed photo investment items like "I worry about what others will think about how I look" and "I carefully select the best photo to share/post" more strongly than those more satisfied with their appearance.

Alternatively, it is possible that the process of engaging with one's selfies in such a self-conscious way fosters dissatisfaction in one's appearance.

Either way, these divergent findings highlight a difference in the relationship between the quantity versus quality of selfie activities with body satisfaction. Posting selfies online may not be negatively impacting body image, in fact, as this study found, frequency of selfie posting may be positively associated with body satisfaction. However, the way in which one interacts with their selfies prior to posting online may be more important for body image outcomes, and as this study found, photo investment is negatively related to body satisfaction.

Selfie Activities and Disordered Eating

Greater photo investment was also associated with increases in bulimia symptomatology, even after controlling for other risk factors. This finding may indicate that those higher in disordered eating are more invested in their selfies and how they may be received by peers. This is consistent with Mabe et al.'s (2014) finding that participants with greater disordered eating endorsed greater importance of receiving comments on their photos. Alternatively, higher photo investment, as indicated by greater endorsement of items like "I feel anxious about the photos I post", may involve negative affect, which is a known trigger of binge eating behaviour (Engelberg, Steiger, Gauvin, & Wonderlich, 2007). Either way, further experimental research is necessary to determine causality and the direction of effects.

Interestingly, photo investment was related to bulimia symptomology but not to drive for thinness. Whereas the drive for thinness subscale captures an attitudinal construct of eating disorders, the bulimia subscale more directly taps into behaviours associated with eating disorders. While previous research has demonstrated relationships between SNS use and drive for thinness (Fardouly & Vartanian, 2015;

Tiggemann & Miller, 2010; Tiggemann & Slater, 2013), these studies have measured SNS use in terms of overall exposure time, possibly capturing 'passive' SNS use. It may be that that the current study's measure of photo investment captures 'active' SNS use, and that this active engagement relates more to the behavioural manifestations of disordered eating (bulimia symptomatology) than attitudinal indications (drive for thinness).

The Moderating Role of Self-Objectification

Importantly, the current study found that self-objectification moderated the relationship between photo investment and bulimia symptomology. This finding is consistent with the Objectification Theory literature suggesting that self-objectification, or body surveillance, may intensify the link between sexual objectification experiences and eating disorder symptoms (Moradi & Huang, 2008; Noll & Fredrickson, 1998; Tiggemann & Kuring, 2004). Moreover, this finding extends upon previous research showing an association between general SNS use and self-objectification (Fardouly et al., 2015a; Tiggemann & Slater, 2013), by identifying the moderating role of self-objectification in the relationship between specific SNS activities and body image outcomes in young women.

The constant monitoring of one's outward appearance, inherent in self-objectification, has been likened to the concept of body-checking (Tiggemann, 2013), an established maintaining factor for disordered eating (Shafran, Fairburn, Robinson, & Lask, 2004). SNS photo investment may similarly serve to reinforce a preoccupation with appearance, especially for women with a higher tendency to self-objectify, and thus may contribute to core features of eating disorders such as an over-evaluation of weight and shape (McLean et al., 2015). Indeed, investment in one's self-presentation in photos to be shared and evaluated online might be conceptually similar to self-

objectification and related body surveillance, which in turn may relate to the use of unhealthy weight loss strategies and eating patterns consistent with bulimia symptomology (Fitzsimmons-Craft, 2011).

Limitations and Future Directions

The present study has various limitations to consider. Firstly, the cross-sectional nature of the results precludes causal inference. More experimental and longitudinal research is required to ascertain the nature and direction of the relationship between selfie activities and body-related concerns. Secondly, all measures were self-report and therefore may have been subject to social desirability and retrospective bias. Future research could employ diary methodology to provide more ecologically valid data on participants SNS usage. An unavoidable limitation of the present study was the lack of well-validated measures of selfie behaviour. SNS use and selfie posting behaviour were based upon single items with no established reliability or validity and therefore results for these measures should be interpreted with caution. Further measurement development and validation is necessary to improve future research in this field. Additionally, since selfies predominantly include portrait photos rather than full-bodied photos (Haferkamp et al., 2012), future research into SNS-based photos may benefit from measuring appearance or facial features satisfaction rather than general body satisfaction. The current sample was relatively homogenous in terms of ethnicity and level of education and therefore caution should be taken when generalising the current findings to more culturally diverse samples or the general population. Future research with clinically diagnosed eating disorder samples may also be more informative in exploring the role of SNS selfie activities in the development and maintenance of eating disorders specifically.

Implications

The current findings have various theoretical implications for the body image and disordered eating literature as well as practical implications for the management and prevention of eating disorders. Firstly, the current study adds to the existing literature (McLean et al., 2015; Meier & Gray, 2014) in demonstrating the utility of investigating specific SNS activities, rather than overall SNS usage, in understanding the relationship between SNS use and body image concerns. In order to truly understand the effect of SNS use on body image and eating disturbances, future research must first delineate between the various kinds of SNS engagement (Prieler & Choi, 2014). Moreover, the finding that self-objectification moderated the relationship between photo investment and bulimia symptomatology lends further support to Objectification Theory (Fredrickson & Roberts, 1997; Moradi & Huang, 2008) and demonstrates how high levels of self-objectification may intensify the relationship between specific SNS selfie activities and disordered eating in young women. Future studies should investigate whether limiting selfie investment may protect young women from increased self-objectification and eating disorder risk.

The present study's more nuanced analysis of SNS activities indicates that general SNS use may not be inherently negative for body and eating concerns, but rather active engagement with SNS photo activities may be more relevant. Accordingly, rather than limiting the quantity of SNS usage as earlier studies may suggest, it may be more practical and effective to target the quality of engagement with specific SNS photo activities in the prevention and management of body-related concerns and disordered eating in young adult women. Perhaps media literacy programs, which have been found to improve body-related concerns (Halliwell, Easun, & Harcourt, 2011; Posovac, Posovac, & Weigel, 2001), may benefit from including a critical analysis of selfie

activities and the self-objectification processes associated with them. Moreover, the finding of an association between photo investment and bulimia symptomatology indicates it may be beneficial to consider and monitor specific SNS activities in the treatment of those with eating disorders.

Conclusions

The present study adds to the extant literature by showing that SNS photo activities, rather than general SNS usage, may be important in body-related and eating concerns in young women. This study highlights that it is the active investment in selfies that are particularly pertinent to body dissatisfaction and bulimia symptomatology and that self-objectification moderates this relationship. These findings point to the potential value of focusing on selfie activities in the prevention and treatment of body image issues and disordered eating.

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CHAPTER 4: Paper 3 – #BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image

Preamble to Chapter 4

Taken together, the studies presented in chapters 2 and 3 suggest that appearance-focused SNS activities are associated with poor body image outcomes in young women, rather than general SNS use. Despite the important contributions of studies 1 and 2, the studies are limited by their correlational designs and therefore experimental research is needed to draw causal inferences about the relationship between appearance-focused SNS use and body image outcomes. Accordingly, Paper 3 (presented in this chapter) uses an experimental design to examine the immediate impact of viewing appearance-focused SNS content on young women's body image and related constructs.

Moreover, the studies to date have focused on aspects of SNS use that may be harmful for body image. However, it is also important to investigate whether there are any aspects of SNS use that may have a positive impact on young women's body image in order to provide a comprehensive understanding of the relationship between appearance-focused SNS use and body image, and to present more holistic and practical guidelines for SNS users. Accordingly, Paper 3 also aims to investigate the impact of exposure to body positive SNS content. To provide some context for the following paper, this preamble will first present a brief outline of the literature on positive body image, followed by a rationale for investigating body positivity on social media as a potential avenue to promote positive body image.

Positive Body Image

Over the last decade, the body image literature has extended beyond a primary focus on body image disturbance towards a more comprehensive examination of *positive* ways of living in the body (Tylka & Piran, 2019), often referred to as positive body image (Tylka & Wood-Barcalow, 2015b) and positive embodiment (Piran, 2016, 2017). Positive body image has been described as an as an overarching love and respect for the body (Tylka & Wood-Barcalow, 2015). Relatedly, Piran's (2016) construct of positive embodiment has been described as 'positive body connection and comfort, embodied agency and passion, and attuned self-care' (2016, p. 47). Positive body image has been defined as a multifaceted construct which is distinct from negative body image (Tylka & Wood-Barcalow, 2015b). Researchers have identified core features of positive body image through qualitative interviews with adolescents and young adult women with a positive body image (Holmqvist & Frisén, 2012; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). These core features include body appreciation (appreciating the features, functionality, and health of the body), body acceptance and love (expressing love for and comfort with the body despite perceived flaws), adaptive investment in appearance (engaging in appearance-related self-care), broadly conceptualising beauty (perceiving beauty in a wide range of appearances), inner positivity (possessing pos{Piran, 2019 #582}itive feelings that radiates outward and manifests as adaptive behaviour), and filtering information in a body protective manner (accepting information that is consistent with positive body image while rejecting messages that could endanger it).

Positive body image is most commonly measured using the Body Appreciation Scale (BAS; Avalos, Tylka, & Wood-Barcalow, 2005; BAS-2; Tylka & Wood-Barcalow, 2015a), and has been found to be associated with higher self-esteem,

optimism, proactive coping, subjective happiness, self-compassion, and sexual satisfaction (Avalos et al., 2005; Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012; Swami et al., 2015; Wasylkiw, MacKinnon, & MacLellan, 2012). Body appreciation has also been found to be associated with a range of positive health behaviours such as intuitive eating, physical activity, sun protection, skin screening, and seeking medical attention, and negatively related to unhealthy weight-loss behaviour (Andrew et al., 2016a; Augustus-Horvath & Tylka, 2011; Homan & Tylka, 2014). Moreover, two experimental studies have found that higher levels of body appreciation may buffer against detrimental effects of media exposure on women's appearance and body satisfaction (Andrew et al., 2015; Halliwell, 2013).

Accordingly, leading researchers in the field have argued that further research into positive body image may be crucial for prevention and treatment efforts aimed at improving body image (Tylka, 2011, 2012) and disordered eating (Cook-Cottone, 2015; Piran, 2015), by encouraging a focus on psychological and physical well-being in addition to preventing pathology. Whilst there is a growing body of research into the theoretical conceptualisation and implications of positive body image, less is known about how to promote it on a practical level. Indeed, in an article outlining future directions for positive body image research, Halliwell (2015) argues that further research is needed to outline methods of promoting positive body image. Accordingly, the second aim of this thesis was to investigate the potential to use social media to promote positive body image in young women.

Body Positivity on Social Media

In recent years, there has been a proliferation of SNS accounts and content dedicated to 'body positivity'. These accounts seek to redefine media depictions of the thin-ideal by sharing images of a diverse range of shapes, sizes, and appearances of

bodies accompanied by messages and hashtags that challenge dominant ideals of feminine beauty and advocate for love and acceptance of all bodies (Cwynar-Horta, 2016). Research shows that perceived body acceptance by others and social support fosters positive body image (Augustus-Horvath & Tylka, 2011; Tylka & Wood-Barcalow, 2015b). Similarly, qualitative studies have highlighted the importance of proposing alternative ways of thinking about appearance ideals and perceiving beauty more broadly to the development of positive body image (Holmqvist & Frisén, 2012).

Given that social media content is user-generated, it allows users to create and consume alternative images and messages about beauty and body acceptance that are contrary to more dominant appearance ideals. Accordingly, body positivity on social media may present a fruitful avenue for research investigating ways to promote positive body image in young women. However, no research to date has investigated the impact of viewing body positive content on social media on body image. Positive body image has been conceptualised as both stable and malleable, including both trait and state qualities (Tylka & Wood-Barcalow, 2015b). To date, most research has investigated associations of trait positive body image (operationalised as body appreciation), yet research into state positive body image is necessary to understand the impact of potential contextual influences on positive body image (Halliwell, 2015). Tylka and Wood-Barcalow (2015b) suggested that experimental designs could be used to determine whether exposure to media appearance ideals and potential positive messages about body image may have the ability to impact state body appreciation levels.

Accordingly, Paper 3 aims to use an experimental design to investigate the immediate impact of viewing body positive content on Instagram on young women's state body appreciation, body satisfaction, self-objectification, and mood, compared to exposure to thin-ideal and appearance-neutral content.

#BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image

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Abstract

Body positive content on social media aims to challenge mainstream beauty ideals and encourage acceptance and appreciation of all body types. The present study aimed to investigate the effect of viewing body positive Instagram posts on young women's mood and body image. Participants were 195 young women (18-30-years old) who were randomly allocated to view either body positive, thin-ideal, or appearance-neutral Instagram posts. Results showed that brief exposure to body positive posts was associated with improvements in young women's positive mood, body satisfaction and body appreciation, relative to thin-ideal and appearance-neutral posts. Additionally, both thin-ideal and body positive posts were associated with increased self-objectification relative to appearance-neutral posts. Finally, participants showed favourable attitudes towards the body positive accounts with the majority being willing to follow them in the future. It was concluded that body positive content may offer a fruitful avenue for improving young women's body image, although further research is necessary to fully understand the effects on self-objectification.

Keywords: Body image, body positivity, Instagram, positive body image, self-objectification, social media, social networking sites

Introduction

It is well recognised that the media play a dominant role in influencing perceived social norms and cultural appearance standards, particularly that of the ideal slim female body, commonly referred to as the 'thin-ideal' (Grabe et al., 2008). These appearance ideals have been found to pervade both traditional and social media content (e.g., Conlin & Bissell, 2014; Tiggemann & Zaccardo, 2018), and are generally unattainable for most women. A new trend on social media, 'body positivity' (or *BoPo*) aims to challenge these narrow societal prescriptions for female beauty in favour of a broader conceptualisation of beauty, body acceptance of all shapes and sizes, and body appreciation. The current study aimed to investigate the impact of viewing such 'body positive' content on Instagram on women's mood and body image.

Media and Body Image

According to the Tripartite Influence Model (Thompson et al., 1999), women internalise the media's unrealistic appearance ideals and engage in appearance comparisons, resulting in dissatisfaction with their own bodies. Objectification theory (Fredrickson & Roberts, 1997) offers another framework for understanding the relationship between media images and body image concerns. According to objectification theory, the media's sexual objectification of women socialises women to view their own bodies as objects to be looked at and evaluated based on appearance (known as self-objectification). Both body dissatisfaction and self-objectification have been linked to negative consequences including disordered eating, depression, sexual dysfunction, and substance use (Moradi & Huang, 2008; Stice & Shaw, 2002). In support of these theories, a significant literature has shown that exposure to thin-ideal images of women in the media, such as in magazines and on television, can lead to increased thin-ideal internalisation, self-objectification, body dissatisfaction, and

disordered eating behaviours in women (Grabe et al., 2008; Groesz et al., 2002; Harper & Tiggemann, 2008).

Newer media sources, such as social media platforms like Facebook and Instagram, can offer a constant stream of carefully curated images and messages promoting the thin-ideal. Instagram, a photo-based social networking site with 800 million global users who share an average of 95 million photos and videos per day, is most popular amongst 18-29 year old women (Pew Research Center, 2018). A systematic review of the extant literature on social media and body image found that social media use is positively related to body image concerns and disordered eating (Holland & Tiggemann, 2016). More recent research has shown that it is specifically appearance-focused social media use that is related to body image outcomes, rather than overall time spent on social media (Cohen, Newton-John, & Slater, 2017, 2018; Meier & Gray, 2014). For example, correlational studies have shown that engaging in photo-based activities on Facebook (e.g., looking at photos posted by others, sharing one's own photos), following appearance-focused accounts on Instagram, and expending effort and concern in selecting and editing one's *selfies* before posting them online, are all related to body image concerns in young women (Cohen et al., 2017, 2018; McLean et al., 2015; Meier & Gray, 2014). Whilst there is less experimental research to date, some experimental studies have shown that exposure to idealised images of women on social media, whether the thin-ideal, *fitspiration* (lean and toned bodies), or curvy ideals (thin with large breasts and buttocks), led to increased negative mood, body dissatisfaction, and self-objectification in women (Betz & Ramsey, 2017; Brown & Tiggemann, 2016; Cohen & Blaszczynski, 2015; Robinson et al., 2017; Tiggemann & Zaccardo, 2015).

Body Positive Social Media

More recently, there has been a proliferation of 'body positive' content on social media (or '*BoPo'*) which aims to challenge the aforementioned narrow appearance ideals and instead represent a diverse array of bodies of different shapes, sizes, colours, features, and abilities, with the presumed aim of fostering body acceptance and appreciation (Cwynar-Horta, 2016). Unlike traditional media, social media are unique in that their content is user-generated. This feature allows for bodies that are typically marginalised by society's dominant appearance standards to finally have a voice and be seen. Body positive content has become increasingly popular on social media platforms, particularly on Instagram. A recent search of the hashtag #bodypositive on Instagram elicited over 6,064,145 posts (Instagram, June 2018). Similar hashtags #bodypositivity and #bopo elicited 1,880,753 and 671,063 posts, respectively (Instagram, June 2018). These posts include a variety of quotes, images, and captions, ranging from selfies of women proudly displaying their larger bodies with captions like "it's possible to love your belly rolls, it's possible to have a favourite spot of cellulite", before and after photos of 'real' bodies encouraging awareness of the use of digital alteration in mainstream media, positive quotes like "you are more than a body, go show the world more", and images focusing on body functionality.

This pop-cultural emergence of body positivity on social media coincides with a theoretical shift in the body image literature from a focus on body image disturbance to an exploration of positive body image (Tylka, 2012). Positive body image is a multifaceted construct encompassing a love and respect of the body (Tylka & Wood-Barcalow, 2015b), and has been operationalised in research as body appreciation (Avalos et al., 2005). Body appreciation has been defined as appreciating the features, functionality, and health of the body rather than focusing solely on its appearance

(Tylka & Wood-Barcalow, 2015b). Preliminary research shows that positive body image may contribute to a host of psychological and physical health benefits. For example, Swami, Weis, Barron, and Furnham (2018) found that positive body image was linked to greater emotional, social, and psychological well-being. Similarly, Andrew et al. (2016a; 2016b) found positive body image was positively associated with health-seeking behaviours, intuitive eating, and physical activity, and negatively related to dieting, alcohol consumption, and cigarette use. Moreover, there is evidence that body appreciation may play a protective role against the negative impacts of media exposure (Andrew et al., 2015; Halliwell, 2013). Accordingly, body appreciation appears to be a fruitful target for interventions that aim to not only reduce women's vulnerability to body dissatisfaction, but also to promote positive body image and its associated positive psychological and physical health benefits (Halliwell, 2015).

Researchers have suggested that in order to improve body appreciation, it is important to provide women with broader conceptualisations of beauty and to encourage women to surround themselves with social networks that foster respect and appreciation for one's own body (Paraskeva, Lewis-Smith, & Diedrichs, 2017). Accordingly, it is plausible that engaging with body positive content on Instagram, which aims to foster an online community of acceptance and appreciation of all bodies, may be one avenue through which to promote positive body image in young women. A recent study found that women who were exposed to images of full-figured models that did not adhere to the sociocultural thin-ideal reported increases in state body appreciation, compared to those who viewed images of thin models (Williamson & Karazsia, 2018). Moreover, a recent content analysis of popular body positive accounts on Instagram found that the majority of content analysed depicted a broad range of larger body types, and contained messages that aligned with Tylka and Wood-

Barcalow's (2015b) theoretical construct of positive body image (Cohen et al., 2019b). However, to date no research has explicitly investigated the impact of viewing body positive content on Instagram on young women's body image.

The Present Study

The present study used an experimental design to investigate the effects of exposure to body positive Instagram content on young women's mood, body satisfaction, body appreciation, and self-objectification, in comparison to thin-ideal and appearance-neutral Instagram content. Since body positive content is designed to promote positive body image, and has been shown to align with theoretical definitions of positive body image (Cohen et al., 2019b), we hypothesised that viewing body positive content would result in greater positive mood, body satisfaction, and body appreciation, and reduced self-objectification and negative mood, compared to exposure to thin-ideal content and appearance-neutral content. Finally, given the potential for body positive content to be used as an intervention to improve body image, we were interested in women's attitudes towards these types of accounts, and whether viewing body positive content could have an effect even when controlling for trait levels of body appreciation.

Method

Participants

Participants were 195 women aged 18-30 years old (M = 21.69, SD = 3.49). Just over half of participants (52.8%) identified as Caucasian, with 34.9% Asian (including South East Asian), 5.6% Middle Eastern, 1% Aboriginal or Torres Strait Islander, 0.5% African, and 5.1% identifying as 'other' ethnicities. Mean self-reported body mass index (BMI) was 23.08 (SD = 3.90).

Procedure

Following institutional ethics approval (UTS HREC REF NO. ETH17-1690), participants were recruited via fliers and social media pages advertising a study on "Instagram and memory". The study took place at the University of Technology Sydney campus, and was open to staff and students to participate. Upon arrival at the research laboratory, participants were seated in front of a desktop computer and told "We are interested in how your attention and memory are affected when viewing imagery on social media. After you finish viewing the images you will be asked questions about what you have seen so please pay close attention to the images presented. How you feel can also influence your attention so we are also going to monitor your mood and how you feel throughout the study". After providing informed consent, participants completed measures of pre-exposure state mood and body satisfaction, among distractor items. They were then randomly allocated, via the random allocation function in the Qualtrics survey software, to one of three exposure conditions (body positive, thin-ideal, or appearance-neutral posts). In each condition, participants viewed 20 posts for at least 10 seconds each. Participants then completed post-exposure measures of state self-objectification, state mood and body satisfaction, and state body appreciation among distractor items and memory questions to bolster the cover story. Participants finally completed a measure of trait body appreciation, followed by attitudes towards body positive content. Participants were also asked to report their age, ethnicity, and height and weight (used to calculate BMI). Testing sessions lasted approximately 15-20 minutes, and participants received a coffee voucher (valued at AUD$3.20) for their participation. All participants were debriefed on completion of the study.

