A COMPARATIVE ANAYLSIS OF PRO-ANOREXIA VERSUS PRO-RECOVERY
INSTAGRAM IMAGES THROUGH THE LENSES OF OBJECTIFIED BODY
CONSCIOUSNESS AND POSITIVE BODY IMAGE CONCEPTUAL
FRAMEWORKS

by

Nadia Jafari

A thesis submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Master of Arts in
Psychology

Charlotte

2016

Approved by:

_____
Dr. Jennifer B. Webb

_____
Dr. Fary Cachelin

_____
Dr. Jan Warren-Findlow

ABSTRACT

NADIA JAFARI. A comparative analysis of pro-anorexia versus pro-recovery Instagram images through the lenses of objectified body consciousness and positive body image conceptual frameworks. (Under the direction of DR. JENNIFER B. WEBB)

Instagram (IG) is a social media application that allows users to upload personal images in a public forum by including a searchable link (e.g. hashtag) along with a posted image. An IG community devoted to a pro-recovery (i.e., #anarecovery) perspective on eating disorders (EDs) stands alongside the pro-ana lifestyle IG community (i.e., #ana). Research has yet to examine the nature of visual representations associated with pro-ana and pro-recovery social media imagery and moreover, not much empirical attention has been given to the nature of this content on IG. Thus, the first aim of this qualitative content analysis was to examine how the underlying theoretical constructs of objectified body consciousness (OBC) and positive body image (PBI) were represented among #ana and #anarecovery content. A second aim was to compare the frequency of the themes present for #ana versus #anarecovery images. A coding guide was developed and high levels of interrater reliability were established for the primary codes (kappa $\geq$ .80). One hundred and fifty IG images each from #ana and #anarecovery were systematically coded. Within- and between-hashtag comparisons of images were performed using frequency counts and chi-square analyses. Within #ana images, the theme of body shame (62.7%) was more frequently depicted relative to body surveillance (22%) and appearance control (22%) themes. Within #anarecovery images, the theme of body protection was most prevalent (67.3%) followed by body functionality (38.7%) and body acceptance (11.3%) themes. All three OBC themes were more likely to be present in

#ana images. Conversely, PBI themes of body protection and body functionality were more frequently represented in the #anarecovery images. The frequency of body acceptance themes did not differentiate the images sampled from both hashtags. This research calls for more expanded and distinguished definitions of the constructs that comprise the continuum of PBI. Findings also suggest how the lack of distinction in the frequency of body acceptance observed between the two hashtags may be clinically relevant for exploring potential risk factors that persist in the process of ED recovery.

INTRODUCTION

The aim of the present study was to provide a qualitative comparative analysis of pro-anorexia (i.e. #ana) and pro-recovery (i.e., #anarecovery) social media content found on Instagram. The use of social media platforms (e.g., Twitter, Facebook, Instagram) has increasingly become the norm among adolescents and young adults. Instagram, in particular, is a convenient application that allows users to upload personal images in a public forum by including a searchable link (i.e., hashtag) along with a posted image. Since this application was launched in 2010, not much attention has been given to the nature of pro-anorexia social media content on Instagram (i.e., "#ana") and much less consideration has been given to content that documents individuals who are in recovery from anorexia nervosa (AN)(i.e., "#anarecovery").

Past research has primarily focused on examining information promulgated on pro-anorexia websites (e.g., blogs, forums) and ways in which these sites serve as an influential and supportive community for individuals who desire to live a "pro-anorexia" lifestyle (Dias, 2003; Borzekowski, Schenk, Wilson, & Peebles, 2010). On the other hand, a recent online news report detailed how one teenage girl turned to her Instagram account to find support during her recovery from Anorexia, rather than seeking help from professional health services (Krishna, 2015). It remains unclear how images and messages depicted within Instagram's #ana and #anarecovery content might either help in the recovery process or potentially, lead to more harm.

Thus, the primary aim of this analysis was to examine how the underlying theoretical constructs of objectified body consciousness (OBC; McKinley & Hyde, 1996) and positive body image (PBI; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010) were

represented among pro-anorexia and pro-recovery content on Instagram. A secondary

aim was to compare the frequency of the representation of these themes evident between

pro-anorexia and pro-recovery images. The following sections: a) describe the nature of

eating disorders, b) examine pro-anorexia and pro-recovery representations in online

media, c) discuss the influence of social media on body image and disordered eating, d)

consider the value of incorporating both OBC and PBI conceptual frameworks for

guiding this analysis, e) provide a detailed overview of the proposed research

methodology, f) report the findings, and lastly, g) discuss theoretical and clinical

implications, strengths, limitations, and future directions.

TABLE OF CONTENTS

EATING DISORDERS: AN OVERVIEW OF DIAGNOSTIC CHARACTERISTICS, PREVALENCE, RISK FACTORS, AND HEALTH CONSEQUENCES

Eating disorders represent enduring, compulsive patterns of behavior that can result in damaging long-term psychosocial and physical health consequences. Broadly defined, eating disorders (ED) are typically characterized by a combination of behavioral and cognitive symptoms involving severe dietary restriction, compensatory behaviors (i.e., excessive exercise, purging), and over-evaluating one's eating, body weight and shape (Allen, Oddy, Byrne, & Crosby, 2013). Allen and colleagues (2013) claim that diagnostic stability for DSM-5 is low since crossover among ED categories is very common. Thus, ED symptoms wax and wane over time. Many people who suffer from disordered eating do not meet full criteria for an ED; however, symptoms may eventually reach full criteria if individuals experience an increase in risk factors over time (Allen et al., 2013).

'Eating disorder not otherwise specified' (EDNOS; DSM-IV-TR, 1995) is the most prevalent diagnosis in clinical and community samples of adolescents, accounting for 80% of all ED diagnoses (Eddy, Dorer, Franko, Tahilani, Thompson-Brenner, Herzog, 2008; Smink, 2014). Although EDNOS is a heterogeneous group of symptoms encompassing partial forms of AN and bulimia nervosa (BN), individuals diagnosed with EDNOS experience psychopathological consequences comparable to AN and BN (Smink, 2014). Recently, the DSM-5 broadened the criteria for AN and BN, with the goal to reduce the category EDNOS (renamed 'other specified feeding and eating disorder' (OSFED)), which led to an increase in the prevalence of AN and binge eating disorder (BED) among a community sample of adolescents (Smink, 2014).