Measures and Materials

Experimental manipulation: Post type. Three sets of visual stimuli were used in the study (body positive, thin-ideal, and appearance neutral), each containing four individual Instagram accounts with five posts each (20 posts in total per condition)[3]. All posts were sourced from public Instagram accounts. The thin-ideal and body positive posts were selected from an initial pool of 50 body positive and 50 thin-ideal posts (five Instagram accounts per condition with 10 posts each) to provide a reasonable coverage of currently disseminated posts in the designated categories. A pilot study was conducted with 13 independent female raters from the target age group (M = 22.45 years SD = 2.46). Raters were provided with a definition of 'body positive' *['body positive' refers to rejecting unrealistic body ideals and encouraging women to accept and love their bodies at any shape and size. Body positive Instagram posts tend to depict women proudly posting their unique bodies and quotes about body acceptance (e.g., @bodyposipanda, @Ashleygraham, @effyourbeautystandards etc.)*], and 'thin-ideal' [*'idealised images' refer to images of attractive women with thin and toned bodies. Instagram posts of idealised women tend to depict thin women either posing in bikinis, form-fitting or revealing fashion or in fitness attire (e.g., @victoriasecretangels, @kendalljenner, @gigihadid etc.)*], and asked to rate the extent to which each image was representative of its designated category using a visual analogue scale (VAS; 0 = *not at all*, 100 = *to a great extent*). The accounts and posts rated to be most representative of the conditions were selected for the study (body positive M = 72.31, SD = 11.86; thin-ideal M = 79.77, SD = 10.08).

The final thin-ideal stimuli consisted of posts from four popular accounts that were perceived as subscribing to the thin-ideal, and included full body shots of women

[3] See Appendix B for examples of stimuli from each condition.

with thin physiques either posing in bikinis, form-fitting fashion, or fitness attire, as these are typical posts found on Instagram accounts that depict the thin-ideal. The final body positive stimuli consisted of posts from four popular body positive accounts: 1) @bodyposipanda: images of a larger woman displaying her body with captions about body acceptance, 2) @omgkenzieee: side by side images of a 'real' woman challenging societal beauty ideals, 3) @beautyredefined: body positive quotes, and 4) @nolatrees: images of a 'fat' woman practicing yoga with captions focusing on appreciating what her body can do. This cross section of accounts was selected to represent the different types of posts typically found on body positive accounts. Specifically, 15 of the 20 body positive posts contained women in bikinis, form-fitting fashion, or fitness attire (matching the 20 thin-ideal images except for body type), and five of the images consisted of quotes. The women in the thin-ideal and body positive posts were of similar age to the participants. The appearance-neutral posts consisted of nature photography typical of Instagram such as plants, marine life, skyscapes, and animals, with no human bodies present. All posts were presented with Instagram borders, names, and captions to enhance ecological validity. However, comments and likes were removed to avoid any confounding effects. Stimuli were presented to participants on a desktop computer screen in a randomised account order with each post displayed for a minimum of 10 seconds before giving participants the option to move to the next image. All images were counterbalanced to control for order effects.

State Mood and Body Satisfaction. Computer based visual analogue scales (VAS) were used to measure state mood and body satisfaction both before and immediately after viewing the experimental stimuli. Participants were asked to rate how they feel "right now" by moving a vertical marker to the appropriate point on each horizontal line with end points labelled 'not at all' (0) and 'very much' (100).

Participants were asked to rate a series of mood dimensions: depressed, anxious, confident, and happy. Research has found that in low stress situations, positive and negative mood are experienced independently, and therefore should be measured as separate dimensions (Reich, Zautra, & Davis, 2003). Accordingly, ratings of 'happy' and 'confident' were combined to form a measure of state positive mood, and 'depressed' and 'anxious' combined to form a measure of state negative mood.

The body satisfaction dimensions included 'satisfied with my weight', 'satisfied with my overall appearance', and 'satisfied with my body shape', which were combined to form a measure of state body satisfaction. To further disguise the true purpose of the study, participants were also asked about their satisfaction with their romantic relationship, financial status, housing situation, occupation/study, and social life. Previous research has shown VAS to be reliable and sensitive measures of changes in mood and body satisfaction among college women, and thus are ideal for pre-post-experimental designs (Fardouly et al., 2015b; Heinberg & Thompson, 1995; Prichard & Tiggemann, 2012). In the current study, the positive mood scale demonstrated acceptable internal consistency at pre-(α = .69), and post-exposure (α = .75), the negative mood scale demonstrated good internal consistency at pre- (α = .77), and post-exposure (α = .80), and the body satisfaction scale demonstrated good to excellent internal consistency at pre- (α = .84), and post-exposure (α = .92).

State Self-Objectification. A modified version of the Twenty Statements Test (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998) was used to measure state self-objectification following exposure to the experimental stimuli. Participants were asked to describe themselves by completing 10 sentences beginning with 'I am'. This implicit measure of state self-objectification has been successfully used in prior experimental research (Calogero, 2013; Harper & Tiggemann, 2008; Tiggemann & Boundy, 2008).

As per Harper and Tiggemann (2008), two independent researchers who were blind to the hypotheses and experimental conditions coded the responses into one of six categories: 1) body shape and size (e.g., “I am overweight”), 2) other physical appearance (e.g., “I am blonde”), 3) physical competence (e.g., “I am strong”), 4) traits or abilities (e.g., “I am friendly”), 5) states or emotions (e.g., “I am tired”), and 6) miscellaneous or uncodable. State self-objectification was operationalised as the number of responses that fit into the first two categories. This produced a score ranging from 0 to 10, with higher scores indicating higher levels of self-objectification. There was substantial inter-rater agreement for appearance items in the first two categories (Cohen’s $\kappa = 0.75$). The authors resolved the remaining discrepancies through discussion until consensus was reached.

State Body Appreciation. A modified version of the State Body Appreciation Scale-2 (SBAS-2; Homan, 2016) was used to assess state body appreciation following exposure to the experimental stimuli. The scale was presented as a VAS, requiring participants to rate how they feel “right now” by moving a vertical marker to the appropriate point on each horizontal line with end points labelled ‘not at all’ (0) and ‘very much’ (100). The four items include “At this moment, I feel good about my body”, “At this moment, I feel love for my body”, “Right now, I am comfortable in my body”, and “Right now, I appreciate the different and unique characteristics of my body”. Scores were averaged, with higher scores indicating higher levels of state body appreciation. Homan (2016) examined the factor structure and psychometric properties of the SBAS-2, and found it to be a valid, reliable, and sensitive measure of state body appreciation. For this study the scale showed excellent reliability ($\alpha = .94$).

Trait Body Appreciation. The Body Appreciation Scale-2 (Tylka & Wood-Barcalow, 2015a) was used to measure trait body appreciation. Participants are asked to

respond to 10 items on a 5-point scale ranging from 'never' (1) to 'always' (5). Example items include "I respect my body" and "I appreciate the different and unique characteristics of my body". Scores were averaged, with higher scores indicating a higher level of body appreciation. Tylka and Wood-Barcalow (2015a) reported good internal consistency, test-retest reliability, and construct validity with a sample of college women. For this study the scale showed excellent reliability (α =.94).

Attitudes towards Body Positive Accounts. All participants were given a definition of body positive accounts and asked how often they currently view body positive content on social media in their everyday lives on a 5-point scale ranging from 'never' (1) to 'always' (5), and how likely they would be to follow such accounts in the future 'very unlikely' (1) to 'very likely' (5). Finally, to ascertain attitudes towards the body positive accounts compared to the thin-ideal accounts, participants in both conditions were presented with an image from each of the four Instagram accounts that they had viewed in their condition and asked to respond to three statements 1) "I like the person who this account belongs to", 2) "I would want to be friends with this person", and 3) "I would want to follow this account" on a 5-point scale ranging from 'strongly disagree' (1) to 'strongly agree' (5). Scores were averaged, with higher scores indicating more positive attitudes towards the Instagram accounts they viewed. For this study the scale showed good reliability (body positive accounts: α =.89; thin-ideal accounts α =.83).

Results

Preliminary Analyses

Available item analysis was used to handle missing data (<1% across all variables). A series of one-way ANOVAs were conducted to ensure that there were no initial differences across the three experimental conditions. There were no significant

group differences in age, $F(2,192) = 0.47$, $p = .63$, partial $\eta^2 = .01$, racial background, $F(2,192) = 0.84$, $p = .43$, partial $\eta^2 = .01$, BMI, $F(2,191) = 0.76$, $p = .47$, partial $\eta^2 = .01$, pre-exposure positive mood, $F(2,191) = 3.02$, $p = .05$, partial $\eta^2 = .03$, pre-exposure negative mood, $F(2,192) = 0.01$, $p > .99$, partial $\eta^2 < .01$, and pre-exposure body satisfaction, $F(2,190) = 0.22$, $p = .80$, partial $\eta^2 < .01$. Nor did the conditions differ on trait body appreciation, $F(2,192) = 0.14$, $p = .87$, partial $\eta^2 < .01$ indicating that this measure had not been reactive to the experimental manipulation. Participants assigned to each condition did not significantly differ in their frequency of viewing body positive posts on social media in their everyday lives $F(2,192) = 1.88$, $p = .16$, partial $\eta^2 = .02$.

State Positive Mood

The means and standard deviations for each outcome measure per condition are presented in Table 1. A two-way mixed ANOVA was conducted to determine whether changes in positive mood over time were different for those exposed to different types of Instagram posts. There was a statistically significant interaction between type of Instagram exposure and time on positive mood, $F(2, 191) = 12.34$, $p < .001$, partial $\eta^2 = .11$. As seen in Figure 1, an analysis of simple main effects showed that positive mood significantly increased from pre- to post-exposure for those exposed to body positive posts, $F(1, 64) = 4.23$, $p = .04$, partial $\eta^2 = .06$, and appearance-neutral posts, $F(1, 63) = 9.93$, $p = .002$, partial $\eta^2 = .14$, whereas for those exposed to thin-ideal Instagram posts, positive mood significantly decreased from pre- to post-exposure, $F(1, 64) = 9.82$, $p = .003$, partial $\eta^2 = .13$.

Table 1. *Means (SD) for state positive mood, negative mood, body satisfaction, body appreciation and self-objectification by exposure condition.*

	Pre-exposure	Post-exposure
Positive Mood		
Body Positive	68.23 (14.16)	71.47 (16.01)[a]
Thin-ideal	68.78 (17.19)	62.30 (21.61)[b]
Appearance-neutral	62.17 (19.08)	67.09 (21.05)[a,b]
Negative Mood		
Body Positive	22.87 (22.37)	20.88 (20.61)[a]
Thin-ideal	22.78 (22.02)	25.97 (23.86)[a]
Appearance-neutral	23.15 (23.08)	20.18 (20.10)[a]
Body Satisfaction		
Body Positive	53.15 (20.21)	60.46 (21.23)[a]
Thin-ideal	55.02 (22.06)	47.69 (26.03)[b]
Appearance-neutral	52.47 (25.38)	54.84 (25.40)[a,b]
Body Appreciation		
Body Positive	-	63.27 (19.95)[a]
Thin-ideal	-	52.55 (26.30)[b]
Appearance-neutral	-	57.10 (25.33)[a,b]
Self-objectification		
Body Positive	-	0.92 (0.89)[a]
Thin-ideal	-	0.86 (1.06)[a]
Appearance-neutral	-	0.37 (0.72)[b]

Note: Means within a column with different superscripts are significantly different at $p < .05$.

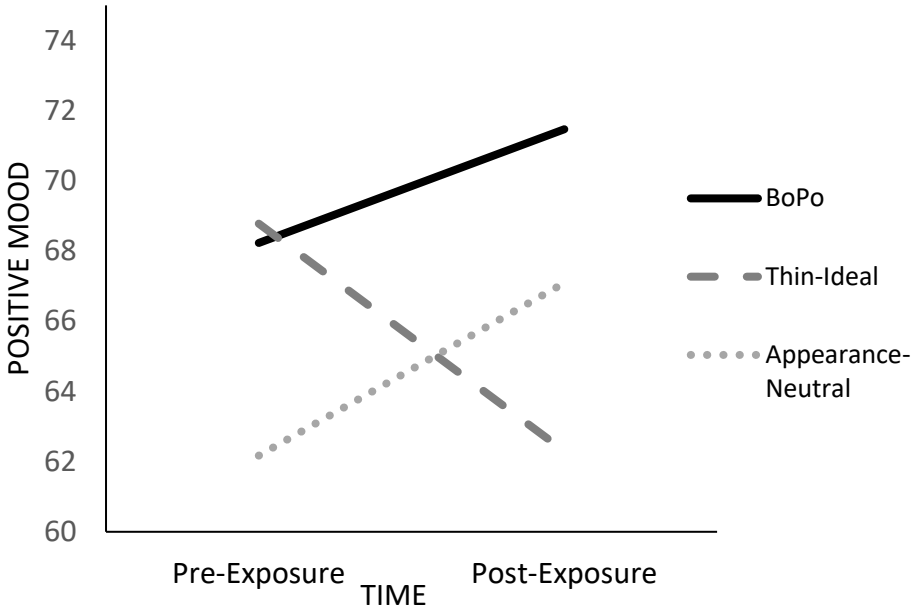

Figure 1. Changes in positive mood across time for each exposure condition.

State Negative Mood

A two-way mixed ANOVA was conducted to determine whether changes in negative mood over time were different for those exposed to different types of Instagram posts. There was a statistically significant interaction between type of Instagram exposure and time on negative mood, $F(2, 192) = 3.37$, $p = .04$, partial $\eta^2 = .03$. Changes in negative mood over time were significantly different for the different types of exposure, with negative mood increasing following exposure to thin-ideal posts, and decreasing following exposure to both body positive and appearance-neutral posts (see Figure 2). However, simple main effects for each condition were not significant (ps > .05).

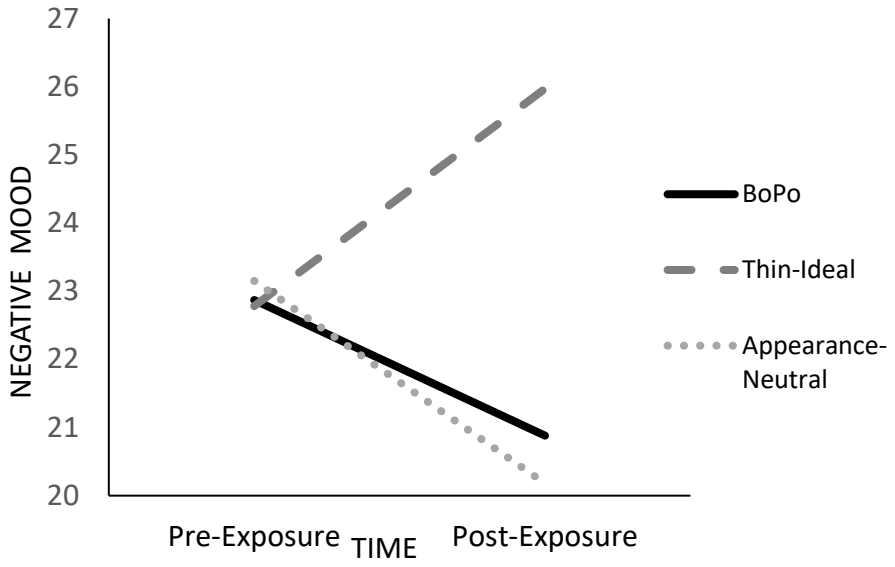

Figure 2. Changes in negative mood across time for each exposure condition.

State Body Satisfaction

A two-way mixed ANOVA was conducted to determine whether changes in body satisfaction over time were different for those exposed to different types of Instagram posts. There was a statistically significant interaction between type of

Instagram exposure and time on body satisfaction, $F(2, 190) = 31.59$, $p < .001$, partial $\eta^2 = .25$. As seen in Figure 3, simple main effect analysis showed that for those exposed to body positive posts, body satisfaction significantly improved from pre- to post-exposure, $F(1, 64) = 32.32$, $p < .001$, partial $\eta^2 = .34$, whereas for those exposed to thin-ideal Instagram posts, body satisfaction significantly decreased from pre- to post-exposure, $F(1, 64) = 25.74$, $p < .001$, partial $\eta^2 = .29$. There were no significant differences between pre- and post-exposure body satisfaction for those exposed to appearance-neutral posts $F(1, 62) = 3.60$, $p = .06$, partial $\eta^2 = .06$.

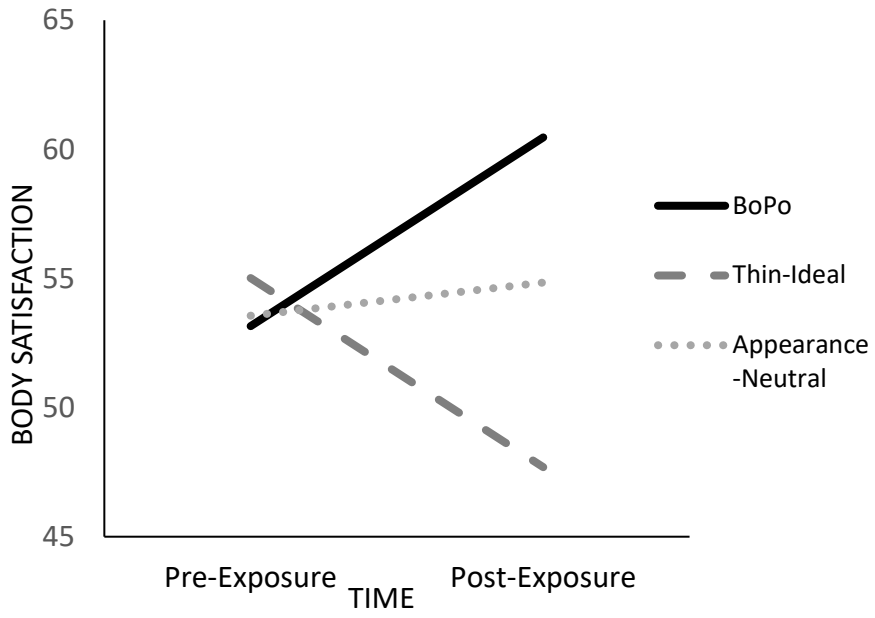

Figure 3. Changes in body satisfaction across time for each exposure condition

State Body Appreciation

A one-way ANOVA was conducted to determine if state levels of body appreciation were different following exposure to the different types of Instagram posts. Body appreciation scores were significantly different following the different types of exposure $F(2,192) = 3.26$, $p = .04$, partial $\eta^2 = .03$. As seen in Figure 4, body

appreciation scores were highest for those exposed to body positive posts, followed by appearance-neutral posts, with the lowest levels of body appreciation following exposure to thin-ideal posts. Tukey post hoc analysis revealed that body appreciation levels were significantly higher for those exposed to body positive posts compared to thin-ideal posts (*MD* = 10.72, *SE* =4.21, *p* = .03), but no other group differences were statistically significant (*p*s > .05).

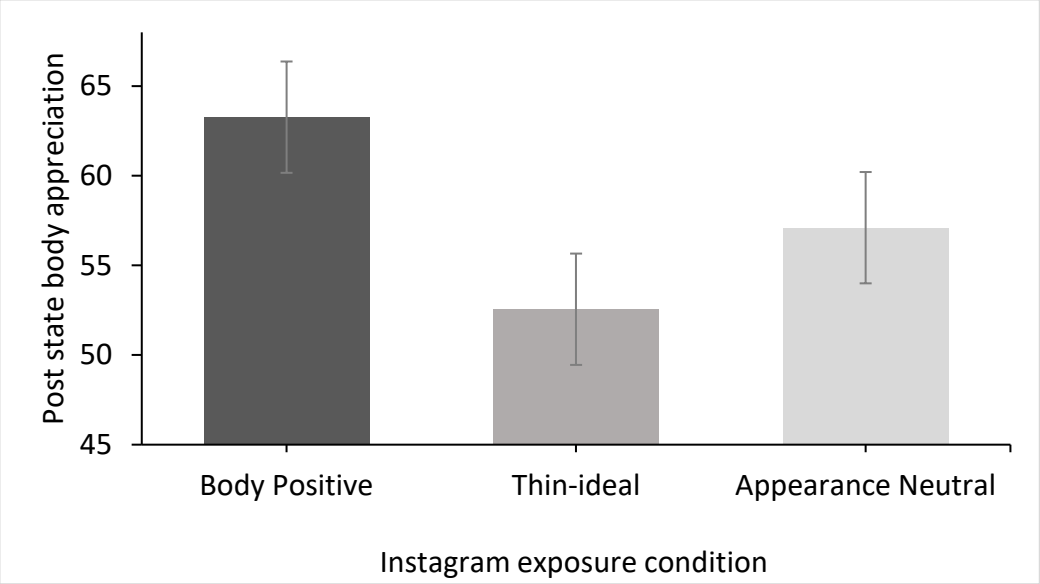

Figure 4. Post-exposure scores for state body appreciation for each exposure condition

State Self-objectification

A one-way ANOVA was conducted to determine if state self-objectification scores differed across the three exposure conditions. State self-objectification scores were significantly different between the different exposure conditions, $F(2,192) = 7.40$, $p = .001$, partial $\eta^2 = .07$. As seen in Figure 5, state self-objectification scores were highest for those exposed to body positive posts, followed by the thin-ideal condition, and lowest in the appearance-neutral condition. Tukey post hoc analysis revealed that state self-objectification was significantly higher in the thin-ideal and body positive conditions compared to the appearance-neutral condition (*MD* = 0.49, *SE* = 0.16, *p* =

.01; and $MD = 0.55$, $SE = 0.14$, $p < .001$ respectively). There were no significant differences in state self-objectification scores between those exposed to thin-ideal and body positive posts ($MD = 0.06$, $SE = 0.16$, $p = .92$).

In accordance with previous research (Aubrey, Henson, Hopper, & Smith, 2009), the valence of each appearance-based statement was further coded as negative (-1; e.g., "I am dumpy"), positive (+1; e.g., "I am cute"), or neutral (0; e.g., "I am brunette"). A one-way ANOVA was conducted to determine if the valence of appearance-related statements differed between the body positive and thin-ideal conditions. Results showed that women who viewed body positive posts made significantly more positive statements about their appearance ($M = 0.37$, $SD = 0.84$) than the women who viewed thin-ideal posts ($M = 0.00$, $SD = 0.79$), $F(2,192) = 5.40$, $p = .005$, partial $\eta^2 = .05$.

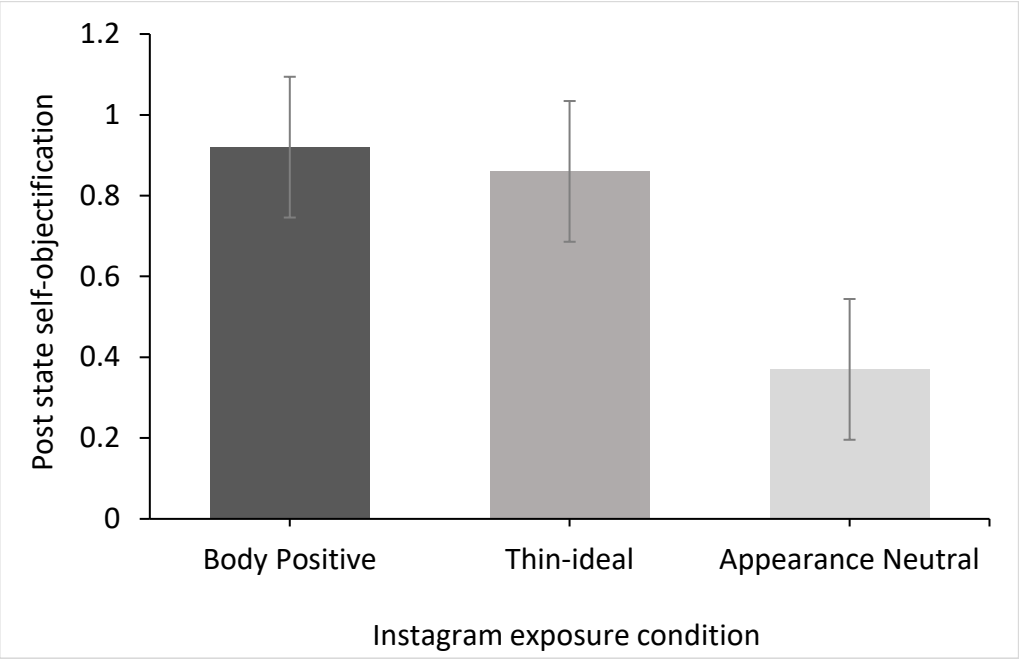

Figure 5. Post-exposure scores for state self-objectification for each exposure condition

Controlling for Trait Body Appreciation

We were interested to see if the effects of viewing body positive versus thin-ideal Instagram posts on state positive and negative mood, state body satisfaction, state body appreciation, and state self-objectification differed when controlling for trait body appreciation. Even when controlling for trait body appreciation, there was a statistically significant interaction between type of Instagram exposure and time on positive mood $F(2, 190) = 12.64$, $p < .001$, partial $\eta^2 = .12$, negative mood, $F(2, 191) = 3.42$, $p = .04$, partial $\eta^2 = .04$, and body satisfaction, $F(2, 189) = 31.85$, $p < .001$, partial $\eta^2 = .25$. Similarly, ANCOVAs showed that, even after adjustment for trait body appreciation, post-exposure state body appreciation levels were significantly higher following exposure to body positive posts compared to thin-ideal posts, $F(2, 191) = 6.66$, $p = .002$, partial $\eta^2 = .07$, and post-exposure state self-objectification was significantly higher in the thin-ideal and body positive conditions compared to the appearance-neutral condition $F(2, 191) = 7.54$, $p = .001$, partial $\eta^2 = .07$.

Attitudes towards Body Positive Accounts

An independent samples *t* test established that those who viewed body positive accounts formed more positive attitudes towards the women in the accounts they viewed ($M = 3.55$, $SD = 0.75$) compared to those who viewed the thin-ideal posts ($M = 2.73$, $SD = 0.75$), $t(127) = 6.17$, $p < .001$. Moreover, just over half of all participants (51%, n=99) said that they were somewhat or very likely to follow body positive accounts in the future, and this likelihood to follow body positive accounts in the future did not differ across conditions (body positive: $M = 3.18$, $SD = 1.25$, thin-ideal: $M = 3.18$, $SD = 1.21$, appearance-neutral: $M = 3.29$, $SD = 1.32$), $F(2,192) = 0.16$, $p = .85$.

Discussion

The present study aimed to examine the impact of exposure to body positive Instagram posts on women's state mood, body satisfaction, body appreciation, and self-objectification relative to thin-ideal and appearance-neutral Instagram posts. In support of the hypotheses, brief exposure to body positive content on Instagram was associated with improvements in young women's positive mood and body satisfaction, whereas viewing thin-ideal posts was associated with decreases in positive mood and body satisfaction. Women who viewed body positive content also reported greater body appreciation than women who viewed thin-ideal content. Exposure to appearance-neutral posts had no impact on body image outcomes as expected, but was associated with improvements in positive mood. Although not predicted, this finding was not surprising given that exposure to nature has been found to improve mood (Velarde, Fry, & Tveit, 2007). Additionally, exposure to both body positive and thin-ideal content was associated with increased state self-objectification relative to exposure to appearance-neutral content.

These findings contribute to the existing research in two important ways. Firstly, they lend experimental support to the growing, yet mostly correlational, body of research on the harmful effects of viewing thin-ideal social media content on women's mood and body image (Holland & Tiggemann, 2016), providing further support for the application of the Tripartite Influence Model and objectification theory to the social media environment. Secondly, to the best of our knowledge, the present study is the first experimental study to demonstrate that viewing 'body positive' content on Instagram (or *BoPo)* may improve positive mood, body satisfaction, and body appreciation. In line with the theoretical construct of positive body image, by providing women with broader conceptualisations of beauty and fostering body appreciation, body

positive content may offer a practical and cost-effective way to both reduce women's vulnerability to body dissatisfaction, as well as promote positive body image (Halliwell, 2015; Paraskeva et al., 2017). The fact that these results held even when controlling for trait body appreciation indicates that brief exposure to body positive content can have an immediate positive impact on a woman's body image regardless of her trait levels of body appreciation.

This study also examined the effects of viewing body positive content on young women's state self-objectification. Interestingly, women reported more appearance-related statements after viewing both thin-ideal and body positive posts compared to the appearance-neutral posts, and there were no differences between the thin-ideal and body positive conditions. Previous correlational research have found that recalled experiences of both appearance criticisms and compliments were associated with higher levels of self-objectification (Calogero, Herbozo, & Thompson, 2009; Slater & Tiggemann, 2015). Although these studies were investigating the effects of appearance commentary made by others, and not self-referential comments, the findings converge with the results of the present study to suggest that any focus on one's appearance, whether positive or negative, may be associated with greater state self-objectification. This finding is also understandable given that body positive content also exists on the photo-based platform of Instagram and contains images of women's bodies in revealing clothing (Cohen et al., 2019b), as well as captions that make explicit references to aspects of appearance like 'cellulite', 'belly rolls', 'curvy', and 'fat'. Research shows that viewing objectifying images and objectifying words can separately prime state self-objectification (Harper & Tiggemann, 2008; Roberts & Gettman, 2004), and therefore, despite its positive intentions, it is possible that viewing body positive content may be associated with higher state self-objectification in young women just like other forms of

appearance-focused social media (Betz & Ramsey, 2017; Cohen et al., 2017). Given the potential ramifications of self-objectification on body shame, depression and eating disorder symptomatology (Moradi & Huang, 2008), future longitudinal research is needed to understand the long-term effects of following body positive content on Instagram, in terms of body image outcomes, self-objectification, and general well-being.

Notably, when the appearance-related statements were re-analysed in terms of valence (Aubrey et al., 2009; Harrison & Fredrickson, 2003), we found that the women who viewed body positive posts made more positive statements about their appearance than the women who viewed thin-ideal posts. Whilst self-objectification is typically related to negative body image (Halliwell, 2015), it is possible for a women to self-objectify and be happy with her appearance (Aubrey et al., 2009), as was found in the body positive condition. In the present study, statements like "I am beautiful" were particularly common in the body positive condition. Such statements could be indicative of participants adopting a broader conceptualisation of beauty to incorporate a variety of appearances and internal attributes when determining beauty in themselves (i.e., 'I am beautiful despite my flaws', 'I am beautiful on the inside', Tylka & Wood-Barcalow, 2015b), as encouraged by the body positive content they just viewed (i.e., 'every body is beautiful'). Nevertheless, the current coding procedure of the Ten Statements Test limits our ability to clarify what women meant by "I am beautiful" resulting in such statements being coded as appearance-related responses, and thus higher scores of state self-objectification. Qualitative analyses of women's responses to body positive posts would provide a deeper understanding of the impact of this newer media type on women's body image, in particular self-objectification. Moreover, future research is necessary to disentangle the psychological effects of viewing content on social media

that reflects aspects of both positive body image and objectification. This inquiry would also help inform and refine existing theories regarding the potential coexistence of these two constructs unique to the body positive environment (Webb, Vinoski, Bonar, Davies, & Etzel, 2017a).

Practical Implications

In addition to the study's implications for theory and research as discussed above, the current findings have practical implications and reveal a possible constructive avenue for social media use in terms of future prevention and intervention efforts. Unlike traditional media formats whereby users are passive consumers, social media users arguably have agency in terms of what they post and who they follow. The current results suggest that perhaps, as an initial step, simply encouraging women to follow more body positive accounts may help to counterbalance the many idealised messages typical of most women's social media feeds. Our data suggest this is feasible, considering that while only a small percentage of participants reported currently viewing body positive content on their social media, just over half of participants, regardless of exposure condition, said that they were willing to follow body positive accounts in the future. Nevertheless, users should be mindful of the potential for body positive content to increase one's focus on appearance more generally.

Limitations and Future Directions

As with all studies, the present findings should be considered in light of several limitations. Firstly, the study was conducted in a laboratory setting and so, despite using strategies to increase ecological validity, viewing social media posts in an experimental context may not replicate real-word effects. Nevertheless, the positive impact of viewing body positive content was experienced after only three minutes of exposure, whereas, on average, participants reported their typical social media use to be just under

two hours a day. Therefore, real life effects of viewing body positive content may be larger than what we found in this study, and future research into the potential longer-term benefits of viewing body positive content would be worthwhile. A second limitation was the lack of pre-exposure measures of state body appreciation and self-objectification, which were purposefully not included to avoid priming and demand characteristics. Moreover, while many efforts were made to reduce demand characteristics, participants' responses may still have been influenced by these factors and future research should take this into account. Finally, to enhance ecological validity, stimuli posts were taken directly from Instagram, including both the photograph and caption. However, this approach means it is not possible to differentiate between the impact of the image versus the caption. Similarly, the body positive stimuli were somewhat heterogeneous with three accounts containing images of humans and one account containing images of quotes. Consequently, whilst there appears to be an effect of the body positive stimuli overall, it is difficult to ascertain which types of posts may be driving these effects. Future experimental studies should aim to tease apart these aspects and establish whether both the image and caption are necessary to achieve these effects, and if these effects differ across the various types of body positive posts.

Conclusions

Despite these limitations, the present study demonstrates novel and promising initial findings regarding the effects of viewing 'body positive' content on Instagram on women's mood and body image. Specifically, the findings that exposure to body positive content on Instagram can have a positive impact on women's immediate mood, body satisfaction, and body appreciation significantly extend previous research into 'new' media and body image, as well as contribute to the emerging research into positive body image. Based on the results of the present study, young women who find

themselves frequently exposed to thin-ideal content on social media could be encouraged to follow body positive accounts on social media that offer alternative and empowering messages about the body, in order to improve their mood and body image.

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CHAPTER 5: Paper 4 – #bodypositivity: A Content Analysis of Body Positive Accounts on Instagram

Preamble to Chapter 5

Paper 3 found that brief exposure to body positive posts on Instagram was associated with improvements in positive mood, body satisfaction, and body appreciation, relative to thin-ideal and appearance-neutral posts. However, both thin-ideal and body positive posts were associated with increased self-objectification following exposure. For the purpose of paper 3, the experimental stimuli consisted of a small sample of body positive posts. These were selected to represent the broad range of posts based on a preliminary review of body positive posts and pilot testing with young women. However, to date, there has been no systematic analysis of body positive content on SNS. Similarly, given Paper 3's findings that viewing body positive content on SNS was associated with greater self-objectification, further research is necessary to investigate features of body positive content that may foster self-objectification.

Content analyses enable researchers to gain important insight into various social phenomena through a systematic methodology, and can lay important groundwork for additional research in the area and offer practical implications. To date, researchers have conducted various content analyses of thin-ideal imagery (including *thinspiration* and *fitspiration*) and messages on social media, and have found evidence of objectifying imagery with problematic messages consistent with body image issues and eating disordered attitudes and behaviours (e.g., Boepple, Ata, Rum, & Thompson, 2016; Carrotte, Prichard, & Lim, 2017; Ghaznavi & Taylor, 2015; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018; Wick & Harriger, 2018). With the increasing emphasis on positive body image within the literature, the recent emergence of body positivity on

Instagram presents an important opportunity to understand this social phenomenon more carefully.

At present, there is no best practice approach for systematically searching social media and, as a result, sampling methodologies have varied across different content analyses of imagery on social media (Skalski, Neuendorf, & Cajigas, 2017). In paper 4, a convenience sample of popular body positive accounts was sourced from websites listing the 'top body positive accounts on Instagram'. This sampling procedure is consistent with previous content analyses interested in the predominant appearance-related messages being communicated to consumers in magazines, books, television, and internet (Aubrey, 2010; Boepple et al., 2016; Conlin & Bissell, 2014; Herbozo, Tantleff-Dunn, Gokee-Larose, & Thompson, 2004; Slater, Tiggemann, Hawkins, & Werchon, 2012; Wasylkiw, Emms, Meuse, & Poirier, 2009). For example, two studies consulted lists of the top magazines in terms of circulation based on the assumption that the magazines with the highest circulation within their respective categories would have the greatest number of readers (Aubrey, 2010; Conlin & Bissell, 2014). Similarly, Wasylkiw et al. (2009) chose a convenience sample of 10 popular women's magazines for analysis. A study of appearance messages in children's media sampled content from Amazon.com's 'most popular titles' list and from America Film Institutes Top Movies list (Herbozo et al., 2004).

Whilst several content analyses of social media have used hashtags to sample their images (e.g., Carrotte et al., 2017; Talbot, Gavin, van Steen, & Morey, 2017; Tiggemann & Zaccardo, 2018), a preliminary examination of hashtags related to body positive terms revealed that many associated images were unrelated to body positive messages. For example, one may post a picture of their coffee and tag #bopo in order to attract more likes and followers, despite the content not directly relating to positive

body image. Moreover, Carrotte et al. (2017) outlined a possible limitation of hashtag-based sampling because social media users interested in certain content (e.g., fitspiration, BoPo etc.) tend to follow accounts dedicated to such content, rather than use hashtag-based searching. Therefore, using the hashtags to sample content was not considered to be representative of body positive content specifically, whereas sampling via popular content-dedicated accounts may improve external validity. Therefore, for the purpose of Paper 4's research questions, popular body positive accounts were used to sample posts.

Accordingly, Paper 4 uses a convenience sampling approach to conduct a content analysis of the physical appearance-related characteristics and key themes featured in prominent body positive accounts on Instagram, and evaluate how closely this content aligns with theoretical conceptualisations of positive body image.

#bodypositivity: A Content Analysis of Body Positive Accounts on Instagram

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Statement of co-authorship: All authors were involved in the formulation of the study concept and design. Rachel Cohen and Lauren Irwin collected and coded the data. Rachel Cohen completed the initial draft of the manuscript. Lauren Irwin, Toby Newton-John, and Amy Slater edited multiple revisions of the manuscript.

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Abstract

In the last decade, the body image literature has begun to extend beyond a primary focus on body image disturbances and examine the construct of positive body image. Similarly, "Body positivity" is a growing social media trend that seeks to challenge dominant societal appearance ideals and promote acceptance and appreciation of all bodies and appearances. The present study provides a content analysis of body positive posts on Instagram. A set of 640 Instagram posts sampled from popular body positive accounts were coded for physical appearance-related attributes and central themes featured. Results showed that body positive imagery typically depicted a broad range of body sizes and appearances. Additionally, while a proportion of posts were appearance-focused, the majority of posts conveyed messages aligned with theoretical definitions of positive body image. This study clarifies body positive content on Instagram, as well as highlights points of overlap and distinction from academic principles of positive body image and other appearance-focused social media content. Accordingly, the results offer theoretical and practical implications for future research and prevention efforts.

Introduction

It is well established that exposure to culturally-based beauty ideals in the media is associated with body dissatisfaction, weight concern, thin-ideal internalisation, and disordered eating behaviours in women (Frederick, Daniels, Bates, & Tylka, 2017; Grabe et al., 2008; Groesz et al., 2002). More recently, people are increasingly turning to *social* media as a dominant source of information about social norms and appearance standards (Bair et al., 2012). Over 3 billion people use social media worldwide, with 89% of young adults checking their social media accounts at least once per day, and women checking even more frequently (Pew Research Center, 2018). Recent research suggests that, as with traditional media, appearance-focused social media use is positively associated with thin-ideal internalisation, self-objectification, body dissatisfaction, and disordered eating behaviours in women (Cohen et al., 2017, 2018).

Appearance Ideals on Social Media

Two predominant appearance ideals presented on social media are *thinspiration* (visual or textual images intended to inspire weight loss), and *fitspiration* (motivational images and text designed to inspire people to attain fitness goals). Content analyses of online media depicting *thinspiration* and *fitspiration* have found that these images typically portray scantily-clad women with ultra-thin or thin-athletic bodies in sexually objectifying poses (Carrotte et al., 2017; Ghaznavi & Taylor, 2015; Tiggemann & Zaccardo, 2018). Most images contain messages that glorify the thin or thin and toned ideals, as well as promote dietary restraint and exercise for appearance-motivated reasons (Boepple et al., 2016; Simpson & Mazzeo, 2017; Wick & Harriger, 2018). Given that *fitspiration* is designed to motivate exercise and health, one may assume that it is healthier than *thinspiration*. However, Boepple and Thompson (2016) found that *thinspiration* and *fitspiration* online content did not differ on guilt-inducing messages

regarding weight or the body, fat stigmatisation, the presence of objectifying phrases, and dieting messages, with 88% of *thinspiration* and 80% of *fitspiration* content containing one or more of these messages. It is not surprising then, that acute exposure to such content has been found to increase body dissatisfaction, negative mood, and decrease appearance self-esteem in women (Robinson et al., 2017; Tiggemann & Zaccardo, 2015).

Body Positivity

In response to the dominant appearance-ideal messages in traditional and social media, there has been growing momentum to reject these narrowly-defined and inaccessible body ideals in favour of a more inclusive and positive conceptualisation of body image. In popular culture, this momentum has been termed the "body positive movement" or "body positivity." This movement stems from the 1960s feminist-grounded fat acceptance movement that emerged in reaction to the rise in anti-fat discourse in Canada and the United States at the time (Afful & Ricciardelli, 2015). The fat acceptance movement aimed to encourage critical debate about societal assumptions of body image and protest discrimination against fat people (Afful & Ricciardelli, 2015). Similarly, body positivity aims to challenge the prevailing thin-ideal messages in the media and foster acceptance and appreciation of bodies of all shapes, sizes, and appearances (Cwynar-Horta, 2016).

In recent years, body positivity has become popularised through the photo-based social networking site, Instagram, which has seen a rise in body positive Instagram accounts. A search of the hashtag #bodypositive on Instagram elicits 7,069,114 posts and #bodypositivity shows 2,195,968 posts (Instagram, September 2018). These hashtags accompany a variety of imagery, including "fat" women practicing yoga with captions like "fat girls can be active, fit and fabulous too!", and plus-size fashion

bloggers wearing the latest trends previously reserved for thin-ideal runway models, with hashtags like #plussizefashion and #styleissizeless. Such posts intend to increase the visibility and normalisation of otherwise underrepresented bodies in traditional media (Saguy & Ward, 2011). Other popular body positive accounts share their journeys from body hatred and/or disordered eating to body acceptance and appreciation. For example, @bodyposipanda, one of the most prominent body positive "influencers"[4] on Instagram, describes herself as a "body positive babe [and] anorexia conqueror." On her Instagram account, she shares her experiences recovering from anorexia nervosa with her 1 million followers and posts messages about accepting one's body as it is, seeing "beauty in the rolls, folds, lumps and curves on your body."