College females are at high-risk for developing eating disorders, which are difficult to treat and are associated with severe psychosocial impairment including depressive symptoms and poor quality of life (Allen et al., 2013; Smolak & Levine, 1996). ED prevalence rates are substantially higher for females versus males. Results from a comprehensive study suggest striking increases in ED prevalence rates among adolescent females using modified DSM-5 criteria (Allen et. al, 2013). A review of literature from 11 different countries revealed that a greater number of women suffered from eating disorders and endorsed a greater number of disordered eating attitudes than men (Makino, Tsuboi, Dennerstein, 2004). Over the span of 55 years, Makino and colleagues observed a continual rise in incidence rates for AN among girls and women aged 15 to 24 years old (Makino, et al., 2004). Population and clinic-based prevalence rates of AN in Western countries ranged from 0.1% (Rooney, McLelland, Crisp, Sedgwick, 1995; Rathner, Tury, & Szabo, 2001) to 5.7% (Gotestam, Eriksen, Hagen, 1995), whereas in non-Western countries rates ranged from 0.0045% (Kuboki, Nomura, Ide, Suematsu, Araki, 1996) to 0.9% (Nobakht & Dezhkam, 2000). Although the prevalence of eating disorders in non-Western countries is lower than that of Western countries, this number is growing and evidence suggests that gender and sociocultural factors contribute to this increase (Makino, et al., 2004).

Given that thinness has been traditionally linked to success and happiness, concerns about body image, weight, and food are logically considered a preliminary step towards developing an eating disorder (Diagnosing Eating Disorders, 1995; Lager & McGee, 2003). Lager and McGee (2003) suggest that anorexia does not simply develop from impossible ideals about women's beauty nor is it entirely explained by

perfectionistic traits, of which are typically considered to lead some girls to restrict and control caloric intake. Instead these authors argue that as a result of Western beauty standards, people are taught to focus on women's bodies rather than their *functional* abilities or *personal* attributes, thus relegating women to a position in which they are overpowered by patriarchal systems (Lager & McGee, 2003). Other research has focused not only on the various types of media that disseminate messages of thinness, but also emphasize the function of women's bodies within society. Bordo (1993) claimed that within our patriarchal society, both men and women are confronted with messages that women's bodies should be "controlled and overcome through physical fitness" and that "simply to be slim is not enough—the flesh must not 'wiggle'" (Lager & McGee, 2003, p. 191). Consequently, some women may take this message to the extreme, feeling that they must match a celebrity or supermodel ideal, rather than maintaining a level of fitness that is appropriate for their age and body type (Lager & McGee, 2003).

In 2001**,** the American Anorexia and Bulimia Association (AABA) estimated that about 1,000 people die each year as a result of eating disorders and that five million U.S. women experience some form of disordered eating (Lager & McGee, 2003). AN has the highest mortality rate of any mental illness (Beumont & Touyz, 2003; Dawson, Rhodes, & Touyz, 2014). Typically, the most effective treatments for EDs include expensive, time intensive inpatient programs. Despite labeling ED treatments as "effective," the rate of relapse among those with an ED is estimated to range from 35% to 50%, depending on measurement definitions of relapse and remission (McFarlane Carter, Bewell, Olmsted, Woodside, Kaplan, 2008). Approximately 46-50% of patients diagnosed with AN experience improvement over time, but 30% continue to experience symptoms and 20%

still remain chronically symptomatic (Dawson et al., 2014; Steinhausen, 2002). Perhaps due to the ego syntonic nature of the illness, many individuals with anorexia desire to remain diligent about their disordered-eating behavior and rather than seeking help for these behaviors, they may form alliances with others who maintain similar lifestyles.

Past and current evidence reveals that treatments for AN have not been largely effective and despite multiple treatment and prevention models, there remains no definitively effective treatment for adults (Dawson et al., 2014; Hay et al., 2009). The medical model has been the mainstay for AN treatment research and is focused on symptom reduction alone. In response to the lack of consistency among eating disorder literature, Galsworthy-Francis and Allan (2014) conducted a systematic review to provide empirical evidence on the effectiveness of cognitive behavioral therapies for AN. The results suggested that while CBT demonstrated some improvements in crucial outcomes (e.g., BMI, ED symptoms), CBT was not shown to be superior to other treatments (e.g. nutritional counseling, and family therapy); thus, CBT cannot be considered a "treatment of choice" for AN (Galsworthy-Francis & Allan, 2014). An emerging area of recovery research has begun to conceptualize AN recovery as a personal journey that encompasses empowerment, connection, and hope towards leading a fulfilling life (Dawson et al., 2014).

Qualitative studies have found that patient attitudes towards AN treatment align with facets of the recovery model that emphasize that "change can occur without professional intervention" and that external factors related to recovery "as well as the interaction between the individual and their environment" are deemed important for recovery (Dawson et al., 2014, pp. 1011-1012; Onken et al., 2007). AN patients have

suggested that multiple factors can lead to improvements in symptoms, thus there may be multiple pathways to recovery that goes beyond therapy, such as positive life experiences, newly discovered interests, and meaningful relationships (Dawson et al., 2014; Espindola & Blay, 2009; Hay & Cho, 2013). This may help to explain the impact that pro-recovery support groups might have on individuals attempting to recover from AN. The following explains how the Internet has become one major contributor to the formation of both pro-anorexia lifestyle and pro-recovery support groups.

PRO-ANOREXIA VS. PRO-RECOVERY ONLINE MEDIA REPRESENTATIONS

Pro-anorexia (or pro-ana) websites constitute a collection of online realms that provide information about eating disorders, with anorexia nervosa being a primary focus. Authors of the content on these sites describe their eating disorder as a "choice" and endorse disordered eating behavior as a "lifestyle" rather than a potentially fatal mental disorder (Dias, 2003; Giles, 2006; Norris, 2006; Stochel & Janas-Kozik, 2010). These websites serve as a forum for girls and women to communicate and share "how to" advice that promotes and supports anorexic behavior. Features of these sites typically include daily posts about caloric intake, eating relapses, ideas for dieting and avoiding food, distraction techniques for hunger pangs, pictures of emaciated bodies for inspiration (i.e., "thinspiration"), expressive poetry, lyrics, and/or quotes that venerate eating disorders, and tips on how to be secretive about these behaviors (Lewis & Arbuthnott, 2012).