Unlike traditional media consumption, social media users are both passive consumers and active creators of content. Social networking sites, like Instagram, have become one of the most dominant and influential mediums to cultivate awareness, foster online communities and advocate for social change at a global level (Kasana, 2014). Accordingly, Instagram offers body positive advocates a global platform to reframe the prevailing discourse on body image, beauty, and health in the media to be more inclusive and affirmative. This has been accompanied by a barrage of media outlets urging readers to follow the top body positive Instagram accounts with headlines like "7 Body-Positive Instagram Accounts To Follow For A Confidence Boost" (Moss, 2017) and "13 Body-Positive Influencers You Should Follow on Instagram" (Williams & Williams, 2017).

[4] Influencer is a term used to describe a social media user who has garnered a significant number of followers and has thus established credibility in their specific domain. They therefore have the credibility and reach necessary to influence the behaviour and opinions of a large audience of followers (Halzack, 2016).

Positive Body Image in Research

This shift towards positive body image has also been reflected in the body image scholarship. In the last decade, the body image literature has begun to embrace a more holistic understanding of body image by moving beyond a singular focus on body image *disturbance* and investigating the concept of *positive* body image (Tylka, 2012, 2018). Positive body image has been defined as an overarching love and respect for the body, consisting of six core components: (1) body appreciation (gratitude for the function, health, and unique features of the body), (2) body acceptance and love (accepting aspects of the body that are inconsistent with idealised media images), (3) conceptualising beauty broadly (perceiving beauty based on a variety of appearances and internal characteristics), (4) adaptive investment in body care[5] (tending to the body's needs through exercise, sleep, hydration etc.), (5) inner positivity (feeling beautiful on the inside which may radiate to the external appearance and behaviour, e.g., kindness, mindfulness), and (6) protective filtering of information (rejecting negative body-related information while accepting positive information) (Tylka, 2012, 2018; Tylka & Wood-Barcalow, 2015b).

A growing body of research shows that positive body image is related to greater emotional, psychological, and social well-being, as well as physical health outcomes (Andrew et al., 2016a, 2016b; Swami et al., 2018; Tylka, 2018). Moreover, research has found associations between positive body image and adaptive behavioural outcomes, including healthier eating patterns in adolescent and adult women (Andrew, Tiggemann, & Clark, 2014; Andrew et al., 2016b; Augustus-Horvath & Tylka, 2011), prosocial

[5] This was previously called "adaptive investment in appearance" (Tylka & Wood-Barcalow, 2015b) but for the purpose of ease of interpretation and coding in this study, it will be referred to as "adaptive investment in body care" as recommended by T. L. Tylka (Personal communication, January 15, 2018).

behaviour and self-care (Tylka, 2012), increased exercise frequency (Homan & Tylka, 2014), and improved sexual functioning (Satinsky et al., 2012).

Research based on consumer preferences suggests that providing women with greater diversity of appearances in media images and developing social networks that focus on positive, non-appearance focused qualities, are worthwhile avenues to promote positive body image at a macro-level (Paraskeva et al., 2017). Qualitative research has shown that individuals with a positive body image tend to interpret appearance-related information in a body-protective manner, internalising positive information and rejecting or reframing negative information (Holmqvist & Frisén, 2012; Wood-Barcalow et al., 2010). Accordingly, body positive Instagram accounts, which purport to offer online communities dedicated to sharing appearance-ideal resistance strategies and fostering appreciation for a wider variety of body appearances, may play an important role in the development and maintenance of positive body image in young women. Therefore, it is important to examine body positivity on social media in order to enrich our understanding of consumer experiences of positive body image, and potentially discover a novel avenue to promote positive body image at a macro-level.

Potential Negatives of Body Positive Social Media Content

Despite the ostensible benefits of body positive content on social media, some researchers have questioned whether the large number of images of women's bodies and the emphasis on "loving your looks" continues to reinforce, rather than nullify, society's preoccupation with appearance over other attributes (Webb et al., 2017a). Others are critical that, aside from portraying higher weight individuals, influential body positive accounts typically depict conventionally attractive White women and often exclude other marginalised bodies, such as diverse ethnicities, individuals with a physical disability, and gender non-conforming bodies (Dalessandro, 2016). Moreover,

some critics argue that, just like thin-ideal accounts, body positive accounts are becoming commodified as they grow in popularity, whereby influencers are paid to promote commercial products (Cwynar-Horta, 2016). Cwynar-Horta (2016) further argues that, during this commodification process, body positive advocates deviate from their initial body positive ideals and their Instagram content begins to resemble the more dominant appearance-focused content on Instagram.

Despite these concerns, no research to date has systematically examined body positive content on social media to determine whether it does in fact promote what it intends. For example, *fitspiration* is ostensibly intended to promote health and fitness, yet content analyses have found that it promotes thinness and disordered eating (Boepple et al., 2016; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018; Wick & Harriger, 2018). In addition, viewing such content has been found to be associated with greater body dissatisfaction and have no relationship with actual exercise behaviour (Robinson et al., 2017; Tiggemann & Zaccardo, 2015). Similarly, research examining body positive content is necessary to further develop our understanding of the emerging social and cultural influences that may be contributing to the shifting body image landscape.

One content analysis, however, examined the different types of fat acceptance messages on Instagram by comparing 200 images tagged with the hashtag "#fatspiration" and 200 images tagged with "#healthateverysize" (Webb et al., 2017a). Images across both groups were found to represent predominantly White women of high "normal weight" to low "overweight" body mass index (BMI). Despite these similarities, images associated with #fatspiration more frequently conveyed messages of fat acceptance through fashion and beauty-related activism (i.e., selfies, clothing item or fashion accessory prominently featured, additional fashion and beauty hashtags),

whereas images tagged with #healthateverysize more often endorsed physical activity, health, and wellness. Surprisingly, posts tagged with #healthateverysize were associated with fat stigmatising content. Webb et al. (2017a) speculated that this weight stigmatising content may stem from the public's scepticism that an individual can be both "fat and fit," and the resulting belief that this type of content may negatively impact users' motivation to seek support for engaging in healthy lifestyle behaviours. Whilst this content analysis demonstrated the multi-faceted nature of fat acceptance messages on Instagram, it did not examine broader body positive content (Webb et al., 2017a).

Accordingly, despite body positivity's growing influence and popularity on Instagram, it remains unclear what messages are being disseminated across leading body positive accounts, and how closely these messages align with the theoretical understandings of positive body image. If predominant body positive accounts are aligned with positive body image constructs, this may present a unique avenue to foster positive body image in young women. Alternatively, if appearance-ideal attributes and messages are heavily featured instead, this type of imagery may contribute to negative body image similar to other appearance-focused social media content. Therefore, a systematic analysis of this body positive content may provide valuable information for future prevention research and initiatives.

The Present Study

The present study aimed to investigate the content depicted in prominent body positive Instagram accounts, and to examine how closely this content aligns with the theoretical core components of positive body image, as outlined by Tylka (2012, 2018) and expanded by Tylka and Wood-Barcalow (2015b). Previous content analyses of *fitspiration* and *thinspiration* social media content have found that the women depicted

in these images typically subscribe to ultra-thin or thin-athletic body ideals and are often posing in an objectified way. We therefore aimed to examine the visual depiction of individuals in body positive accounts, in terms of appearance and level of objectification. In response to the potential criticism of body positive accounts as still being heavily focused on appearance, a further aim was to examine appearance-focused themes. Based on a scoping review of current popular accounts (elaborated in the Method), we hypothesised that body positive Instagram accounts would depict a broad range of bodies and depict themes congruent with positive body image, but would also contain appearance-focused content.

Method

Sample

To acquire the sample frame of popular body positive Instagram accounts, the search term "top body positive Instagram accounts" was entered into the three most used online search engines (Google, Bing, and Yahoo!). This purposive sampling approach is consistent with previous content analyses interested in the predominant appearance-related messages being communicated to consumers in magazines, books, and television (Aubrey, 2010; Boepple et al., 2016; Conlin & Bissell, 2014; Herbozo et al., 2004; Wasylkiw et al., 2009). The search was conducted in January 2018 from a public library computer on a private browser to avoid targeted responses based on previous search histories and cookies. Consistent with Boepple et al. (2016), links were sampled from the first webpage returned by each search engine, because this presents the most widely accessed and influential websites (Hindman, Tsioutsiouliklis, & Johnson, 2003).

The search returned 16 unique links. Links were excluded if they did not list individual accounts (n = 1) or if they were older than December 2016 (n = 4), yielding a

final sample frame of 11 website articles listing 67 unique Instagram accounts in total. Inclusion of each account was determined by four main criteria: (1) popularity (minimum 50,000 followers; *n* = 20 removed), (2) activity level on Instagram (minimum 100 posts, including the most recent post being made within two weeks of sampling; *n* = 4 removed), (3) body positive-related content (e.g., account biography references body positivity/positive body image; *n* = 10 removed), and (4) English as primary language used in posts (*n* = 1 removed). All body positive accounts that met criteria were retained for coding (*n* = 32).

Twenty posts were then randomly sampled from each account, generating a final sample of 640 posts for coding. The target sample size was selected based on previous research (Boepple & Thompson, 2016; Tiggemann & Zaccardo, 2018). Posts were randomly sampled using a random number generator across the 2017 calendar year to ensure the sample represented up-to-date body positive content without the potential biases that would arise from sampling consecutive posts during a particular week or month (e.g., only summer).

Coding Procedures

Since there was no prior codebook of body positive content on social media, a codebook was created for the present study based on theoretical concepts, prior content analyses of social media content, and a scoping review of body positive content (see Appendix C for the codebook). Specifically, the body positive coding categories were developed based on Tylka (2012, 2018) and Tylka and Wood-Barcalow's (2015b) core components of positive body image. Appearance-focused coding categories were derived from previous content analyses of appearance-related content on social media (Boepple et al., 2016; Webb et al., 2017a). In addition, the first and second authors conducted an initial scoping review of the images to determine which variables were

relevant for the analysis. Six additional attributes/themes emerged from this scoping review: two additional demographic and body-related attributes (i.e., visible physical disability and perceived "flaws") and four other relevant themes (i.e., commercialism, mental health, eating disorders, and activism).

The first author and the main coder (second author, postgraduate psychology student) met for a series of training sessions involving an iterative process of consensus coding and making updates to the original codebook. Following this process, two rounds of pilot coding were conducted using posts captured in February 2018; 32 posts were analysed each time (not included in the final analysis). Each coder rated the posts independently and then met to discuss any discrepancies. This resulted in finalising the coding instrument. Following training and codebook refinement, the main coder went on to code all 640 official posts. To establish inter-rater agreement and reliability (Table 1), a second coder (third author, PhD-level clinical psychologist) was trained in the coding procedures and coded a random selection of 10% of the posts for all study variables according to the codebook. The total agreement across all coding was 94.23%, indicating a high level of inter-coder agreement. Inter-rater reliability was calculated for nominal variables using Cohen's Kappa (average κ =.85, indicating high reliability; Landis & Koch, 1977), and for continuous variables using two-way mixed intra-class correlation coefficients (average ICC = .95, indicating excellent reliability; Cicchetti, 1994). A third coder resolved any discrepancies.

Table 1. Inter-coder agreement and reliability for coding variables.

Variable	Inter-rater Agreement (%)	Reliability (Kappa or ICC)
Demographics		
Gender	98.46	.81
Ethnicity	95.96	.86
Age	94.36	.97
Visible physical disability	96.92	.65
Body-related attributes		
Body size	89.69	.91
Culturally-based beauty ideals	80.62	.94
Visible "flaws"	96.41	.80
Visible "flaws": Cellulite	96.92	.73
Visible "flaws": Stomach rolls/soft belly	96.92	.86
Visible "flaws": Stretch marks	95.38	.74
Visible "flaws": Acne/skin blemishes	100.00	1
Visible "flaws": Bodily hair	92.31	.80
Clothing, activity, and objectification		
Clothing/exposure	92.97	.98
Activity	89.23	.77
Objectification	84.38	.88
Objectification: Focus on specific body part	95.31	.96
Objectification: Sexually suggestive pose	79.69	.84
Objectification: Absence of clearly visible head/face	92.19	.93
Positive Body Image Themes		
Body Appreciation	96.88	.86
Body Acceptance/love	92.19	.78
Conceptualising Beauty Broadly	87.50	.75
Adaptive Investment in Body Care	96.88	.87
Inner Positivity	89.06	.73
Protective filtering Information in a Body-Protective Manner	96.88	.87
Appearance-focused Themes		
Weight loss/exercise/diet-appearance	100.00	1
Clothing/beauty-appearance	89.06	.76
Thin praise	100.00	1
Weight/fat stigmatising	100.00	1
Thin stigmatising	100.00	1
Body/weight/food shame	100.00	1
Other Relevant Themes		
Commercialism	92.31	.83

Mental health	98.46	.79
Eating disorders	98.46	.85
Activism	98.44	.79

Coding Attributes and Themes

The Instagram posts were coded on three levels: (1) Imagery (not including caption); (2) Human subjects (if present in Imagery); and (3) Post themes (including imagery, caption, and hashtags).

Imagery. The visual component of posts was coded as: (a) visual image only (human figure/s, cartoon figure/s of humans, or non-human image of nature, food, animals); (b) text only (motivational quote, educational text, humorous text, opinion, other); (c) visual image and text combined (e.g., quote overlaid on an image); or (d) video.

Human subjects. Imagery containing humans or cartoon figures of humans were coded further for demographics, body-related attributes, clothing, activity, and objectification. If the imagery contained more than one dominant human figure, each figure was coded individually for these features. Still images and videos were coded in the same way, with videos coded at the overall video level in line with prior content analyses of video content (see for example, Aubrey & Frisby, 2011).

Demographics. In line with Webb et al.'s (2017a; 2017b) rating schemes, human subjects were coded for perceived gender (female, male, other), age range (<15-years-old, 15-20-years-old, 20s, 30s, 40s, 50s, 60s or older), and race/ethnicity (African-American/Black, Asian, White, Indigenous, Middle Eastern, or other). Additionally, subjects were coded for the presence of a physical difference or disability (e.g., missing limb, wheelchair, obvious scarring on body, and colostomy bag).

Body-related attributes. Consistent with previous content analyses of

multiethnic samples (Thompson-Brenner, Boisseau, & Paul, 2011; Webb et al., 2017b), the subjects' body size was rated according to Pulvers' (2004) Figure Rating Scale. This scale consists of nine drawings depicting progressively larger body sizes (correlating with BMI scores), ranging from underweight (Figure 1) to obese III (Figure 9; Pulvers, Bachand, Nollen, Guo, & Ahluwalia, 2013). Ratings consisted of selecting the figure that most closely corresponded to the body size of the human figure in the image. Following Boepple et al. (2016), coders rated the extent to which the subject met other culturally-based beauty ideals (i.e., clear, blemish free skin; neat, shiny hair; symmetrical features; and straight, white teeth). These features were considered collectively to give an overall rating, ranging from 1 = not at all to 4 = to a great extent. Based on a scoping review of body positive content, subjects were also coded for the presence or absence of perceived "flaws" visible in the image (i.e., attributes incongruent with societal beauty ideals such as cellulite, stretch marks, acne, bodily hair, and rolls of fat on stomach).

Clothing, activity, and objectification. The subject's level of clothing/exposure was coded in line with previous research (Conlin & Bissell, 2014; Simpson & Mazzeo, 2017; Wasylkiw et al., 2009; Webb et al., 2017b). Clothing/exposure was classified as 1 = not at all revealing (e.g., long pants and long-sleeve shirt, long dress), 2 = slightly revealing (e.g., shorts and top, shorts and skirt, sleeveless dress), 3 = moderately revealing (e.g., tight workout attire, midriff top, short-shorts, mini skirt), 4 = very revealing (e.g., bathing suit, lingerie), 5 = extremely revealing (e.g., nude), or 0 = not shown (e.g., face only). In line with previous content analyses (Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018; Wasylkiw et al., 2009; Webb et al., 2017b), the activity in which the subject was engaging in was categorised as: active (exercising or moving) or non-active (glamour posing or passive posture). Activities coded as

"exercising" included exercises such as running, gym workouts, and active yoga poses, whereas "moving" referred to any general movement of the body not for exercise (e.g., "jumping for joy", shaking the body, frolicking on the beach). Finally, subjects were coded for the presence or absence of three objectifying features: focus on a specific body part, a sexually suggestive pose, or absence of a clearly visible head and/or face (Tiggemann & Zaccardo, 2018).

Post themes. Each image and caption (including relevant hashtags) were coded together to determine the overall theme of the post. Thematic codes were not mutually exclusive, such that multiple thematic codes could be applied to one post. More detail for each theme can be found in Table 2.

Table 2. Post themes

Variable	Definition	Examples
Positive body image themes		
Body Appreciation	Post encourages appreciating the features, functionality, and health of the body	Image of subject in yoga pose with caption "I'm feeling especially thankful for my thighs today. I am always in awe of what my thighs help me do, whether it's when I'm walking down the street or powering through balance postures."
Body Acceptance/love	Post encourages acceptance of one's body (or body parts) that don't conform to ideal standards	Image of subject in bikini with stomach rolls with caption "It is possible to love your belly rolls"
Conceptualising Beauty Broadly	Post depicts a wide range of appearances, body sizes/shapes, and inner characteristic as beautiful	Image of women of diverse body sizes and ethnicities with caption "everyBODY is beautiful"
Adaptive Investment in Body Care	Post emphasises respecting and taking care of one's body by engaging in positive, health-promoting self-care behaviours	Image of subject exercising with caption "workout because you love your body, not because you hate it"
Inner Positivity	Post encourages cultivating inner characteristics and positive feelings (e.g., body confidence, optimism, happiness) that may be expressed in outer behaviours (e.g., kindness, mindfulness, helping others etc.).	Image of subject smiling with head held high and caption "be strong by being kind to yourself and by sharing your light with the world"
Protective filtering Information in a Body-Protective Manner	Post challenges the unrealistic nature of media images and appearance ideals, as well as interprets and internalises messages that are compassionate towards one's body.	Side by side images of posed and un-posed images with caption "the photo on the left is staged as hell…These are the types of images we compare ourselves to everyday. Our bodies are glorious from every angle. Posed or un-posed. Polished or not."
Appearance-focused Themes		
Weight loss/exercise/diet-appearance	Post emphasises weight loss, diet and/or exercise to improve appearance	Before and after photo where the subject in the 'after' photo appears thinner and caption "Went back to work today and had a lot of people say I was looking way more toned woohoo!"
Clothing/beauty-appearance	Post emphasises clothing and beauty tips for appearance purposes	Close-up image of hair and make-up with caption "if there's good lighting, take advantage of it for a selfie"

Thin praise	Post positively portrays thinness	Image of a thin and toned person with caption #bodygoals
Weight/fat stigmatising	Post negatively portrays being overweight/having fat	Image of larger woman in bikini with caption “not everyone should be in a swimsuit”
Thin stigmatising	Post ridicules or stigmatises thinness	Image of curvaceous woman with caption “real men prefer women with curves”
Body/weight/food shame	Post expresses guilt or shame about one’s body, weight, or food behaviours	Image of subject at gym with caption “Feeling guilty about how much I ate on the weekend – time to work off that weekend indulgence.”
Other Relevant Themes		
Commercialism	Post advertises or promotes a commercial product or brand	Image of subject in a clothing brand with caption “love this outfit. Shop this look at xxx.com”
Mental health	Post refers to mental health	Side by side images of subject smiling and not smiling, with text overlaid “doing the best she can to cope with anxiety” with captions “remind yourself that it’s okay to respect your own mental and emotional limits”
Eating disorders	Post refers to eating disorders and/or recovery	Before and after photo of subject (underweight to more body fat) with caption “Recovery is going to seem impossible at times – it isn’t. Your ED will scream at you, and tell you you’re nothing without it – it’s lying. You can do this.”
Activism	Post explicitly encourages others to support a social cause outside of body positivity	Image of subject holding re-usable water bottle with caption “Get on the plastic free wagon this July and challenge yourself to do something awesome for our planet and the future.”

Positive body image themes. Posts were coded for the presence of the six-core positive body image themes: (1) body appreciation, (2) body acceptance/love, (3) conceptualising beauty broadly, (4) adaptive investment in body care, (5) inner positivity, and (6) protective filtering information in a body-protective manner.

Appearance-focused themes. Appearance-focused themes were adapted from Boepple et al. (2016) and Webb et al.'s (2017a) analyses and included: (1) weight loss/exercise/diet-appearance, (2) clothing/beauty-appearance, (3) thin praise, (4) weight/fat stigmatising, (5) thin stigmatising, and (6) body/weight/food shame.

Other relevant themes. Finally, based on a scoping review of the body positive content, other common themes emerged that were included as coding variables: (1) commercialism; (2) mental health; (3) eating disorders; and (4) activism.

Results

Imagery

Overall, 71.88% of posts were visual images only, 12.34% were videos, 10.47% visual and text combined, and 5.31% text only. Of the imagery containing text (i.e., "visual and text combined," and "text only"), 41.58% were rated as motivational, 24.75% educational, 21.78% opinion, 3.96% humorous, and 7.92% other. Majority of imagery (90.78%) contained at least one human figure.