Other significant aspects of pro-ana content include a list of commandments for the ana "religion" and personifying EDs as a supportive friend (i.e., 'Ana', 'Mia') (Sharpe, Musiat, Knapton, & Schmidt, 2011). Pro-ana content places a major emphasis on body size and shape. As a result, the visual nature of pro-ana content functions in a phenomenological way that textual data cannot as it pertains to promoting ideas that eating disorders are lifestyle choices (Jensen, 2005). Although research has yet to address whether pro-ED website viewership is associated with the development of an ED, it has been shown that certain risk factors may be affected by these websites, such as body dissatisfaction, disordered eating, and self-esteem (Bardone-Cone & Cass, 2007; Sharpe, et al., 2011).

People with complex or sensitive health concerns may be particularly inclined to search for information on the Internet mainly because there are no face-to-face interactions (Rice & Katz, 2001). Women with anorexia and those along the anorexia-related spectrum of disordered eating might view pro-anorexia forums as a "safe" space for interacting with others who also promote disordered eating behavior. They may be able to express things online that are difficult to express to family, friends, or health professionals. Cyberspace may provide a realm in which anorectics can avoid the criticisms of others who perceive their behaviors as disordered or abnormal. Those who adopt a pro-anorexia lifestyle may regard their online community as an escape from the surveillance of their families or peers, since the early stages of this disorder manifest via social disconnection and isolation (Dias, 2003). Many themes are found among those with pro-anorexia narratives, such as feeling misunderstood by others, a lack of control, isolated, and ambivalent about recovery.

In response to the harsh reactions of others, people who live with eating disorders become isolated, and that if people were more understanding of their choices, they would feel safer to get help (Dias, 2003). It seems that those with an ED or who are more broadly engaging in significant disordered eating practices might be willing to accept help or guidance if they did not receive the typical treatment that is offered currently. Pro-ana websites offer a personal, in-depth perspective into women's suffering, emotional distress, and their search for approval and social connection (Dias, 2003). Additionally, many of these women convey an ambivalent attitude towards the recovery process and are uncertain about seeking help for their anorexia. Many women are in

denial of their need for treatment, yet almost all seem to be articulate about and aware of their behavior (Giles, 2006).

A common theme among pro-ana forums is the overarching idea that "ana represents an ED ideal, creating a disdain for 'fakers' and 'wannabes'" suggesting that those with bulimia (i.e., 'pro-mia') are less disciplined, less pure, disgusting, and cheaters (Giles, 2006). "Ironically, for a community that actively resists social norms, medical diagnosis operates as a qualification—but this only serves to point up a critical ambivalence towards medicine in the pro-ana community, where site users debate endlessly whether ana is an 'illness' or a 'choice'" (Giles, 2006, p. 475). At the same time that EDs are virtually glorified, pro-ana users lend different types of online support, which may either encourage treatment-seeking behavior or aggressively advocate against it (Casilli, Tubaro, & Araya, 2012).

Concomitantly, a burgeoning online community devoted to a pro-recovery perspective on eating disorders stands alongside the pro-ana lifestyle community; although, pro-ana sites still far outnumber pro-recovery sites. A pro-recovery perspective is one that views eating disorders as illnesses, whereas a pro-ana attitude views eating disorders positively and promotes anorexia as a lifestyle choice. Although these communities are distinct in their goals, they are interrelated in their content, target audience, and social dynamics.

Yom-tov and colleagues (2012) examined the characteristics of pro-anorexia and pro-recovery photos from the image-sharing platform Flickr to understand whether recovery-related content discouraged the posting of pro-anorexia content. These authors found that both communities used similar words to describe their images. Pro-recovery

users generally posted more self-photographs and were more likely to use tags such as "home", "selfportrait", "mother", "sunshine", and "bird" (Yom-Tov, Fernandez-Luque, Weber, & Crain, 2012). In contrast, pro-anorexia users were more likely to use tags such as "thinspiration", "doll", "thinspo", "skinny", and "thin".

Most interactions (e.g., comments, "favorite") take place within their own community, yet pro-anorexia and pro-recovery user interactions are interconnected according to the types of tags that accompany their photographs. The authors suggest that pro-recovery users may attempt to expose themselves to pro-anorexia users by using similar tags. However, differences were found between both communities regarding the probability that these tags were used. Additionally, pro-anorexia users were more likely to continue posting anorexia-related content when they received pro-recovery comments than users who were not exposed to these types of comments. Interestingly, pro-recovery users were more pro-active about making their content visible to pro-anorexia users by using comparable text to describe their images as well as providing comments on pro-anorexia content (Yom-Tov et al., 2012).

As an alternative to the long-standing presence of multiple pro-eating disorder websites that serve as social support systems for individuals who engage in disordered eating, the recent growth of pro-recovery online communities seems especially crucial for individuals who are seeking support but may be ambivalent about accepting help for their eating disorder (Rouleau & von Ranson, 2011). Aardoom and colleagues (2014) argue that because users view social support as a principal function of pro-anorexia websites, it is crucial to develop online media initiatives that satisfy the desire to interact and connect with similar others, yet in a healthy and recovery-oriented way.

Proud2Bme is a Dutch website that was initiated in 2009 and provides an informational and social arena for peers, family, and health care professionals to communicate openly about eating disorders (Proud2Bme). The website lends "anonymous and low-threshold support and aims to increase empowerment by raising awareness and creating acknowledgement," in addition to improving self-care and encouraging individuals to seek help (Aardoom, Dingemans, Boogaard, & Van Furth, 2014, p. 351). Most users of Proud2Bme reported that exchanging information and experiences, as well as finding recognition were empowering for them. Results from a cross-sectional study found that the experience of empowerment was positively associated with the interactive features of the website among teens and young adults (Aardoom, et. al., 2014).