Human Subjects

Demographics. Of the imagery that contained at least one human figure, 95.87% contained a female, 5.85% contained a male, and zero contained a non-binary person. Of the imagery that contained at least one human figure, 51.12% featured a human coded as White, 35.11% as African-American/Black, 12.22% as Asian, 6.2% as Other, 3.10% as Middle Eastern, and 2.58% ethnicity could not be determined. The majority (65.58%) of imagery containing humans depicted humans in their 20s,

followed by 22.20% in their 30s, 4.30% perceived to be adolescent or younger, and only 2.75% perceived to be in their 40s or older. Only 2.24% of imagery featured human figures with a visible physical disability.

Body-related attributes. Body sizes ranged from underweight (Figure 1) to obese III (Figure 9; Pulvers et al., 2013). Only 1.72% of imagery containing humans featured bodies perceived as underweight (Figures 1-2), 25.81% as normal weight (Figures 3-4), 33.22% as overweight (Figure 5) and 35.11% as obese (Figures 6-9). Just under half (39.59%) of imagery containing a human depicted at least one perceived "flaw," with the most common "flaw" displayed being cellulite (29.19% of all occurrences), followed by stomach rolls/soft belly (24.05%), stretch marks (16.49%), acne/skin blemishes (5.41%), and bodily hair (2.43%). Additionally, other "flaws" were depicted including facial hair, scars, wrinkles, and rolls of fat on the back (24.32%). Apart from body weight, 25.47% of imagery containing humans featured humans who met other culturally-based beauty ideals to a great extent, 17.97% somewhat, 20.16% very little, and 24.22% did not at all meet other culturally-based beauty ideals.

Clothing, activity, and objectification. Of the imagery containing humans, 83.82% were in a non-action pose and 15.15% in an action pose (i.e., exercise or movement). Almost one third (31.67%) of imagery containing humans depicted bodies in extremely revealing (5.85%) or very revealing (25.82%) clothing, 30.46% were in moderately revealing, 25.13% in slightly revealing, and 14.29% not at all revealing clothing. Just over a third (34.25%) of imagery of humans featured at least one of the specified aspects of objectification; the majority were posing in a suggestive manner (84.42% of instances of objectification), followed by the head/face being absent or not clearly visible (24.12%), and a specific body part being the focus of the image (22.61%).

Post Themes

Positive body image themes. Overall, 80.15% (513/640) of all posts contained at least one explicit positive body image theme, with a total of 875 positive body image themes across all posts. Of the posts containing at least one positive body image theme, the most frequent theme depicted was conceptualising beauty broadly (65.89%), followed by body acceptance/love (33.53%), inner positivity (31.38%), protective filtering of information in a body-protective manner (18.13%), adaptive investment in body care (11.11%), and body appreciation (10.53%).

Appearance-focused themes. Overall, 41.09% (263/640) of all posts contained at least one appearance-focused theme, with a total of 264 appearance-focused themes across all posts. Almost all of the posts that were coded for appearance-focused themes depicted clothing/beauty-appearance (98.86%), with only 1.52% of appearance-focused posts depicting weight loss/exercise/diet-appearance. There were no instances of thin praise, weight/fat stigmatisation, thin stigmatisation, or body/weight food shame (all 0%). Of note, only 2.50% of all posts featured food and 4.00% featured exercise.

Other relevant themes. Overall, 39.53% (253/640) of all posts were rated as promoting a commercial product (26.09% of these posts included self-promotion, e.g., personal blog, workshop, or book). Mental health was referred to in 1.88% of all posts and eating disorders were referenced in 3.75% of all posts. Activism/rhetoric was present in 16.09% of all posts, with 123 counts of activism across 103 posts. Of the posts containing an activist message, the majority were related to feminism (44.66%), followed by racial equality (34.95%), LGBTQI+ rights (18.45%), environmentalism (7.77%), disability rights (7.77%), and other (5.83%).

Discussion

Body Positive Attributes and Themes

The present study aimed to provide a detailed content analysis of posts found on popular body positive accounts on Instagram. In line with our hypothesis regarding body attributes, the analysis clearly showed that the body positive accounts depicted diverse body sizes, with just over two thirds of bodies perceived to meet overweight or obese BMI criteria. This diversity is in contrast to content analyses showing that *thinspiration* and *fitspiration* images represent a limited range of body sizes, with an overwhelming majority of the bodies featured being perceived as thin and toned (ranging from 75.2% - 97.82%; Boepple et al., 2016; Carrotte et al., 2017; Talbot et al., 2017; Tiggemann & Zaccardo, 2018). Further, in contrast to Boepple et al. (2016), who found that majority of *fitspiration* images featured women who met culturally-based standards of beauty ideals, the body positive posts contained more diversity in the extent to which individuals pictured met culturally-based beauty ideals.

Almost half of the imagery of human bodies displayed attributes incongruent with societal beauty ideals such as cellulite, stomach rolls, stretch marks, and skin blemishes. This finding is unique, given that social media feeds are often referred to as "highlight reels" (Steers, Wickham, & Acitelli, 2014; Weinstein, 2017; Wiederhold, 2018). Social media users have been found to portray their best version of themselves, carefully posing, selecting, and even editing their photos before posting to hide or remove such societally deemed "flaws" (Cohen et al., 2018; Fox & Vendemia, 2016). Acne, cellulite, and stretch marks are only typically depicted in mainstream media in the context of a celebrity's body being scrutinised for such "flaws," or an advertisement for a beauty product to eliminate them.

These findings of diverse body attributes are somewhat contrary to criticism that popular body positive accounts typically depict conventionally attractive White women (Dalessandro, 2016). Compared to the largely White samples found in other online trends (e.g., Fitspiration, Fatspiration, and Health at Every Size; Simpson & Mazzeo, 2017; Webb et al., 2017a), only half of the current sample were rated as White. Nevertheless, the posts predominantly featured female subjects in their 20s, which is similar to other social media trends (e.g., Ghaznavi & Taylor, 2015; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018), and accordingly there may be scope for body positive accounts to include greater diversity of age and gender.

In addition to examining the body attributes displayed in body positive posts on Instagram, the current study was also interested in how body positive content aligns with the theoretical definition of positive body image. In support of the hypothesis, an overwhelming majority of posts contained messages in line with at least one of the six core features of positive body image (Tylka, 2012, 2018; Tylka & Wood-Barcalow, 2015b). This finding suggests that popular body positive accounts on Instagram currently exemplify core components of positive body image.

Of the posts containing positive body image themes, the most common theme was broad conceptualisation of beauty, which was depicted by two thirds of these posts. These posts ranged from cartoon images of a woman's cellulite and stomach fat with a caption stating "…all those parts you see as flaws whenever you look in the mirror… they are natural, beautiful parts of the human body…," to an image of @Ashleygraham posing in a bikini for a photoshoot with untouched fat rolls and cellulite, and the caption "Summer is Here. And so am I. #swimsuitsforall." The next most common theme was body acceptance/love, which included posts like a close-up photo of @harnaamkaur, a British-Indian woman in her 20s with a beard (due to a medical condition), and the

caption “Self-love is a sense of self liberation that you feel for yourself for every ‘flaw’ that you have. You’re unique and beautifully special!” A third of body positive posts focused on cultivating inner characteristics and positive feelings (inner positivity), such as an image of a billboard stating, “We get so worried about being pretty. Let’s be pretty kind. Pretty funny. Pretty smart. Pretty strong.”

Though less common, a proportion of posts also depicted protective filtering of information in a body-protective manner (e.g., two images of @bodyposipanda side-by-side; the first posed and edited, and the second unposed and unedited with the caption, “the photo on the left is staged as hell….these are the types of images we compare ourselves to everyday!”), adaptive investment in body care (e.g., photo of @nolatrees in a yoga pose with the caption, “time for self-care continuously changes my relationship with my body, with my mind, and with the entire world around me”), and body appreciation (an image of @bostanley surfing in a bikini with the caption, “…when I see a belly or fold in surf shots I love it because I am moving my body in amazing ways because it's strong, capable and healthy”).

Taken together, the current findings indicate that body positive accounts on Instagram may provide a unique perspective in an otherwise perfectly manicured environment for young women to view bodies much like their own with natural “lumps, bumps, and curves” that are displayed openly. Previous experimental research has found that viewers’ experienced greater acceptance of their own bodies following exposure to bodies that do not conform to the thin-ideal (Williamson & Karazsia, 2018), and self-compassion quotes on Instagram (Slater, Varsani, & Diedrichs, 2017). Notably, a recent experimental study has shown that exposure to body positive content on Instagram has an immediate positive effect on women’s mood, body satisfaction, and body appreciation (Cohen, Fardouly, Newton-John, & Slater, 2019a). Further research is

necessary to more fully understand the impact of viewing such imagery on viewers' perceptions of their own bodies.

Appearance-focused Attributes and Themes

In line with prior content analyses of appearance-focused media content (Boepple et al., 2016; Conlin & Bissell, 2014; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018; Wasylkiw et al., 2009; Webb et al., 2017a) and objectification theory (Fredrickson & Roberts, 1997), posts were coded for objectifying attributes as well as appearance-focused themes. Interestingly, most subjects were in a non-active pose, and around a third of the women were in very or extremely revealing clothing and featured some degree of objectification, predominantly posing in a suggestive manner. Similarly, over a third of posts emphasised clothing and beauty for appearance. It has been suggested that a focus on appearance is intrinsic to the photo-based platform of Instagram, whereby users primarily post images of themselves explicitly for others to look at (Tiggemann & Zaccardo, 2018). Of note, the overall frequency of body exposure, objectification, and appearance-focused themes was considerably lower than in other appearance-focused content analyses (e.g., Boepple et al., 2016; Ghaznavi & Taylor, 2015; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018). Nevertheless, these findings suggest that a proportion of body positive posts on Instagram may emphasise appearance over other attributes, just like other forms of appearance-focused social media.

On the other hand, this appearance focus may be intentional given that a purported aim of body positive advocates on Instagram is to take up space in an arena where their bodies have previously been excluded (Cwynar-Horta, 2016). Indeed, Webb et al. (2017a) similarly pointed out the difficulty teasing apart positive body image and body objectification in fat acceptance communities. Women of larger bodies proudly

posing in body-revealing attire could both be seen as an expression of positive body image, demonstrating acceptance of and pride in their body, or self-objectification, reflecting a focus on one's appearance over other attributes (Webb et al., 2017a). This idea is supported by one influential body positive advocate, Megan Crabbe (@bodyposipanda), who stated, "posting pictures that challenge the conventional unrealistic standard of beauty is a way to use the system to change the system" (Ciuca, 2018). Accordingly, when viewed in this context, the photo-based and user-generated features of Instagram may provide a unique platform for body positive advocates to represent a broad range of appearances and bodies as beautiful.

Indeed, the majority of posts that were coded for clothing/beauty-appearance were simultaneously coded for Tylka (2012, 2018) and Tylka and Wood-Barcalow's (2015b) positive body image concept of "conceptualising beauty broadly." Furthermore, almost all of the posts coded as "appearance-focused" referred to clothing/beauty-appearance. There were minimal references to more "dysfunctional" appearance-focused themes (i.e., weight loss/exercise/diet-appearance, thin praise, weight/fat stigmatisation, or body/weight/food shame), which are commonly found in *thinspiration* and *fitspiration* content (Boepple et al., 2016; Boepple & Thompson, 2016; Simpson & Mazzeo, 2017). Together, these findings suggest that body positive posts with an appearance-focus are qualitatively different to *thinspiration* and *fitspiration* posts. Nevertheless, the overlap between appearance-focused and positive body image features requires further investigation to determine whether or not it has similar effects on body image as other appearance-focused content.

Two additional themes emerged as relatively common in the body positive content: commercialism and activism. Over a third of all posts were rated as promoting a commercial product or self-promotion. This finding is consistent with prior criticism

of the commodification of body positivity on social media (Cwynar-Horta, 2016), and is not surprising given that the sample consisted of popular Instagram accounts with at least 50 thousand followers each. Typically, such "influencers" with large followings monetise their platforms to earn an income (Smith, Kendall, & Knighton, 2018). This may be through sponsored posts, whereby influencers are paid to feature a brand in their post, or by selling their own products such as a new book or upcoming yoga workshop. However, Cwynar-Horta (2016) also suggested that during the commodification process, the content of body positive accounts diverge from body positive ideals in favour of consumption practices. In contrast to this claim, the current study found that even with 39.5% of posts advertising products, the majority (80%) were still promoting messages consistent with positive body image. Lastly, a sixth of posts encouraged others to support a social cause outside of body positivity, such as feminism, racial equality, and LGBTQIA+ rights. This finding indicates that, though originally created to encourage acceptance of all body sizes, body positive Instagram advocates are expanding their focus to include and advocate for broader forms of equality.

Interestingly, there were minimal explicit references to food and exercise across body positive posts. Many body positive advocates and followers are recovering from an eating disorder (Cwynar-Horta, 2016), and therefore it is possible that the minimal references to food and exercise are deliberate. For example, @FatGirlFlow, a body positive activist with an eating disorder history, explicitly aims to "keep dieting out of body positivity" (Petty, 2018). This finding of minimal references to food and exercise (with the exception of yoga) across the posts is also interesting in the context of recent claims that body positivity may promote obesity and adverse health outcomes (Muttarak, 2018). To date there has been no empirical evidence to support this assertion (Alleva & Tylka, 2018). Instead, such claims may reflect an inherent weight bias that

equates fat with unhealthy behaviours and assumes accepting one's body means not taking care of it (Puhl & Heuer, 2009).

By contrast, research suggests that positive body image is related to health promoting behaviours, including intuitive eating, physical activity, and health-seeking behaviours, and is negatively associated with health compromising behaviours, such as dieting, alcohol, and cigarette use (Andrew et al., 2016a, 2016b). In fact, although explicit references to food and exercise were minimal, the message of adaptive investment in body care (Tylka & Wood-Barcalow, 2015b) was featured in one tenth of all body positive posts. These posts focused on self-care behaviours like rest, hydration, and physical activity for health and enjoyment reasons. Moreover, any reference to appearance-related self-care (i.e., grooming, makeup, and clothing) were framed in terms of how they made the subject feel rather than how they looked (e.g., “sparkly eyeshadow makes me happy”). Body positive advocates have argued that increasing the visibility of a diverse range of body sizes empowers larger women to partake in health-promoting behaviours by breaking down weight stereotypes and perceived barriers to health-promoting behaviours (Haskins, 2015). Here, of note, two of the Instagram accounts analysed were yoga-focused accounts, @mynameisjessamyn and @nolatrees, who both promote practicing yoga regardless of body size. In contrast, considerable evidence demonstrates that weight stigmatisation and shame is linked with maladaptive eating behaviours and weight gain (Puhl & Suh, 2015). Moreover, *fitspiration* content, aimed to inspire healthy eating and exercise, has been found to have harmful psychological outcomes and have no impact on actual exercise engagement (Robinson et al., 2017). Accordingly, it would be worthwhile for future research to investigate the relationship between viewing body positive social media content and actual health behaviours.

Implications and Future Directions

Positive body image has become increasingly recognised as an important component of body image and eating disorder prevention (Webb, Wood-Barcalow, & Tylka, 2015). Research links positive body image with numerous psychological and physical health benefits (e.g., Andrew et al., 2014, 2016a; Homan & Tylka, 2014; Satinsky et al., 2012; Swami et al., 2018; Tylka, 2012, 2018), as well as a potential protective role against media-induced body dissatisfaction (Andrew et al., 2015; Halliwell, 2013). Given this research, it is plausible that engaging with body positive content on Instagram, which espouses key tenets of positive body image, may be associated with similar benefits for women. Whilst causal effects cannot be inferred from this content analysis, these preliminary findings suggest that popular body positive accounts on Instagram both depict a diverse range of appearances and promote messages in line with important components of positive body image, and therefore may present a fruitful avenue for future prevention research.

Social media usage is at an all-time high amongst young women (Pew Research Center, 2018), and Instagram is one of the most dominant mediums for influencing user's attitudes and behaviours (Kasana, 2014). Accordingly, it is imperative for research to identify which types of content may be potentially beneficial or harmful in order to offer best practice guidelines for social media consumers who may be at risk of body image issues. Susceptible young women may be encouraged to minimise exposure to appearance-focused social media content like *fitspiration* and *thinspiration* to reduce body image disturbances (Tiggemann & Zaccardo, 2015). Concurrently, this study, together with preliminary experimental evidence (Cohen et al., 2019a; Slater et al., 2017; Williamson & Karazsia, 2018), suggests that young women may usefully be encouraged to follow body positive accounts as a possible avenue to enhance positive

body image. Nevertheless, research shows that body dissatisfaction and disordered eating occur in both women and men of all ages (Mangweth-Matzek & Hoek, 2017). Accordingly, there may be scope for body positive accounts to include greater diversity of both age and gender.

Interestingly, the theme of body appreciation was rated less frequently across the Instagram posts compared to the other positive body image themes, yet body appreciation is the most commonly studied aspect of positive body image in the literature (Webb et al., 2015). Of note, our definition of body appreciation, taken from Tylka (2012, 2018) and Tylka and Wood-Barcalow (2015b), is more consistent with functionality appreciation (Alleva, Tylka, & Kroon Van Diest, 2017) than the body appreciation construct assessed by the Body Appreciation Scale (BAS and BAS-2; Avalos et al., 2005; Tylka & Wood-Barcalow, 2015a). The BAS and BAS-2 conceptualise and assess body appreciation as an overarching construct of positive body image which contains many of the positive body image components within its items, such as appreciating the unique features of the body, body acceptance and love, broadly conceptualising beauty, inner positivity, adaptive investment in body care, and protective filtering. Nevertheless, it is important to examine each component of positive body image separately within research, and scales are now being developed to achieve this goal (Tylka, 2018).

Broad conceptualisation of beauty emerged as the most common theme across the body positive posts, but has been less extensively researched apart from the body appreciation construct assessed by the BAS-2. Our findings provide a better understanding of consumer experiences of positive body image and highlight that broad conceptualisation of beauty may be a particularly important component of positive body image for social media users. Accordingly, the study's findings identify broad

conceptualisation of beauty as an important component to investigate for future research, which can be done using the Broad Conceptualization of Beauty Scale (Tylka & Iannantuono, 2016).

Limitations

The present findings should be interpreted within the context of the following limitations. First, the findings are limited to the sampling frame used. It is possible that the accounts featured on the websites may have paid to be listed in those articles, or were purposefully selected by the articles' authors based on personal preferences. Despite these potential selection biases, online articles are a common way that the public may encounter such accounts, and therefore this search method is unlikely to impact the external validity of these findings. Furthermore, various inclusion criteria were used to ensure the accounts sampled were in fact relevant to body positivity, currently active, and popular. This sampling frame was the preferred approach given that our main aim was to analyse the current state of content depicted in prominent body positive Instagram accounts. Nevertheless, it would be informative for future research to conduct a corresponding analysis of body positive-related hashtags to understand how the broader community of Instagram users are interpreting and engaging with body positive content online.

Second, the exploration of body positive characteristics evident in body positive Instagram posts is limited by the themes selected for coding. For the purpose of this content analysis, Tylka (2012, 2018) and Tylka and Wood-Barcalow's (2015b) six core components of positive body image were used to code the posts for body positive themes. Given the emerging field of positive body image research, several other constructs of positive body image have also been developed. These include body functionality (Alleva, Martijn, Van Breukelen, Jansen, & Karos, 2015), body image

flexibility (Rogers, Webb, & Jafari, 2018; Sandoz, Wilson, Merwin, & Kellum, 2013), and body compassion (Altman, Linfield, Salmon, & Beacham, 2017). Accordingly, future research would benefit from exploring how some of these other contemporary positive body image constructs may be expressed in the social media environment.

Conclusion

Despite these limitations, the present study uniquely contributes to the body image and social media literature by providing a systematic analysis of physical appearance-related characteristics and key themes from body positive content on Instagram. Importantly, the current findings indicate that, in contrast to the narrow portrayal of female bodies in traditional media (Conlin & Bissell, 2014; Wasylkiw et al., 2009) and social media content (Boepple et al., 2016; Carrotte et al., 2017; Talbot et al., 2017; Tiggemann & Zaccardo, 2018), body positive imagery on Instagram does in fact represent previously under-represented body sizes. Moreover, the findings suggest that popular body positive accounts on Instagram currently exemplify core theoretical components of positive body image (Tylka, 2012, 2018; Tylka & Wood-Barcalow, 2015b). The findings extend previous research on appearance-focused social media use and provide an incremental contribution to the positive body image literature.

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CHAPTER 6: Paper 5 – The case for body positivity on social media: Perspectives on current advances and future directions

Preamble to Chapter 6

At the time of writing, 'body positivity' was a popular headline featured in multiple online media outlets, with articles either praising the rise in body positivity on social media or criticising it. While Papers 3 and 4 sought to examine the nature and impact of body positive content on social media, Paper 5 aims to consider the main concerns put forth by critics of body positivity and understand where body positive content fits in the current media and public health landscape. Accordingly, this commentary piece aims to reconcile the conflicting opinions and emerging research on body positivity to address the recurring question – does body positivity help or harm?