Lyons and colleagues (2006) examined how pro-anorexia and individuals recovering from anorexia differed in their linguistic self-presentation styles on the Internet. The authors analyzed data extracted from either pro-anorexia (N=162) or recovery-oriented online forums (N=56) and measured three language dimensions that were associated with different coping strategies: 1) emotional processes (e.g., positive and negative emotion words; anxiety words), 2) cognitive processes (e.g., insight words such as "cause" or "realize"), and 3) social processes (e.g., social awareness words such as "you" vs. self-awareness words such as "I"). Results indicated that compared to individuals in recovery from anorexia, pro-anorexia individuals conveyed more positive emotion words, used significantly less anxiety and insight words, and demonstrated less self-preoccupation. The authors suggest that as it pertains to language use, the amalgam of reduced levels of cognitive processing, emotional positivity, and increased levels of

self-preoccupation may indicate that individuals who endorse the pro-anorexia lifestyle employ a coping strategy to stabilize them emotionally, thus making it difficult for them to engage in psychological treatment (Lyons, Mehl, & Pennebaker, 2006).

Overall, the majority of past research focuses on examining the content of pro-anorexia online communities to a greater degree than pro-recovery content. Specifically, this content is analyzed to provide an understanding of the functions of pro-ana communities (e.g., social support), to clarify the impact these sites have on disordered eating behaviors and body image, and to describe users interactions (e.g., advice giving, perceived harm) and textual commentary on these sites. However, little attention has been given to examining the content of the actual pro-anorexia and pro-recovery images or reaction to these images. Moreover, much less consideration has been given to information that might be gained from a comparison of images from these two communities. Since there is virtually no research indicating how Instagram users may react to pro-anorexia or pro-recovery images, nor research examining the content of the images themselves, this research may lend further theoretical insights in regards to the potential impact of these images presented via a newly developed social media platform.

SOCIAL MEDIA & INFLUENCE ON BODY IMAGE AND DISORDERED EATING

According to statistics from the Pew Research Center, the increasing usage of smartphones has made social networking sites easily accessible; as of January 2014, 58% of American adults own a smartphone and 91% of adults between 18-29 years old use their mobile device or smartphone to access the internet (Pew Research, 2014). Social media use, which largely entails sharing digital images, is predominant among teenagers (Lenhart et al., 2007). It has also been shown that 56% of females actively use social networking sites (Hampton et al., 2009). Instagram (IG) is a social media content-sharing service that can be accessed via smartphone, mobile device or computer. The mobile application is a community platform for which individual people or groups (i.e., "Users") can upload (i.e. "post") photographs, videos, comments, hashtags, links, and other materials (i.e., "User content").

Currently, there are approximately 400 million monthly active users on IG, more than 40 billion total images shared, about 3.5 billion "likes" daily, and 80 million photos shared per day on average (Instagram, 2015). Approximately 75% of IG users are outside of the U.S. (Instagram, 2015). IG seems to be particularly appealing to younger adults who "exhibit especially high levels of User engagement," and recent findings demonstrate that 57% of Users claim to check their IG account at least once per day (Pew Research, 2013). Instagram users tend to be younger in comparison to Facebook users, which poses a greater threat to those who are younger than 19, since these individuals may be most vulnerable to the harmful effects of thin-ideal media (Groesx et al., 2002; Lenhart et al., 2010). Lee and colleagues (2015) investigated motivations for using Instagram and found five primary social and psychological motives: *social interaction*,

archiving, *self-expression*, *escapism*, and *peeking*. Instagram users appeared motivated to establish and maintain relationships with other users, log daily events via photos, provide updates, escape reality, avoid loneliness, and to browse a variety of images related to personal interests and/or celebrities (Lee, Lee, Moon, & Sung, 2015).

The majority of past research has primarily focused on examining the effects of social media exposure on women's body image and eating disorder symptoms (Bardone-Cone & Cass, 2007; Ferguson et al., 2013; Rodgers, Lowy, Halperin, & Franko, 2016). Findings from a recent meta-analysis examining the influence of pro-eating disorder websites on body image and eating pathology revealed significant effect sizes of exposure to these websites on body image dissatisfaction (Rodgers et al., 2016). Broadly defined, social media exposure typically includes images of physical ideals exhibited on the Internet, television, in movies, in magazines, and other forms of advertisement. Most researchers have used this definition of social media to operationalize exposure in experimental studies. The motivation to advance this research is in examining how use of social media platforms (e.g., Facebook, Twitter, Pinterest, Instagram, etc.) and the nature of their content may influence body image and eating behavior. For example, members of Instagram's recovery community typically use their accounts to record food intake (Krishna, 2015).

However, it is unclear as to whether this documentation promotes balanced, intuitive eating habits or rather perpetuates rigid fixation on food choice and eating behaviors. There is inadequate research specifically examining Instagram (IG) media exposure in relation to body image and eating disorder pathology in college women. Since most studies found small links between social media exposure and body

dissatisfaction in young women with pre-existing body image concerns (Ferguson, Munoz, Garza, Galindo, 2013), it seems possible that stronger links may exist between exposure to Instagram media and body concerns. The constantly changing nature of social media such as Twitter, Facebook, Tumblr, and Instagram, makes pro-eating disorder content more easily accessible, since the presence of pro-ana material is no longer limited to websites that are more easily censored (Custers, 2015).

Past authors provide an understanding of the effect that visual images have on body image. Several studies have documented the direct link between increased media exposure (e.g., television) and poor body image (e.g., Stice 1994). Women are more prone to learning that 1) they should diet, and 2) how they should diet from thin-ideal messages in the media. Plausibly, women who play close attention to media ideals may be more likely to develop eating disorders; however, a direct link between media and the development of an eating disorder has not yet been found (Dias, 2003). Thus, many studies have argued that it is not just the cultural effects of media messages that contribute to the development of an eating disorder via negative body image, but also factors such as friends, families, and peers, who may buffer against or compound those effects (Silverstein et al., 1986).

IG social media content differs from what is found on forums and blogs, with respect to communication style. IG users can engage in either anonymous or peer interaction, whereas forum and blog commentators are typically anonymous. Additionally, IG user interactions can be bidirectional; IG users can post their own content as well as receive content from other IG users, thus peers may be more likely to view and/or post images. As a search tool, IG users can access and view billions of

images in a very short timeframe, while websites, forums, and blogs may only reach a few hundred individuals. In sum, the combination of communication style, the direction of communication, the type of medium used (i.e., visual, textual) as well as the larger reach plays a major influence on individuals seeking information that confirms and supports their beliefs and ideals.

Previous research on pro-ana websites has found that exposure to thin ideal media may strengthen risk factors for development of an eating disorder (Bardone-Cone & Cass, 2007; Groesx et al., 2002; Lenhart et al., 2010; Sharpe, et al., 2011; Rodgers et al., 2016). Therefore, viewing #ana images may increase the likelihood that a young woman may develop an ED, especially women who fall along a continuum of weight-loss behaviors. Conversely, viewing #anarecovery images might also enhance the recovery process (Aardoom, et. al., 2014; Rouleau & von Ranson, 2011). Thus, IG use might either be regarded as a protective factor (i.e., health maintenance) or a risk factor (i.e., body dissatisfaction) depending on what the user is exposed to (Yom-Tov et al., 2012), as well as other factors that have yet to be established (e.g., personality, mental health history, usage frequency, gender, etc.).

OBJECTIFIED BODY CONSCIOUSNESS AS A FRAMEWORK FOR
UNDERSTANDING MEDIA INFLUENCES

McKinley and Hyde's (1996) *Objectified Body Consciousness* (OBC) has been

widely accepted as a major contributor to the onset and maintenance of disordered eating

behaviors. OBC takes into consideration the cultural context in which women may

experience body surveillance, body shame, and appearance control (McKinley & Hyde,

1996). *Body surveillance* occurs when a woman views her body as it may appear to

others, by perceiving her body "as an outside observer" and engaging in constant

monitoring of her physical appearance (McKinley, 1999). *Body shame* is experienced

when a woman believes her appearance does not match cultural and/or societal ideals,

whereas *appearance control* is the belief that she can manage her appearance through

certain behaviors (i.e., exercise, dieting) (McKinley, 1999).

Dimensions of OBC have been used in previous research to theoretically ground

the predicted effects of exposure to visual media images. For example, exposure to

beauty magazines predicted self-objectification in women and internalization of the thin

ideal mediated this relationship (Morry, & Staska, 2001). These authors suggest that

magazine reading is associated with women's experience of body dissatisfaction and

eating problems. In previous research relating to content analyses of visual media, it has

been found that objectifying images that espouse the thin-ideal are likely to increase

women's self-objectification, weight-related appearance anxiety, negative mood, body

dissatisfaction, and disordered eating (Harper & Tiggemann, 2008; Murnen, Smolak,

Mills, & Good, 2003). Thus, magazine images depicting a thin, attractive female result in

a greater degree of self-objectification than control images because women adopt a third-

person perspective of their bodies. With respect to pro-anorexia content, this effect may be even more profound since the objective for these images is to encourage, advise, and support thin-ideals (Ghaznavi & Taylor, 2015).

A watershed content analysis of visual and textual *thinspiration* images collected from the social media websites *Pinterest* and *Twitter* revealed that these images were sexually suggestive and objectifying (Ghaznavi & Taylor, 2015). The authors described *thinspiration* images as largely containing extremely thin women dressed in skimpy clothing, whose bodies were fragmented and bony. They found that images like these tended to receive the most social endorsement (i.e., "likes") and users tended to compare their bodies to the figures depicted. Additionally, the accompanying text suggested that users' messages conveyed a lack of body acceptance (Ghaznavi & Taylor, 2015). Lastly, because *thinspo* images were significantly more sexually suggestive and bony when compared to *thinspiration* images, the authors suggested that *thinspo* is a more dangerous term to search for, given that resulting images are more likely to contain material that is self-objectifying and espousing an ultra thin-ideal. Thus, subtle differences in colloquial terms may have an impact on the type of content a user is exposed to.

The results from Ghaznavi & Taylor's (2015) content analysis suggest that, because of the potentially adverse effects of thin-ideal social media content, the ease and convenience with which this material is accessed, the extent to which interactions are engendered within a community, and the increasing popularity of social media among young audiences (Amichai-Hamburger, 2007; Bahadur, 2013; Columbia Broadcasting System New York, 2012; Duggan & Brenner, 2013; Grabe et al., 2008; Groesz et al.,

2002), research that examines the potentially harmful nature of Instagram content through the lens of body objectification-related processes is called for.

Indeed, the amalgam of these preliminary findings has contributed novel explorations of the role of body objectification in this social media context specifically. Nevertheless, research has yet to examine the nature of visual representations particularly associated with pro-ana social media imagery. Furthermore, adopting the broader OBC conceptualization may enhance our understanding of not only the presence of sexual objectification but also of the likely co-existence of the cognitive (i.e., appearance control beliefs) and affective (i.e., body shame) consequences stemming from self-objectification processes exemplified in pro-ana Instagram images. Finally, scholarship remains to clarify the relevance of OBC themes in describing the content of images posted on social media platforms such as Instagram by individuals in recovery from eating disorders. Attending to this endeavor would provide a useful complement to the existing research examining the experience of objectified body consciousness among young women involved in the process of eating disorder recovery.

As a result of OBC's negative impact on body image and its positive association with disordered eating (Harper & Tiggemann, 2008; Noll & Fredrickson, 1998), individuals in recovery from an eating disorder who engage in self-objectification processes may increase their risk for relapse or worsen prognoses (Fitzsimmons-Craft, Bardone-Cone, & Kelly, 2011). Body surveillance and body shame have been shown to differ across stages of recovery from an eating disorder, in that recovered individuals and non-eating disorder controls were similar in how often they monitored and felt shame about their bodies (Fitzsimmons-Craft, et al., 2011). Among individuals in partial

recovery, body shame and surveillance were significantly similar to those with an active eating disorder. This suggests that although an individual may demonstrate behavioral and physical improvements, elevated levels of these two constructs indicate that psychological recovery has yet to be achieved. Uniquely, only one OBC construct, appearance control beliefs, has not been shown to differ across stages of recovery and non-eating disorder controls (Fitzsimmons-Craft, et al., 2011). Exposure to objectifying media images may negatively affect women in different stages of recovery, given that these images are likely to increase body dissatisfaction and self-objectification, potentially exacerbating disordered eating behaviors.