The case for body positivity on social media: Perspectives on current advances and future directions

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Abstract

In recent years, the body positive movement has emerged on social media and has generated both support and criticism in pop-cultural discourse. We review the potential benefits and disadvantages of 'body positivity' on social media in light of theory and the available research. Based on early evidence showing potential benefits of engaging with body positive content on social media for positive body image, a case is made in support of this emerging content. Nevertheless, recommendations are made for future research with an emphasis on experimental and longitudinal investigations of actual health outcomes of engaging with body positivity on social media, and clarification of the potential relationship between body positivity and objectification.

Keywords: social media; body image; health promotion; eating disorders; obesity; women's health; culture

1. Introduction

Obesity and overweight are amongst the leading global risks for mortality in the world (World Health Organisation, 2018), whilst eating disorders have the highest mortality rate of any mental health disorder (Smink, Van Hoeken, & Hoek, 2012). Although eating disorders and obesity have previously been considered separate issues, more recent research has shown that obesity and eating disorders are linked with shared risk and protective factors (Haines & Neumark-Sztainer, 2006; Neumark-Sztainer et al., 2007). Specifically, body dissatisfaction, dieting, media use, and weight-related teasing have been implicated in the development of both types of weight-related disorder (Goldschmidt, Wall, Choo, Becker, & Neumark-Sztainer, 2016; Haines & Neumark-Sztainer, 2006), while positive body image has been identified as a shared protective factor (Neumark-Sztainer, 2009). It is well established that the media promote unrealistic standards of beauty and play a key role in the development and maintenance of body dissatisfaction and disordered eating (Frederick, Daniels, Bates, & Tylka, 2017; Grabe, Ward, & Hyde, 2008; Levine & Murnen, 2009).

Social media use has increasingly become a dominant form of media consumption, with 89% of young adults using at least one form of social media daily (Pew Research Center, 2018). In recent years, a growing body of research has shown that social media use is related to adverse body image and eating concerns (Holland & Tiggemann, 2016). Photo-based platforms like Instagram are particularly salient given their widespread use, the idealised nature of the images presented like *thinspiration* (content intended to inspire weight loss), and *fitspiration* (content designed to inspire fitness goals), and the infinite opportunities for appearance-comparisons they foster (Cohen, Newton-John, & Slater, 2017; Fardouly & Vartanian, 2016). Content analyses of *thinspiration* and *fitspiration* content on social media have found that this content

typically portrays thin and toned bodies in sexually objectifying poses with guilt inducing messages about diet, weight, and exercise (Boepple & Thompson, 2016; Carrotte, Prichard, & Lim, 2017; Ghaznavi & Taylor, 2015; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018; Wick & Harriger, 2018). Research has shown that viewing such appearance-focused content on social media increases negative mood and body dissatisfaction in women (Robinson et al., 2017; Tiggemann & Zaccardo, 2015).

While Instagram accounts displaying idealised images continue to grow in popularity, a movement known as 'body positivity' has emerged on social media. Body positivity aims to challenge dominant appearance ideals, foster acceptance and respect of all bodies regardless of shape, size, and features, and focus on appreciating the functionality and health of the body rather than solely focus on its appearance (Sastre, 2014). Whilst the existing literature overwhelmingly shows that viewing idealised images of women on social media is negatively related to body image outcomes in young women (for reviews, see Fardouly & Vartanian, 2016; Holland & Tiggemann, 2016; Rodgers & Melioli, 2016), less is known about the relationship between body positive social media content and aspects of body image. In fact, whilst many consumers celebrate this rise in body positivity, others have expressed concern over its potential drawbacks, including reinforcing a focus on appearance (Webb, Vinoski, Bonar, Davies, & Etzel, 2017), and contributing to the prevalence of overweight and obesity (e.g., Muttarak, 2018; Nomi, 2018). This paper will explore the arguments both for and against body positive social media content in light of theoretical constructs of positive body image and the current state of empirical research.

2. Body positivity and positive body image

Over the last decade, the body positive movement (or body positivity) has developed in reaction to the constant barrage of media images promoting unrealistic and

unattainable appearance ideals. More recently, body positivity has been popularised through the social media platform of Instagram (Cwynar-Horta, 2016), with over 11 million posts tagged with #bodypositive, 4 million for #bodypositivity, and over 1 million for #bopo (Instagram, January 2020). In a recent content analysis of 640 Instagram posts sampled from popular body positive accounts, the authors found that such posts typically include images of diverse body sizes and appearances that are otherwise underrepresented in mainstream accounts (Cohen, Irwin, Newton-John, & Slater, 2019b). For example, the majority (94%) of bodies depicted in popular body positive posts ranged from normal weight to obese, and just under half (40%) featured attributes that diverged from societal beauty ideals such as cellulite, stomach rolls, and stretch marks. Such images are accompanied by captions promoting body acceptance and seeing beauty in diverse appearances and internal attributes (Cohen et al., 2019b). Other hashtags associated with body positivity and the fat acceptance movements include #healthateverysize, #haes, #effyourbeautystandards and #fatspiration. A content analysis that examined different types of fat acceptance messages among 400 Instagram images found that those tagged with #fatspiration typically conveyed messages of fat acceptance through fashion and beauty-related activism, whereas images associated with the hashtag #healthateverysize endorsed physical activity, health, and wellness (Webb et al., 2017). This is consistent with Health At Every Size® (HAES) principles, which advocate for a weight-neutral approach to health by prioritising wellness over weight loss (Association for Size Diversity and Health, 2013). Through such posts, body positive advocates aim to show that all bodies deserve respect and promote a more positive relationship to one's body and self.

The potential beneficial effects of viewing body positive content online may be better understood in light of the more recently explored theoretical construct of positive

body image. Over the last decade, body image scholarship has shifted away from a sole focus on body image disturbances towards a more holistic understanding of body image. Positive body image has been conceptualised theoretically as an overarching love and respect for the body (Tylka & Wood-Barcalow, 2015). Relatedly, Piran's construct of positive embodiment has been described as 'positive body connection and comfort, embodied agency and passion, and attuned self-care' (2016, p. 47). Research shows that positive body image is associated with greater psychological, social, and emotional well-being (Swami, Weis, Barron, & Furnham, 2018), health promoting behaviours like intuitive eating and physical activity (Andrew, Tiggemann, & Clark, 2016a, 2016b), and is protective against thin-ideal media exposure (Andrew, Tiggemann, & Clark, 2015; Halliwell, 2013). Core features of positive body image include appreciating the unique features of one's body, accepting aspects of the body that are inconsistent with idealised media images, broadly defining beauty, inner positivity, tending to the body's needs, and filtering information in a body-protective manner (see Tylka & Wood-Barcalow, 2015). Importantly, Cohen et al. (2019b) found that the content espoused on leading body positive Instagram accounts is largely consistent with key theoretical tenets of positive body image (Tylka and Wood-Barcalow, 2015), and therefore the authors concluded that engaging with body positive content on Instagram may be associated with similar psychological and protective benefits for women.

3. Maintaining an appearance focus

Whilst body positivity on social media continues to grow in popularity and reach, there has been limited research examining its content and impact (Camarneiro, 2017). Moreover, various mass circulation newspapers and online blogs have criticised it with headlines like 'The body positive movement is admirable, but it isn't liberating

women' (The Sydney Morning Herald; Reilly, 2017), 'Body positivity is everywhere, but is it for everyone?' (USA Today; Dastagir, 2017), and 'Please stop telling me to love my body; embracing body neutrality' (Man Repeller Blog; Oltuski, 2017). One argument found in such articles is that body positivity creates a new pressure on women to 'love' their bodies, and therefore may make women feel worse about themselves if they do not (Oltuski, 2017). Another criticism is that the despite the positive messaging around bodies, such content still focuses on appearance and thus may merely perpetuate the underlying issue in the first place – by keeping the focus on the body. Indeed, the Cohen et al. (2019b) content analysis of body positive posts on Instagram found that almost one third (32%) of the imagery containing humans depicted bodies in extremely or very revealing clothing, and just over a third (34%) featured objectification (i.e., focus on a specific body part, a sexually suggestive pose, or absence of a clearly visible head and/or face). However, these frequencies are considerably less compared to *fitspiration* and *thinspiration*, where the overwhelming majority of the images have been found to feature sexual objectification (between 56-85%; Boepple, Ata, Rum, & Thompson, 2016; Ghaznavi & Taylor, 2015; Tiggemann & Zaccardo, 2018). Nevertheless, prominent body image researchers have questioned whether any emphasis on bodies in these types of fat acceptance communities may continue to reinforce a preoccupation with appearance over other attributes (Webb et al., 2017).

In order to address this question, Cohen, Fardouly, Newton-John, and Slater (2019a) conducted an experimental study to investigate the effect of viewing body-positive Instagram posts on young women's mood and body image. Participants were randomly allocated to view either body positive, thin-ideal, or appearance-neutral Instagram posts. Results showed that brief exposure to body positive posts was associated with improvements in young women's positive mood, body satisfaction and

body appreciation, relative to thin-ideal and appearance-neutral posts. However, both thin-ideal and body-positive posts were associated with increased self-objectification relative to appearance-neutral posts. Accordingly, this preliminary research suggests that, on the one hand, viewing body positive imagery is associated with improved mood and positive body image, which runs counter to criticism that it makes women feel worse about themselves (Oltuski, 2017). However, on the other hand, it is still associated with a focus on appearance over other attributes consistent with Webb et al.,'s (2017) concerns.

According to objectification theory (Fredrickson & Roberts, 1997), living in a society that sexually objectifies the female body encourages women and girls to 'self-objectify'. Self-objectification refers to viewing oneself as an object to be evaluated by others based on one's appearance. Importantly, objectification theory outlines a number of negative psychological consequences of self-objectification, that are disproportionately experienced by women (e.g., body shame, appearance anxiety, disordered eating, and sexual dysfunction; Fredrickson & Roberts, 1997). In the Cohen et al. (2019a) experiment, state self-objectification was measured using a version of the Twenty Statements Test (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998), whereby participants are asked to complete sentences beginning with 'I am'. A greater number of responses referring to body shape and size and other physical appearances indicate higher levels of self-objectification. Interestingly, women made more statements about their appearance after viewing both thin-ideal *and* body positive posts compared to the appearance-neutral posts (Cohen et al., 2019a). Notably, those who viewed body positive posts made more positive statements about their appearance (e.g., 'I am beautiful') compared to those who viewed thin-ideal posts (e.g., 'I am ugly'). Nevertheless, this still constitutes a focus on appearance over other attributes.

This finding reiterates that because body positive content still exists on the photo-based platform of Instagram and contains appearance-focused images of women's bodies in revealing clothing (Cohen et al., 2019b), viewing it may be associated with negative consequences in line with objectification theory. Nevertheless, given this preliminary experimental study found that acute exposure to body positive posts on Instagram was associated with both increased body appreciation and increased self-objectification, two seemingly opposing constructs, future research is necessary to further understand this complex effect. For example, qualitative interviews may provide greater insight into how women may experience both body appreciation and self-objectification following exposure to body positive posts. It is also possible that time is a factor, such that while immediate responses to body positive imagery may be positive, the long-term effects could be negative. Longitudinal research would shed more light on the long-term effects of cumulative exposure to body positivity on both body appreciation and self-objectification.

4. What about body neutrality?

In light of this appearance focus, critics of body positivity instead advocate for 'body neutrality', which is supposedly the 'middle ground' between otherwise polarising messages of loving or hating one's body (Weingus, 2018). Whereas body positivity aims to change the definition of beauty in society by promoting acceptance and appreciation of all body shapes and sizes, body neutrality aims to change the value placed on beauty in society by encouraging individuals to place less emphasis on their physical appearance altogether (Rees, 2019). Examples of body neutrality messages include 'You are more than a body' and 'Your body does not exist to be pleasing to the eyes of others'. While body neutrality may be a worthwhile perspective to adopt, this is likely to be a major challenge in a society where women are constantly being

bombarded with messages to scrutinize their 'flaws' and 'fix' their bodies (Betz & Ramsey, 2017). In an environment that places high value on physical appearance, particularly online, it is important that content like body positivity continues portraying images of alternative body types as beautiful and worthy and presents messages that challenge the prevailing appearance ideal messages. Indeed, previous research has found that young women experienced greater acceptance of their own bodies following exposure to bodies that do not conform to the thin-ideal (Williamson & Karazsia, 2018).

Tylka and Wood-Barcalow (2015, p. 118) have argued that by body image and eating disorder treatments focusing on reducing negative body image without promoting aspects of positive body image, 'they may promote a neutral body image at best (e.g., "I don't hate my body anymore. I merely tolerate it")'. Instead, these authors assert that, 'helping clients adopt a positive body image may help them appreciate, respect, celebrate, and honour their bodies, which may make treatment gains more effective and lasting' (Tylka & Wood-Barcalow, 2015, p. 118). Similarly, researchers of eating disorder prevention efforts have advocated for the incorporation of positive body image into the treatment of eating disorders in moving patients toward flourishing and well-being (Cook-Cottone, 2015). Accordingly, body positive content on social media may be one scalable and feasible avenue through which to not only reduce body image dissatisfaction for vulnerable social media users, but indeed promote positive body image as well. There is evidence that young women perceive body positive accounts favourably and are willing to follow in the future (Cohen et al., 2019a).

5. Encouraging obesity and unhealthy lifestyles

There have also been concerns in the popular press that body positivity encourages obesity by 'glorifying' unhealthy habits (Nomi, 2018**)**. In a similar vein, a recent paper published in the scientific journal '*Obesity'* asserted that the normalisation

of larger bodies is contributing to the prevalence of overweight and obesity (Muttarak, 2018). Importantly, such claims remain unsubstantiated and likely reflect an inherent weight bias that associates body acceptance with unhealthy behaviours and self-neglect (Puhl & Heuer, 2009). Indeed, Mutarak's (2018) paper has been criticised by other academics as inaccurate and misleading research (Alleva & Tylka, 2018; Stewart, 2018). To date there is no empirical evidence to support the supposition that viewing body positivity leads to unhealthy behaviours or obesity. In fact, idealised social media content like *thinspiration* and *fitspiration* have been found to disseminate messages that conflate notions of health with thin ideals, exclude individuals of larger body sizes, and promote fat stigmatisation and disordered eating (Boepple & Thompson, 2016). Moreover, experimental research has found that exposure to such content has no impact on actual exercise behaviour and instead increases body dissatisfaction (Robinson et al., 2017). This is consistent with a large body of research showing that public health campaigns using weight stigmatisation in an attempt to 'motivate' individuals to adopt healthy practices in fact alienate people of larger bodies from engaging in health behaviours and leads to further weight gain (Puhl & Suh, 2015; Puhl & Heuer, 2010).

By contrast, body positive posts on Instagram have been found to encourage concepts like body appreciation and body care, and present women of larger bodies engaging in physical activities like yoga (e.g., @nolatrees and @mynameisjessamyn) and surfing (e.g., @bostanley; Cohen et al., 2019b). Similarly, a content analysis of Instagram images with the hashtag #curvyyoga found that these images featured messages conveying a holistic approach to health, active portrayals of health and fitness at any size, and taking pride in the functionality of one's body, consistent with the Health at Every Size® health promotion philosophy (Webb et al., 2019). Body positive advocates argue that such social media content likely creates a more inclusive and

empowering environment for all people to partake in similar activities regardless of their body shape or size (Haskins, 2015). Furthermore, there is evidence that focusing on health behaviours for the functional benefits (e.g., strength, endurance, and improved mood) as found in body positive posts, promotes greater adherence than an appearance-based focus such as that found in *fitspiration*, which is associated with disordered eating and lack of adherence (Tylka & Homan, 2015). Taken together, it is more plausible that exposure to body positive content, rather than weight stigmatising content, is associated with *adaptive* health behaviours than unhealthy behaviours and obesity.

6. Future directions for research

Whilst body positivity on social media offers a promising approach to cultivate positive body image on a large scale, research is in the early stages and further investigation is necessary to draw more definitive conclusions about its usefulness. First, given the finding that a third of body positive posts featured some degree of objectification (Cohen et al., 2019b), together with experimental findings that state self-objectification increased after viewing body positive posts (Cohen et al., 2019a), further research is necessary to understand this relationship. If indeed body positive posts maintain a preoccupation with appearance, perhaps there is scope to promote positive body image messages through quotes and illustrations without portraying objectified images of the body. Experimental research would help tease these elements apart and clarify if the same positive effects on mood and body image can be achieved without the objectifying elements. Second, in light of claims made in the popular press that body positivity may contribute to obesity, it would be beneficial for future studies to empirically examine health attitudes of body positive social media consumers as well as actual behavioural outcomes following exposure to such content. Third, research shows that older women and men are also susceptible to body image issues (Mangweth-

Matzek & Hoek, 2017), and future research may examine if engaging with body positive content on social media may have benefits for these demographics too (Cohen et al., 2019b). Finally, longitudinal research would help to clarify if the short-term benefits of viewing body positive content on social media persist in the long-term, or whether the heightened focus on appearance following acute exposure ultimately contributes to long-term self-objectification.

The current literature also presents future directions for body positive content on social media. A systematic content analysis of popular body positive accounts found less frequent representation of themes of filtering information in a body-protective manner, adaptive investment in body care, and body appreciation (Cohen et al., 2019b). Research indicates that these themes are important for both the development of positive body image and the prevention of body image disturbances (Tylka & Wood-Barcalow, 2015). Therefore, body positive posts may benefit from further emphasis on these components of positive body image in addition to broad conceptualisation of beauty, body acceptance, and inner positivity.

7. Conclusion

Both eating disorders and obesity are serious public health concerns due to their high prevalence and critical psychosocial and physical health implications. However, to date the media portrayal of one body type as ‘healthy’ and ‘beautiful’ and the public health focus on weight control and obesity prevention has shown limited effectiveness, and in fact likely serve to promote and perpetuate these very issues (Puhl & Suh, 2015). By contrast, positive body image messages may offer a fruitful adjunct to prevention and intervention efforts (Bray, Slater, Lewis-Smith, Bird, & Sabey, 2018). Preliminary evidence suggests that body positivity on social media may be one avenue to enhance positive body image at a population level.

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Chapter 7: General Discussion

Chapter Overview

The current program of research used the frameworks of sociocultural theory of body image disturbance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), objectification theory (Fredrickson & Roberts, 1997), and positive body image (Tylka, 2012) to examine the role of specific aspects of SNS use that are most relevant to body image concerns among young women, and examine aspects of SNS use that may promote positive body image (e.g., body positivity). This issue was addressed in five papers that utilised cross-sectional, experimental, and content analytic research designs. This final chapter seeks to synthesise the main findings and implications of this program of research, followed by the limitations and directions for future research.

Summary of Findings

The media has been consistently identified as an important contributing factor to body image issues and disordered eating (Grabe et al., 2008; Groesz et al., 2002; Hausenblas et al., 2013). An emerging literature demonstrated a relationship between time spent on SNS and body image and eating disorder symptoms in young women (Holland & Tiggemann, 2016). However, little was known about what specific aspects of SNS use are associated with negative body image. Moreover, most research had focused on Facebook and less was known about the relationship between Instagram use and body image, despite the growing popularity of this photo-based platform. Thus, the first aim of this thesis was to examine the specific aspects of SNS use, both on Facebook and Instagram, that are related to body image issues and disordered eating in young women. The second aim was to examine potential aspects of SNS use, namely 'body positivity', that may promote positive body image. These aims were addressed in a series of studies using a mixed-methods approach.

Paper 1 used a cross-sectional approach to identify the specific Facebook features and types of Instagram accounts that relate to body image concerns in young women. The study found that appearance-focused SNS use, rather than overall SNS use, was related to body image concerns in young women. Specifically, greater engagement in photo activities on Facebook, but not general Facebook use, was associated with greater thin-ideal internalisation and body surveillance. Similarly, following appearance-focused accounts on Instagram was associated with thin-ideal internalisation, body surveillance, and drive for thinness, whereas following appearance-neutral accounts was not associated with any body image outcomes.

Paper 2 examined the relationship between selfie activities and body-related and eating concerns in young women using a cross-sectional survey design. This study showed that greater investment in 'selfie' activities, rather than general SNS use, was associated with increased body dissatisfaction and bulimia symptomatology, even after accounting for known risk factors such as thin-ideal internalisation and body mass index (BMI). Moreover, self-objectification was found to moderate the relationship between photo investment and bulimia symptomatology.

Taken together, the findings of Papers 1 and 2 support and extend upon preliminary research in adolescent samples that demonstrated that specific SNS activities such as viewing and posting photos are particularly problematic for body image (McLean et al., 2015; Meier & Gray, 2014). The results not only provide additional support to sociocultural theory of body image disturbance (Thompson et al., 1999), but they also highlight the role of self-objectification in appearance-focused SNS use, and encourage further consideration of objectification theory (Fredrickson & Roberts, 1997) in future SNS and body image research. Moreover, these papers contribute to the growing literature on social media and body image by highlighting the

utility of measuring specific SNS user activity in providing greater insight into the relationship between SNS use and body image disturbances.

These findings also have practical implications by elucidating that appearance-focused SNS use, such as engaging in photo-based activities on Facebook, investing in one's selfies, and following appearance-focused content on Instagram, are particularly relevant to body image disturbances in young women, rather than overall SNS use. Accordingly, previous recommendations to limit overall SNS use may not only be impractical given the prevalence of SNS use, but also unsuccessful in preventing body image concerns in young women. Rather, future interventions targeting specific SNS appearance-related activities may be more effective in the prevention and management of body-related concerns and disordered eating in young women.