POSITIVE BODY IMAGE AS A FRAMEWORK FOR UNDERSTANDING MEDIA
INFLUENCES

Clearly, body image plays a major role among the associations between eating

disorder symptomatology and social media. Most of the research on body image focuses

on negative facets of body image (e.g., body image disturbance, body objectification,

body shame) and how these associations contribute to mood changes, mood disorders,

maladaptive behaviors (e.g., appearance control, over exercise, purging), and eating

disorder symptomatology, and treatment resistance (Harper & Tiggemann, 2008; Morry,

& Staska, 2001; Murnen, Smolak, Mills, & Good, 2003; Rodgers et al., 2013). Relatedly,

previous visual content analyses of media images has tended to exclusively employ

guiding theoretical frameworks that more strongly emphasize negative aspects of body

image (e.g., Ghaznavi & Taylor, 2015). As a complement to this conventional focus, the

current study aimed to provide a novel integration of a positive body image framework in

describing the themes reflected in the images posted in association with a pro-ana (i.e.,

#ana) and a pro-recovery (i.e., #anarecovery) Instagram photo-sharing hashtag.

Positive body image is a multifaceted concept, which is distinct from negative

body image. Positive body image (PBI) is considered to be on a separate continuum from

negative body image, rather than situated at the farthest pole of negative body image

(NBI) (Tylka, & Wood-Barcalow, 2015), thus PBI is not simply the opposite of NBI.

After Wood-Barcalow, et al., (2010) conducted a mixed methods study involving both

quantitative and qualitative components, the authors proposed the following "working

definition" of positive body image:

> "An overarching love and respect for the body that allows individuals to (a)
> appreciate the unique beauty of their body and the functions that it performs for

them; (b) accept and even admire their body, including those aspects that are inconsistent with idealized images; (c) feel beautiful, comfortable, confident, and happy with their body, which is often reflected as an outer radiance, or a "glow;" (d) emphasize their body's assets rather than dwell on their imperfections; and (f) interpret incoming information in a body-protective manner whereby most positive information is internalized and most negative information is rejected or reframed" (Wood-Barcalow et al., 2010, p. 112).

Evidence for the distinctiveness of PBI from low NBI was found using a cluster analysis, which identified three groups: women with positive, negative, and "normative discontent" body image (Williams, Cash, & Santos, 2004). Those with PBI demonstrated higher optimism, self-esteem, and lower perfectionism, among other healthy attributes. The growing literature on PBI suggests that women may experience adaptive physical health behaviors regarding eating, sexuality, self-care, and personality; additionally, those with higher levels of PBI are less vulnerable to depression and low self-esteem (Gillen, 2015; Tylka, 2011).

Intuitive eating has been examined within PBI research, which is an adaptive approach to eating that involves: a) ingesting food based on internal hunger cues rather than emotional cues (e.g., boredom, depression), b) resisting the internalization of rigid dieting rules to dictate food intake, c) giving oneself unconditional permission to eat, and d) choosing food that nourishes the body's vitality (Avalos & Tylka, 2006; Tylka & Kroon Van Diest, 2013). Furthermore, body appreciation was linked with fewer weight loss behaviors among women (e.g., skipping meals) (Andrew, Tiggemann, & Clark, 2014) and less disordered eating behavior among college students (Gillen, 2015; Tylka & Kroon Van Diest, 2013). It is important to note that positive body image is more complex than a simple evaluation of one's appearance. Although this might appear to be a

comprehensive definition of positive body image, further research is needed to better understand the construct's commonalities and differences across samples.

The burgeoning literature on positive body image is a response to a call for more comprehensive and holistic understandings of body image (Webb, Wood-Barcalow, & Tylka, 2015). Since the majority of research on body image assumes a "risk-based perspective," this literature fails to capture what aspects of their bodies that individuals appreciate and admire (Gillen, 2015). Knowledge gained from these advances may expose distinctive properties of positive body image to enhance ED treatment modalities as well as the overall health and well being of patients, schools, and communities (Cook-Cottone, Tribole, & Tylka, 2013).

To our knowledge no research to date has employed a contemporary positive body image framework as a basis for extracting content themes depicted in social media representations involving body image. Regarding the present analysis, it seems important to consider this more comprehensive definition of PBI outlined above, rather than merely body satisfaction or positive body evaluation. Individuals with anorexia or who engage in anorexia-related behaviors may endorse aspects of PBI and might favorably evaluate their extreme thinness, although they may be at a dangerously low weight and severely malnourished. Indeed, research suggests that both increased body appreciation alongside a greater pursuit of thinness were indicative of a longer duration of working as a professional model in a female sample from the United Kingdom (Swami & Szmigielska, 2013). Although the specific diagnostic criteria of anorexia were not assessed these findings tentatively point to the complexity of body image experience among predominantly underweight fashion models.

However, individuals who are in recovery or recovered from anorexia or related disordered eating behaviors may exhibit different aspects of PBI, such as protective factors that work against internalizing pro-anorexia information. Thus, PBI encompasses and distinguishes among various aspects of body image that may provide a critical perspective when examining pro-anorexia vs. pro-recovery images. Evidence of multidimensional PBI attributes in pro-recovery Instagram images in particular could suggest that these attributes represent and reinforce the meanings associated with being in the stages of the recovery process. This speculation is supported by a recent media account describing one young woman's journey in recovery from anorexia by chronicling the adaptive shifts she has experienced in relating to food and the process of eating through posting images of the food she prepared on Instagram (Krishna, 2015).

THE PRESENT STUDY

The overarching goal of this study was to examine the extent to which processes characterizing objectified body consciousness (i.e., body shame, body surveillance, appearance control) and positive body image (i.e., appreciation/acceptance, protective, functionality) were exemplified in #ana and #anarecovery images on Instagram. By providing an understanding of how pro-anorexia and pro-recovery images might reflect these constructs, it may further be understood how exposure to these images may influence disordered eating attitudes and body image among IG users. Beyond completion of inpatient treatment, continued engagement in pro-ana social media use may also be a predictor for relapse. Qualitatively evaluating Instagram postings within this population can offer insights for targeting potential ED triggers, risk and/or protective factors unique to IG activity that might diminish and/or enhance the efficacy of current treatment strategies.

The following primary research questions guided this examination:

RQ1: With respect to their purpose, function, and/or themes,

a) How frequently do #ana images represent dimensions of OBC?

b) How frequently do #anarecovery images represent dimensions of OBC?

c) How frequently do #ana images represent dimensions of positive body image?

d) How frequently do #anarecovery images represent dimensions of positive body image?

For the first research question, the frequency of OBC and PBI constructs were compared within hashtags. It was hypothesized that for #ana, images would frequently depict body shame, body surveillance, and appearance control beliefs. In contrast, for

#anarecovery, images would demonstrate OBC constructs much less frequently. Since many individuals with anorexia endorse disordered eating beliefs as part of a "lifestyle," it was also hypothesized that some aspects of positive body image may be present to a certain degree (e.g., body admiration in response to achieving extreme weight loss) among #ana. For #anarecovery images, the broader range of attributes reflecting aspects of positive body image would be more frequently represented (e.g., endorsing a protective filter, appreciating body functionality, adopting more intuitive and flexible approaches to eating, etc.).

RQ2:   How might the frequencies of the purpose, function, and/or themes among #ana and #anarecovery images be different and/or similar?

For the second research question, the frequency of OBC and PBI constructs were compared between hashtags. It was hypothesized that #ana images would significantly depict all three dimensions of OBC more frequently than #anarecovery images. All facets of PBI would be more frequently depicted among #anarecovery images than #ana to a significant degree.

METHOD

Data Description

Due to the transient nature of social media content, the #ana Instagram forum increases in size each second. Currently, there are approximately 8.1 million posts in this forum. Images included in this study are referred to as "postings" and can be obtained from the Instagram mobile application. "Hashtags" are searchable links that often accompany a posted image. Posts with text containing a pound sign (i.e., #) followed by the word "ana" are collectively linked to a public Instagram (IG) forum titled "#ana". This forum contains recently uploaded images with "#ana". Typically, these photographs contain images and captions illustrating anorexia-related thoughts, feelings, and experiences. The content of "#ana" Instagram images predominantly entails a combination of personal quotes, photographic images, feedback from other Instagram Users (e.g., comments, "likes"), and other textual data (e.g., Usernames, duration of post).

Sampling

The following selection criteria describes the data that were included: a) the posted content is publicly accessible, b) the content was posted by a single Instagram User, c) the post demonstrated active viewership in the form of followers' comments and likes, and d) the post contained the hashtag link #ana and/or #anarecovery to confirm that the content is likely pro-anorexia or pro-recovery. A total of 400 images were collected; 100 of these images were set aside for training purposes and numbered from 1 to 100 (#ana= 50 images; #anarecovery= 50 images). The remaining 300 images were numbered individually from 1 to 300 and set aside for coding and analysis (i.e., "official" images).

Given the qualitative nature of this study, determining the sample size was somewhat unchartered territory from a methodological standpoint. The final sample size was selected based on methodology from a study of similar nature (i.e., Ghaznavi & Taylor's, 2015), in which effect size estimates observed were sufficient for reported outcomes and moreover, similar effect sizes were anticipated for the current study. Therefore 150 were selected per hashtag for a final sample of 300 coded images to be used in the study. The images were individually numbered as they were collected and similarly, were coded in number order. The graduate student researcher coded and interpreted the "official" images exclusively after achieving an acceptable level of saturation, after completing coding training, codebook exhaustion, and inter-rater reliability (Glaser, 1965).

A trained undergraduate research assistant accessed and downloaded Instagram images (e.g., postings) from Iconosquare during the second and third weeks of August 2015. First, the student typed in the name of the hashtag that was collected using a Google search (e.g., #ana, #anarecovery). A link was followed to access #ana or #anarecovery images on Iconosquare. Starting with the most recent post, the research assistant selected, downloaded, and saved every 4th image (randomly selected number) per row into appropriate subfolders (i.e., #ana or #anarecovery) on Dropbox as PDFs. The research assistant was instructed to collect the same number of images per hashtag on the same day (e.g., If she collected 25 images from #ana on a specific day she also collected 25 images from #anarecovery on the same day). Each image file was coded in consecutive order starting with image 1 and ending with image 150 for each hashtag. All identifying information on the PDF image files was censored. An additional 50 images

per hashtag were collected to use for training purposes and for establishing inter-rater reliability.

Coding Procedures

The images were coded according to a scheme that was theoretically derived from the constructs of objectified body consciousness and positive body image. First, coders were asked to categorize the type of image (i.e., visual only, text only, visual and text combined in the image). Next, the coder identified various themes, purposes, and functions of each image. The codes are not mutually exclusive such that coders had the flexibility to potentially apply multiple thematic codes to the same IG image posting. The final coding guide is included as an Appendix (see Appendix A). The following categories were constructed to capture the images' potential functions:

Objectified Body Consciousness:

a. Body Shame: the image, text caption, and hashtags convey that the poster (e.g., person who posted the content) expresses criticism, dissatisfaction, or shame regarding their weight, size, appearance, body or body parts (e.g., the text states "I wish I was skinny" or image contains self-mutilating behaviors).

b. Body Surveillance: the image, text caption, and hashtags convey that the poster expresses scrutiny and objectification regarding their own body, body parts, weight, size, appearance (e.g., the text states "Body check" or "I''ve been gaining weight" or the image contains the poster's body or body parts). Post conveys intense fear of gaining weight or becoming fat. Post conveys body weight/shape disturbance, undue influence of body

weight/shape on self-evaluation, or persistent lack of recognition of seriousness of low weight on health status through text, image, caption, and/or hashtags.