Despite the important contributions of Papers 1 and 2, the studies are limited by their correlational designs and therefore experimental research was needed to examine the impact of exposure to appearance-focused SNS use on young women's body image. Moreover, the body image literature has shifted beyond a primary focus on body image disturbances to examine the construct of positive body image (Halliwell, 2015). In the same way, it is important to move beyond a sole focus on aspects of SNS use that may be harmful for body image and investigate whether there are any aspects of SNS use that may promote positive body image. 'Body positivity' is a growing trend on social media that purports to promote body acceptance and love, yet research had not previously examined body positive social media content. Accordingly, Paper 3 experimentally investigated the impact of viewing body positive Instagram posts on young women's body image, compared to thin-ideal and appearance neutral posts. Results showed that brief exposure to body positive posts was associated with improvements in young women's positive mood, body satisfaction and body

appreciation, relative to thin-ideal and appearance-neutral posts. In addition, both thin-ideal and body-positive posts were associated with increased self-objectification relative to appearance-neutral posts. This study also found that participants showed favourable attitudes towards the body positive accounts with the majority being willing to follow them in the future.

Paper 3 contributes to the literature by using an experimental design to extend upon the correlational findings of previous research (including Papers 1 and 2 of this thesis) and establish the causal role of appearance-focused SNS use on body image outcomes. Moreover, Paper 3 was the first study to investigate body positive content on social media and lay the groundwork for future research into positive aspects of SNS use. An interesting finding in this study was that despite participants experiencing greater body appreciation following exposure to body positive posts, they also reported more appearance-related statements (though more positively valanced). This finding is particularly interesting because models of positive body image (Avalos & Tylka, 2006; Menzel & Levine, 2011) have proposed that factors which foster self-objectification should also undermine positive body image (Halliwell, 2015). Accordingly, it is possible that the type of focus on appearance fostered by viewing body positive imagery is qualitatively different to that elicited by exposure to thin-ideal imagery, and therefore further research was needed to understand how women's bodies are represented in body positive posts.

Thus, Paper 4 involved a content analysis of physical appearance-related characteristics and key themes featured in 640 Instagram posts sampled from popular body positive accounts. Results showed that, in contrast to the narrow portrayal of female bodies in traditional media and other social media trends, body positive imagery typically depicted a broad range of body sizes and appearances. Additionally, while a

proportion of posts were appearance-focused, none of the content was weight stigmatising or thin praising, and the majority of posts conveyed messages aligned with positive body image constructs. The findings that body positive posts represented diverse body types and positive body image messages helps explain why viewing such content is associated with greater body appreciation, body satisfaction and positive mood (Paper 3). Similarly, the finding that posts still consisted of appearance-focused imagery and messages, though framed positively, may explain why women who viewed such imagery made more appearance-related statements, though positively valanced (Paper 3).

At the time of writing these papers, body positivity had received great attention in pop-cultural discourse with some articles praising it and others criticising it. Critics claim that body positivity puts additional pressure on women to love their bodies, maintains a focus on appearance, and encourages obesity (e.g., Dastagir, 2017; Muttarak, 2018; Nomi, 2018; Oltuski, 2017; Reilly, 2017). However, despite being widely publicised, a majority of these claims remain unsubstantiated. Accordingly, Paper 5 consisted of a commentary piece to review the potential benefits and disadvantages of 'body positivity' on social media in light of pop-cultural criticism, positive body image theory, and the available research. Based on the findings of Papers 3 and 4 showing potential benefits of engaging with body positive content on social media for positive body image, a case was made in support of this emerging content. Nevertheless, recommendations were made for future research with an emphasis on experimental and longitudinal investigations of actual health outcomes of engaging with body positivity on social media, and clarification of the potential relationship between body positivity and objectification.

Theoretical Implications

Overall, the findings of these studies address important gaps in the literature and contribute to the emerging field of research on the effects of social media on young women's body image in several significant ways. First, unlike the studies reviewed by Holland and Tiggemann (2016) which used broad measures of SNS use, this body of research identified and examined specific aspects of SNS use that relate to body image outcomes. This nuanced approach to SNS use not only extends the current body of literature on social media use and body image, but also allows for more practical and targeted suggestions for prevention and treatment efforts.

Second, most of the research to date has focused on adolescent populations, and researchers have called for future research to investigate age groups other than adolescents in order to broaden the scope of social media effect research (Perloff, 2014a; Prieler & Choi, 2014). Therefore, in line with research showing that young adults (ages 18 to 29 years) are the most likely to use social media, with women even more active than men (Pew Research Center, 2018), the current thesis extended the research to young adult women.

Third, this thesis recognised Instagram as an important area for future research due to its increasing popularity and photo-centric features. At the commencement of this thesis, Facebook was the most popular SNS and the focus of social media effects research. For example, the majority of studies in Holland and Tiggemann's (2016) systematic review investigated Facebook use only, with no studies investigating Instagram. However, more recent statistics show that younger people have tended to migrate from Facebook to photo-sharing SNS like Instagram (Pew Research Center, 2018). In fact, while Facebook continues to have the largest user-base across the general public, Instagram has had the highest growth rate of all SNS and is especially popular

among young women (Pew Research Center, 2018). Accordingly, this thesis extends the focus of social media effects research beyond Facebook to include the more photo-based and arguably more relevant SNS platform of Instagram.

Another important contribution of this body of research is the application of objectification theory to the social media environment. Paper 1 explored body surveillance (the behavioural manifestation of self-objectification) as an outcome variable and found that appearance-focused activities on both Facebook and Instagram were correlated with body surveillance. Moreover, exploratory analyses revealed that Instagram users scored significantly higher on body surveillance compared to non-Instagram users. Paper 2 used objectification theory as a framework to explore the relationship between selfie activities and disordered eating, and found that self-objectification moderated the relationship between photo investment and bulimia symptomology. Paper 3 measured state self-objectification as an outcome variable in an experimental design and found that brief exposure to thin-ideal and body positive content led to increases in state self-objectification compared to appearance-neutral content. Finally, Paper 4 consisted of a qualitative analysis of objectifying features present in body positive posts on Instagram. These findings indicate that, like previous findings regarding thin-ideal internalisation and appearance comparisons (Cohen & Blaszczynski, 2015; Fardouly & Vartanian, 2015), self-objectification is another important process involved in appearance-focused SNS use that may contribute to body image concerns and disordered eating symptomatology. The findings of Paper 3 and 4 also highlight the potential co-existence of positive body image and self-objectification unique to the body positive SNS environment. Further research is needed to understand this complex relationship.

Finally, a significant gap in the literature was that whilst a growing body of literature focused on the negative effects of social media use on body image, there was a dearth of research investigating the potential for positive impacts. Indeed, Perloff (2014) urged future researchers to consider how social media may be harnessed to help young women adopt healthier attitudes towards their bodies. In line with the recent focus in the body image literature on positive body image (Tylka & Piran, 2019), this thesis saw an opportunity to explore the relationship between specific SNS use and positive body image. As the body positive movement grows and accounts dedicated to body positivity proliferate on social media, it is imperative that researchers investigate body positive content and ultimately the effect of exposure on body image and wellbeing. Accordingly, the experimental and content analysis findings (Papers 3 and 4) of this thesis make an important contribution to the literature on media effects and body image in general, as well as to the positive body image literature more specifically.

Practical Implications

The current body of work identified specific types of SNS use and content that may be both harmful and beneficial for body image in order to offer best practice guidelines and prevention efforts for SNS users who may be at risk of body image issues. Given social media's prevalence and centrality to young adult daily social interactions, limiting social media use itself is an unrealistic target for intervention (Kross et al., 2013). Instead, the findings from this thesis indicate that susceptible young women may be encouraged to minimise appearance-focused SNS use to reduce body image disturbances (Papers 1, 2, and 3), and engage with body positive SNS content as a possible avenue to enhance positive body image and mood (Papers, 3, 4, and 5).

Moreover, through the evaluation of body positive content, the findings provide practical implications for interventions designed to enhance positive body image.

Positive body image has become increasingly recognised as an important component of body image and eating disorder prevention (Tylka & Wood-Barcalow, 2015b) and has been associated with numerous psychological and physical health benefits (e.g., Andrew et al., 2014, 2016a; Homan & Tylka, 2014; Satinsky et al., 2012; Swami et al., 2018; Tylka, 2012, 2018). It has been argued that it may be easier to work towards increasing body appreciation than to attempt to decrease body dissatisfaction (Andrew et al., 2016a). Moreover, Tylka and Wood-Barcalow (2015b) have argued that helping clients adopt a positive body image may help them to appreciate, respect, and honour their bodies, which may enhance treatment gains long-term. Given the findings that body positive content on Instagram promotes messages aligned with positive body image constructs (Paper 4), and that brief exposure to such content has a positive impact on body appreciation, body satisfaction, and mood (Paper 3), this thesis indicates that engaging with body positive SNS content may be one feasible and scalable tool to offer young women to enhance positive body image. This finding is particularly promising given that young women reported favourable attitudes towards the body positive accounts, and the majority reported a willingness to follow such accounts in the future (Paper 3). Finally, as highlighted in Paper 5, these empirical findings are important because they provide evidence-based arguments for future body image advocacy work and public health promotion.

Limitations and Future Directions

Various limitations need to be kept in mind when considering the results of this thesis. This body of research focused on young women specifically due to social media use rates and prevalence of body image concerns in this demographic. However, the samples predominantly consisted of Caucasian, university-educated women, and this limits the generalisability of findings to other demographics. Social media use is also

popular amongst a broad range of ages, cultures, and genders (Kemp, 2019). Similarly, body dissatisfaction and disordered eating occur in both women and men of all ages (Mangweth-Matzek & Hoek, 2017). Accordingly, future research should investigate the specific SNS activities that are most relevant to body image issues in these populations. Moreover, it would be interesting for future research to examine whether viewing body positive content on social media featuring older women and men may be beneficial for these specific demographics.

Secondly, for the purpose of this thesis, Papers 3 and 4 were guided by Tylka and colleagues' (2012; 2015) definition of positive body image. However, given the emerging field of positive body image research, several other constructs of positive body image have also been developed such as body functionality (Alleva et al., 2015), body image flexibility (Sandoz et al., 2013), and body compassion (Altman et al., 2017). Accordingly, future research would benefit from exploring how some of these other contemporary positive body image constructs may be depicted and fostered in the social media environment.

This thesis used a mixed-methods approach to provide a comprehensive account of the relationship between appearance-focused SNS use and body image in young women. However, further experimental and longitudinal research is needed to extend upon the present findings. For example, the experimental design used in Paper 3 elucidates the impact of thin-ideal and body positive SNS account on body image outcomes in the short-term, however longitudinal data would be necessary to understand the long-term effects of viewing such content. This type of research would be particularly informative regarding the findings that brief exposure to body positive content was associated with increased state self-objectification. As discussed in Paper 3, although there were no quantitative differences in appearance-related statements

following exposure to the body positive and thin-ideal posts, further exploratory analyses revealed qualitative differences in the valance of statements made. Future research might usefully utilise qualitative approaches to more fully understand these findings. In addition, longitudinal data would help determine whether viewing body positive and thin-ideal content have similar or different effects on self-objectification in the long-term. Similarly, further experimental research is necessary to tease apart the different aspects of body positive posts (i.e., images, quotes, and captions) to identify which aspects of body positive content may be positively impacting body image and which may be maintaining a focus on appearance. As discussed in Paper 5, given the contention that body positive imagery may contribute to unhealthy attitudes and behaviours, future experimental research could also investigate the impact of viewing body positive content on health attitudes and actual behavioural outcomes such as diet and exercise.

Finally, Papers 1-3 relied on self-report measures and therefore results may have been subject to social desirability and retrospective bias. Ecological momentary assessments (e.g., diary design) would provide more ecologically valid measures of overall daily SNS use as well as specific types of use that may be contributing to state changes in mood and body image in real time (Fardouly & Vartanian, 2016; Kross et al., 2013). Similarly, eye tracking technology could be used as a more objective measure to examine which aspects of the body positive content young women attend to most and which elements are most related to various body image processes (Fardouly & Vartanian, 2016).

Conclusion

Social media use is at an all-time high among young women, and this population is particularly susceptible to body image concerns. Accordingly, the main aim of this

thesis was to identify which types of SNS use are most harmful and potentially beneficial for young women's body image in order to inform future interventions and offer best practice guidelines for social media users who may be at risk of body image issues. The present thesis contributes to a growing body of research on the effects of social media on young women's body image by clarifying the role of specific aspects of SNS use that may be most relevant to body image outcomes. The results of this thesis lend support to previous findings that appearance-focused SNS use may continue to perpetuate unrealistic and unhealthy appearance ideals, self-objectification, and body dissatisfaction. Furthermore, this thesis extends the literature by examining possible ways to harness SNS use to promote positive body image. With the emergence of movements like body positivity, social media enables users to post and engage with more realistic, diverse, and accepting messages and imagery around bodies, which may promote positive body image. Ultimately, the findings of this thesis have practical implications for SNS users, who might be encouraged to curate their social media environment to minimise harmful engagement with appearance-focused content and selfie activities, and engage with content that may foster positive body image.

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Appendices

Appendix A: Supplementary Table 1 (Paper 1)

Appendix B: Examples of Experimental Stimuli from Each Condition (Paper 3)

Appendix C: Codebook (Paper 4)

Appendix D: Ethics approval

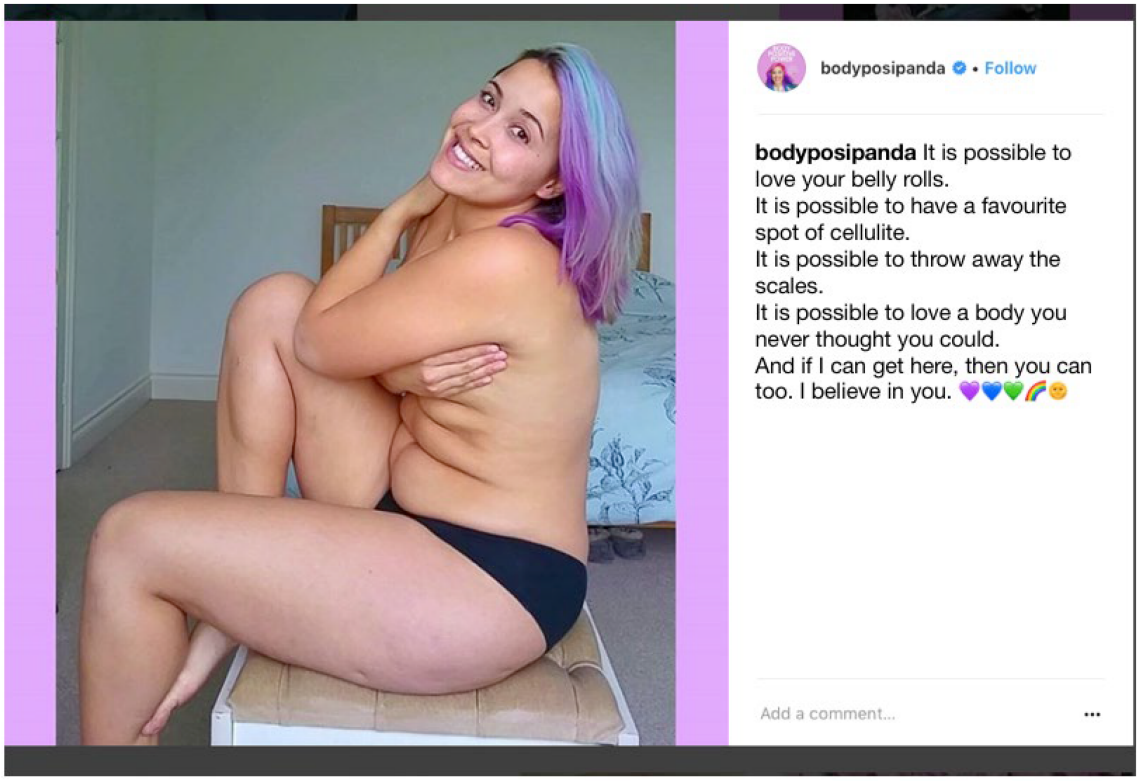
Appendix A: Supplementary Table 1.
Pearson correlations between BMI, social media use and body image variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. BMI	–													
2. Time Spent on Social Media	.13*	–												
3. Facebook Checking	.09	.43**	–											
4. Instagram Checking	.06	.37**	.38**	–										
5. Total Facebook Questionnaire Score	.07	.34**	.30**	.19**	–									
6. Facebook Appearance Exposure	-.04	.03	.02	.28**	.02	–								
7. Instagram – follow health/fitness accounts	.02	.04	.11	.34**	.14*	.13	–							
8. Instagram – follow celebrity accounts	.08	.20**	.15*	.46**	.05	.13*	.32**	–						
9. Instagram – follow travel accounts	.12	.05	.01	.31**	.15*	.07	.45**	.40**	–					
10. Thin Ideal Internalisation	-.08	-.06	.02	.13*	.08	.24**	.17**	.20**	.10	–				
11. Appearance Comparison	-.10	.00	.03	.04	.04	.12	.14*	.14*	.05	.55**	–			
12. Appearance Evaluation	-.24**	.03	-.01	-.03	.10	-.01	.01	-.12	-.01	-.40**	-.39**	–		
13. Body Surveillance	.00	-.03	.03	.15*	.04	.25**	.16*	.18**	.08	.60**	.61**	-.45**	–	
14. Drive for Thinness	.08	-.06	-.06	.06	-.06	.13*	.30**	.13*	.12	.51**	.54**	-.55**	.60**	–

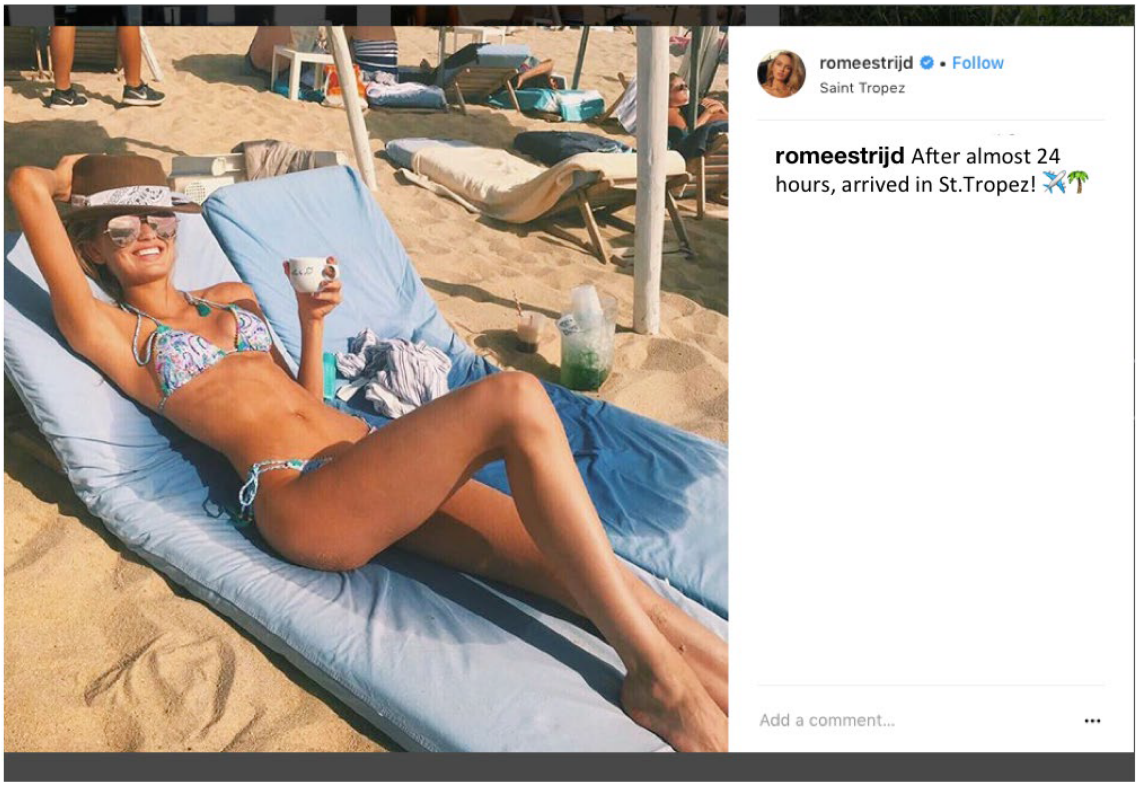
Note. BMI = body mass index; * $p < .05$, **p < .0

Appendix B: Examples of Experimental Stimuli from Each Condition

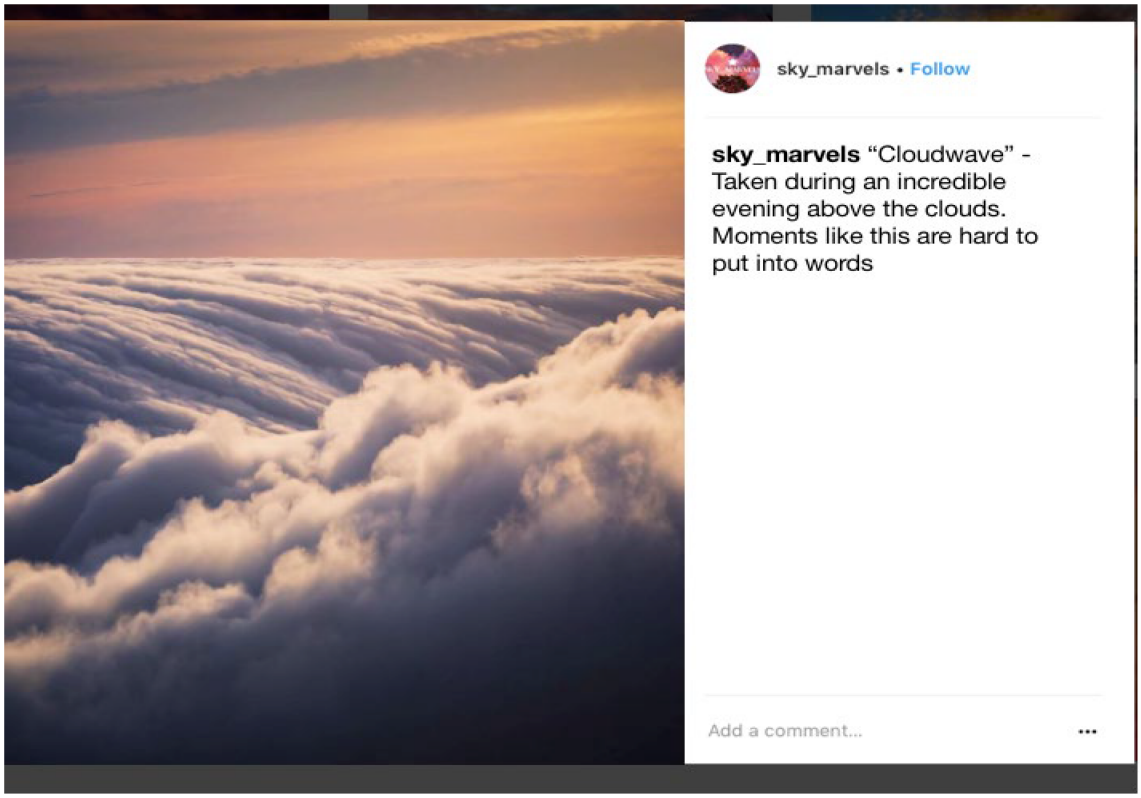
Example of experimental stimuli from body positive condition



Example of experimental stimuli from thin-ideal condition



Example of experimental stimuli from appearance-neutral condition



Appendix C: Codebook

Section 1: Coding Info

Coder ID: a. 1 = XX b. 2 = YY

Today's Date: DD/MM/YY

Account ID: Name of account image belongs to_____

Image ID: image number_____

Section 2: Coding the Instagram Image

Instagram Image*: this refers to the images that the account owner has posted as their content (not the profile picture). Please only code the image, do not include the image caption, hashtags, or comments in this section of coding)*

1. **Date of post:** Record the date posted_____
2. **Number of likes:** Record the number of likes for the post_____
3. **Number of comments:** Record the number of comments for the post _____
4. **Image Type:** What type of image is this (note, text refers to if the image itself contains text – not related to caption)
    1) visual only image (if visual only, specify):
        i. One human figure
        ii. Multiple human figures (does not include people in the "background" like crowds)
            a. Homogenous: multiple figures mostly depict one dominant shape and size (e.g. all overweight)
            b. Non-homogenous: multiple figures depict figures of vastly different shapes and sizes (e.g. some lean, some average, some overweight)
        iii. Cartoon figure/s of human
        iv. Non-human image (e.g. nature, food, animal – does not include text) – Specify _____
    2) Text only image (specify):
        i. Motivational quote/poem
        ii. Educational text
        iii. Humorous text
        iv. Opinion text
        v. Other (specify)_____
    3) Visual and text combined on the image (this may include a sign or tattoo on the body that is quite prominent, or text overlaid on the image. This does not refer to normal captions next to the image) – specify based on categories in 4.1 i-iv and 4.2 i-v._____

4) Video (specify content of video e.g. subject dancing, subject talking, pet running around, scenery etc.)_____

If no human body present, proceed to Section 4. If human figure (i, ii, or iii) present in image, please code items #5-14. *If two human figures present in a given image, code both figures separately. If more than two human figures present in a given image, please code the most prominent figure. If all figures are equally prominent (e.g. 5 women standing with their arms around each other, equally centred and close to camera) and homogenous (ii. a), code for one of the figures as representative of all. If all figures are equally prominent but non-homogenous (ii. b), code any features that are shared and select 'cannot determine' for those that are not shared (e.g. all female and similar ages but different ethnicities and body shape – code female, select most representative age and select 'cannot determine' for ethnicities and body shape etc.…)*

Demographics

5. **Gender:** Input the number corresponding with the gender of the subject in the image
   1) Female
   2) Male
   3) Other (and specify)_____
   999) Cannot determine

6. **Age:** Input the number corresponding with the estimated age group of the subject in the image
   1) Child or youth (appears 15 or younger)
   2) Older adolescent (15- 20 years)
   3) 20s
   4) 30s
   5) 40s
   6) 50s
   7) 60s
   8) Older than 60s
   999) Cannot determine

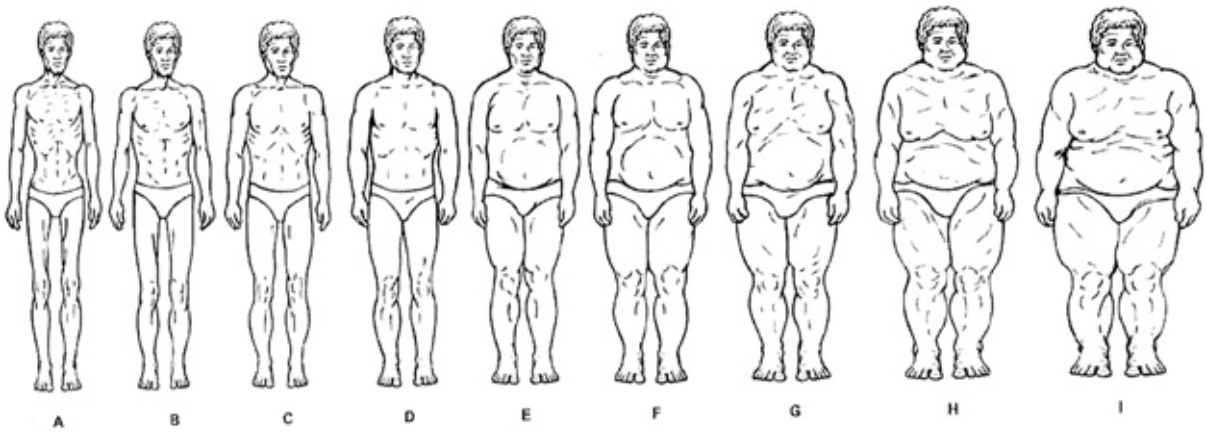
7. **Ethnicity:** Input the number corresponding with the apparent ethnicity of the subject in the image
   1) African (including African-American)
   2) Asian
   3) Caucasian
   4) Indigenous (including Aboriginal, Torres-strait Islander, Native American etc.)
   5) Middle Eastern
   6) Other (specify) _____
   999) Cannot determine

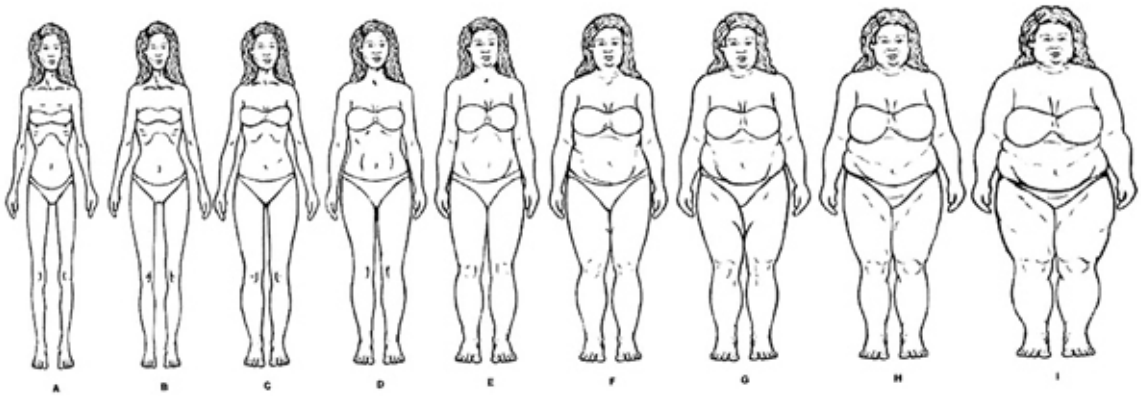
8. **Physical Difference or Disability:** Visible physical disability present (e.g. missing/amputated limb, wheelchair, obvious scarring on body, colostomy bag)
   1) Yes (specify)_____
   2) No
   999) Cannot determine

Body-related attributes

9. A) Body type (figure):

Using the female/male figures below, select the number of the figure that best matches the account owner's figure. Use 0 for does not apply





10. Culturally-Based Beauty Ideals: Aside from their body shape/size, would the rest of their features meet other culturally based beauty ideals (e.g. being/having clear, blemish free skin; neat, shiny hair; symmetrical features; straight, white teeth; or other culturally-based beauty ideals)

1) Not at all (e.g. subject does not have any features consistent with culturally-based beauty ideals)
2) Very little (e.g. subject may have one or two features consistent with culturally-based beauty ideals described above but mostly not)
3) Somewhat (e.g. apart from body size, subject would be considered attractive by conventional standards - nice hair, a pretty face, good smile with white teeth etc.)
4) To a great extent (e.g. subject looks like a magazine model apart from weight)

999) Cannot determine

11. **Perceived "flaws":** Below are various attributes incongruent with societal beauty ideals (typically considered 'flaws'). Please select 0=Not Present, 1=Present or 999=cannot determine, for each feature below to indicate whether it is present in the image. These features could be the focus of the image or simply visible. More than one feature can be selected per image.
    1) Cellulite
    2) Stretch marks
    3) Acne
    4) Bodily hair or facial hair (e.g. hair on legs, armpit hair, moustache etc.…)
    5) Rolls of fat on stomach
    6) Other (Specify)____

12. **Clothing/Exposure:** Rate the level of exposure of the subjects clothing in the image
    1) Not at all revealing (e.g. long pants and long-sleeve shirt, long dress)
    2) Slightly revealing (e.g., shorts and top, shorts and skirt, sleeveless dress or tight long pants and long-sleeve shirt or long dress that highlight figure)
    3) Moderately revealing (tight workout attire, midriff top, short-shorts, mini skirt)
    4) Very revealing (e.g. bathing suit, lingerie)
    5) Extremely revealing (e.g. nude)
    999) Not shown (face only)

13. **Activity:** What is the subject doing in the image
    1) Active
        i. Exercising (conventional exercise like running, gym, workout as well as deliberate yoga poses)
        ii. Moving (moving body not for exercise, e.g. 'jumping for joy', frolicking, shaking body, hugging, spinning around, cutting up food…)
    2) Non-active
        iii. Active posing (e.g. glamour pose, standing with hands on hips, creating angles with body/face)
        iv. Passive posture (e.g. non-glamourous pose - sitting, standing normally – not 'posing')

14. **Objectification:** Is objectification (portraying the body as an object) present in the image
    1) Yes (select yes if one or more of the following aspects of objectification are present)
        i. A specific body part is the main focus of the image (e.g. bust, butt)
        ii. Posing in a sexy manner (e.g. alluring/sultry gaze, winking or arching back)
        iii. Subjects head/face is absent or not clearly visible (this is deliberate – i.e. the poster has intentionally cut out or obscured the face to highlight the body. The absent or obscured face is not

simply the by-product of the individual moving in a certain way (e.g. hair in face while dancing).

2) No (none of the above are present)

Section 4: Coding the Content Theme (image and caption)

Content: *Use the image (visual, text, combined, video) and caption (including emojis and hashtags) together as a whole to discern the theme/message of the post. Hashtags that are not included in the caption itself (i.e. added in a separate comment) should not be considered. Hashtags posted in the caption in a block at the end of the caption should only be considered if they are unique to that post and not generic "copy and pasted" hashtags on multiple captions of the user's posts. Please do not include comments made by followers.*

15. **Positive Body Image Themes:** The following categories have been identified as core concepts of Positive Body Image. When coding content themes, please pay close attention to the definitions below to determine if any apply. Please select 0=Not Present or 1=Present for each category below to indicate whether the thematic content is present in the post. More than one theme can be selected per post.

    1) ***Body Appreciation:*** Content posted to encourage appreciating the features, functionality, and health of the body (i.e. focusing on what the body can do, not just how it looks.) E.g., Post of someone doing something saying, "Today I'm grateful that I have a body that's healthy and working properly" (can be conveyed through emoji's that indicate strength etc. like arm with muscle flex); or image blatantly focus on body's features, function, or health:
    e.g. Woman breast feeding her baby (even if no explicit text about this) or woman working out showing what her body can do/strength (not focused on how good she looks doing it/posing while in exercise gear)

    2) ***Body Acceptance/Love:*** Content posted to encourage acceptance of one's body/body fat (or body parts)/ weight/size/shape etc. even if doesn't conform to ideal standards. Content may express love for and comfort with the body, even if not completely satisfied with all aspects of the body. E.g., Image of woman with fat rolls and caption "'I love my body despite its flaws"; or Or image blatantly focuses on accepting/loving/being comfortable in body despite flaws - e.g. woman rocking a beard, woman exposing scarred boobs and looking comfortable in her body (even if not referred to in caption)

    3) ***Conceptualising Beauty Broadly:*** Content posted that depicts a wide range or appearances as beautiful and/or draw from inner characteristics (e.g. confidence, personality) to determine beauty in themselves and others. E.g., image depicts diverse appearance with caption that refers to it in positive way (e.g. image of large women or women with disability and caption "all bodies are beautiful" or emoji indicating beauty like 'bomb'); Or caption refers to inner characteristics as determining beauty (e.g. "my confidence makes me attractive"); Or image is obviously an ad

campaign or model shoot of woman of diverse appearance (e.g. plus size woman on magazine cover)

4) ***Adaptive Investment in Body Care:*** Content posted that emphasises respecting and taking care of one's body by engaging in positive, health-promoting self-care behaviours. E.g., Image of a woman engaging in body-care behaviour (rest, exercise, hydrating, massage etc.) with caption referring to how this is adaptive investment e.g. "I exercise to feel strong and healthy" or "make sure you sleep enough". Any reference to appearance-related self-care (clothing, grooming, exercise) is framed in terms of how they make you feel (not how they make you look) or as a reflection of inner qualities (individual sense of style and personality) (e.g. "this outfit combo makes me smile" or "got my hair done and feeling fresh and confident for the day ahead" or "this jumper is super comfortable and warm")

5) ***Inner Positivity*****:** Content posted depicts, or encourage cultivating inner characteristics and positive feelings (e.g. self-worth, body confidence, optimism, happiness) that may be expressed in outer behaviours (e.g. kindness, mindfulness, helping others etc.). Can also manifest as smiling, asserting oneself, holding the "head up high" and emanating a "special glow" or "outer radiance" (if based on the way they're holding themselves, must be a combination of the above i.e. smiling and holding head up high and glowing… not 'just smiling')

6) ***Protective filtering Information in a Body-Protective Manner:*** Content posted highlight the unrealistic and fabricated nature of media images, reject, criticise, and challenge these appearance ideals, as well as interpret and internalise messages that are compassionate towards their bodies. In cases where women may have absorbed negative information, such as weight-related criticism from others, they are aware of the negative affect resulting from this criticism but are able to accept their feelings and, in time, move toward behaviours reflecting self-care instead of body shame. E.g., Text involves protective filtering (accepting information that is consistent with positive body image while rejecting messages that could endanger it) e.g. "I'm not interested in analysing my flaws, I'm interested in analysing why I was made to believe I have flaws in the first place"; Or image is blatantly protective filtering – posed/unposed, filtered/unfiltered etc. to challenge appearance ideals

16. Appearance Focused theme: *Reference to appearance-focused themes from an appearance focus. If the post talks about clothes, exercise, diet etc. framed in terms of body positive image, then do not include them here.* Please select 0=Not Present or 1=Present for each category below to indicate whether the thematic content is present in the post. More than one theme can be selected per post.

1) ***Weight loss, Exercise, diet-appearance***: Content posted to encourage or promote exercise, diet/nutrition, or weight loss to improve appearance (i.e. toned abdominal muscles, firmer thighs, bum, toned arms, leaner etc.…) Before and after photos in which the now or after image appears

thinner than the before and is praised should be coded for this theme.

2) ***Clothing, beauty-appearance:*** Content that emphasises how the body looks/one's appearance in certain clothing, hairstyles, makeup, skincare, beauty tips or how to improve one's appearance with clothing, hair, makeup, skincare, or other beauty tips.

3) ***Thin-praise****:* Content that positively portray thinness, consistent with the thin-ideal (e.g. equating thinness with happiness, success, will-power etc.)

4) ***Weight/fat stigmatising****:* Content that negatively portray being overweight/having fat (e.g. equating fat with being unhealthy, lazy, burden etc.)

5) ***Thin stigmatising/skinny shaming*****:** Content makes fun of, ridicules, stigmatizes thinness/extreme thinness; could use 'thinspo' and 'proana' images with text or additional image overlay (e.g., an X through it) indicating that it is unattractive, unhealthy, or that thin women are not "real" women, etc.)

6) ***Body/weight/food shame***: Content that expresses guilt or shame about their body, weight, food behaviours etc. (e.g. regret over eating a high-calorie meal)

17. Other Relevant Themes: Please select 0=Not Present or 1=Present for each category below to indicate whether the thematic content is present in the post. More than one theme can be selected per post.

1) ***Commercialism*****:** Post advertises or promotes a product or brand (e.g. Fit Tea, clothing brand, specific beauty product, their book, YouTube channel, 'self-love' program, yoga workshop they run etc. including mention in text or hashtags of commercial brands) – specify:_ ___

2) ***Mental health*****:** Content makes reference to mental health e.g. depression, anxiety (not including eating disorders) (if present specify)_____

3) ***Eating disorders*****:** content makes reference to eating disorders or ED recovery (if present specify)_____

4) ***Activism:*** content where the account user is explicitly encouraging others to support a cause (e.g. women's march, black lives matter, save the oceans). (if present specify)__ ___

5) ***Other:*** another predominant theme not categorised above (specify)____

Appendix D: Ethics approval

UNIVERSITY OF TECHNOLOGY, SYDNEY

1 July, 2016

au

Dr Robert N Brockman
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E: Robert.Brockman@uts.edu.au

PO Box 123
Broadway NSW 2007
Australia

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UTS CRICOS PROVIDER CODE 00099F

Dear Dr Toby Newton-John and Ms Rachael Cohen,

Thank you for submitting your research project for internal ethical review under the "Program Approval: Low Risk Research MPsych (Clinical) Program Graduate School of Health" which has been granted approval by the UTS Human Research Ethics Expedited Review Committee to review low risk research within the Discipline of Clinical Psychology. I am pleased to inform you that ethical approval is now granted for your research entitled "An Exploration of The Relationship Between Photo Activities on Social Media and Body Image Dissatisfaction in Young Women".

Your approval number is UTS HREC REF NO. 2015000482-26

Approval has been granted until 17th November 2017. After this period has lapsed, approval will automatically cease unless an extension has been sought and approved in writing.

You should consider this letter your official letter of approval.

If you have any queries about your ethics approval, or require any amendments to your research in the future, please do not hesitate to contact the Program Ethics Coordinator at Robert.Brockman@uts.edu.au

Yours sincerely,

Production Note:
Signature removed
prior to publication.

Dr John McAloon
Acting Program Ethics Coordinator (Discipline of Clinical Psychology)
University of Technology Sydney

UTS HREC Approval - ETH17-1690

Research.Ethics@uts.edu.au <Research.Ethics@uts.edu.au>
Fri 15/09/2017 6:33 PM

To: [redacted]@student.uts.edu.au <[redacted]@student.uts.edu.au>; Toby.Newton-John@uts.edu.au <Toby.Newton-John@uts.edu.au>; Research.Ethics@uts.edu.au <Research.Ethics@uts.edu.au>; jasmine.fardouly@mq.edu.au <jasmine.fardouly@mq.edu.au>; amy.slater@uwe.ac.uk <amy.slater@uwe.ac.uk>

Dear Applicant

The UTS Human Research Ethics Committee reviewed your application titled, "Body Positive Social Media", and agreed that the application meets the requirements of the NHMRC National Statement on Ethical Conduct in Human Research (2007). I am pleased to inform you that ethics approval is now granted.

Your approval number is UTS HREC REF NO. ETH17-1690.

Approval will be for a period of five (5) years from the date of this correspondence subject to the provision of annual reports.

Your approval number must be included in all participant material and advertisements. Any advertisements on the UTS Staff Connect without an approval number will be removed.

Please note that the ethical conduct of research is an on-going process. The National Statement on Ethical Conduct in Research Involving Humans requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually from the date of approval, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data from this research project falls into one of these categories, contact University Records for advice on long-term retention.

You should consider this your official letter of approval. If you require a hardcopy please contact Research.Ethics@uts.edu.au.

To access this application, please follow the URLs below:
* if accessing within the UTS network: https://rm.uts.edu.au
* if accessing outside of UTS network: https://vpn.uts.edu.au , and click on " RM6 – Production " after logging in.

We value your feedback on the online ethics process. If you would like to provide feedback please go to: http://surveys.uts.edu.au/surveys/onlineethics/index.cfm

If you have any queries about your ethics approval, or require any amendments to your research in the future, please do not hesitate to contact Research.Ethics@uts.edu.au.

Yours sincerely,

Associate Professor Beata Bajorek
Chairperson
UTS Human Research Ethics Committee
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