c. Appearance Control/Pro-Eating Disorder Lifestyle Tips/Restrictive Monitoring of Dietary/Food Intake: the image, text caption, and hashtags convey that the poster expresses an attempt to control their own appearance through certain behaviors (e.g., the text states exercise tips to achieve a "thigh gap" and/or the image contains portioned food). The image and/or text caption depicts caloric restriction, extremely small portions of food relative to typical portion sizes, and/or extremely low quantity of food, description of or amount of caloric intake (e.g., fat, carbs, proteins, sugars) and/or description of nutritional content, etc. The image/text convey the motivation to restrict, starve, and/or limit food intake and the types of foods consumed. The image and/or text caption convey advice and/or tips on how to limit food intake, describe exercise routines, strategies to quell hunger pain and/or avoid social settings where food is consumed and/or others observe eating behaviors; Post describes persistent behavior that interferes with weight gain through text, caption, image, and/or hashtags. .

d. Body Appreciation/Acceptance/Admiration: the image, text caption, and hashtags overtly conveys that the poster expresses either: a) an appreciation of the unique beauty of their body; b) an acceptance and admiration of their body, including those aspects that are inconsistent with

idealized images; c) feeling beautiful, comfortable, confident, and happy with their body, which is often reflected as an outer radiance, or a "glow"; d) an emphasis of their *body's assets* rather than dwell on their imperfections.

e. Body Protective: the image, text caption, and hashtags conveys that the poster interprets incoming information (e.g., thin media ideals, pro-ana tips, etc.) in a body protective manner whereby most positive information is internalized and most negative information is rejected or reframed.

f. Body Functionality: the image, text caption, and hashtags conveys an appreciation or admiration of the functions that the body performs for them, rather than being focused on how the body appears (e.g., #strongnotskinny, #fitness, #yoga, etc.).

g. Pro-Recovery/Flexible Monitoring of Dietary/Food Intake/Intuitive Eating Style: the image, text caption, and hashtags convey nutritionally balanced meals or food items, healthier, intuitive, flexible, mindful, and/or non-restrictive eating behavior and food choices. The image/text convey the motivation to normalize and/or improve eating behaviors. The image, text, and/or hashtags portray that the poster is attempting to recover from and/or combat disordered eating behaviors and/or conveys attitudes that reject thin-ideal and/or pro-eating disorder messages.

Lastly, aesthetic qualities and demographic attributes of the post were explored. These included the following elements: number of images included in the post, the type of text (e.g., motivational quote, poem, lyrics), amount of social endorsement (i.e.,

number of likes), the perceived age, race/ethnicity, and/or gender of the individual/figure in the post, whether the image is a "selfie", a "before and after" image, fragmentation of the figure and/or specific body parts, depictions of extreme thinness, and the total number of hashtags. The Pulvers et al. (2004) Figure Rating Scale served as a reference for body weight (see Appendix B). Perceived BMI was rated for each figure to clarify the coder's estimation of body weight. These data elements were coded but were not part of addressing the key thematic analyses and primary research questions described above. Therefore, they are not discussed in the subsequent sections for purposes of the thesis.

Coding Reliability

The doctoral student researcher developed a detailed preliminary code guide in collaboration with her supervising faculty member. This code guide contained clearly specified instructions and examples. For training purposes, the graduate student researcher and research assistant coded 15 #ana training images and 15 #anarecovery training images collaboratively (N= 30 total). Next, each rater coded 30 more images (15 images per hashtag) separately. An interrater reliability analysis using the Kappa statistic was performed using SPSS to determine agreement between raters. Strong agreement was found among a majority of the structural codes; however, moderate agreement was found for the constructs body protective of PBI and body shame of OBC. In order to reach an agreement level of at least 80% for all theoretically driven codes, the raters met again to conceptually exhaust the codes and revise the codebook. Afterwards, each rater separately coded 20 more training images (#31-50) per hashtag. For this set of images, the intercoder reliability between raters was found to be k= 1.0 (p <.001) for the main theoretical constructs (i.e., OBC and PBI), and ranged between k= .69 (p<.001) to k=1.0

(p< .001) for aesthetic qualities and demographic attributes. Table 1 and Table 2 provide

kappa values for images #31-50 per hashtag. Given these strong kappa values, the

researcher proceeded with coding the official 150 images.

Data Analytic Strategy

To address the first primary research question, basic frequencies and percentages

of the specific OBC and PBI themes within each hashtag were conducted. To address the

second primary research question, chi-square analyses were performed to evaluate the

between-hashtag comparisons for each OBC and PBI theme.

RESULTS

The final sample consisted of 300 images from Instagram, with half of the images tagged as #ana and half tagged as #anarecovery. To answer the first research question, frequency tables were calculated to examine the extent to which pro-recovery characteristics and dimensions of OBC and PBI were present within #ana and #anarecovery images. Notably, body shame was present among 62.7% of #ana images, whereas body surveillance and appearance control were only present among 22% #ana images, separately. Only a minority of #ana images contained PBI themes (see Table 3). As for #anarecovery images, the body protective theme was present among 67.3% of images; however, body acceptance was present among 11.3% and body functionality was present among 38.7% of #anarecovery images. Only a minority of #anarecovery images contained OBC themes (see Table 3).

To answer the second research question, chi-square analyses were performed to determine thematic and functional distinctions between #ana images and #anarecovery images. In relation to the frequency of the representation of all three dimensions of OBC, results showed significant differences between #ana and #anarecovery images. Cramer's V was used as a measure of effect size (Cohen, 1988; see Table 3). Body shame, X^2 (1, N = 300)= 87.33, $p < .001$, body surveillance, X^2 (1, N= 300)= 21.49, $p< .001$, and appearance control themes, X^2 (1, N= 300)= 19.5, were more likely to be present in #ana images when compared to #anarecovery images. Results also indicated significantly more frequent representation of two aspects of PBI among #anarecovery images relative to #ana images: body protective, X^2 (1, N=300)= 121.5, $p< .001$, and body functionality X^2 (1, N= 300)= 62.25, $p<.001$. Pro-recovery content (e.g., flexible/non-restrictive eating

behavior, rejecting pro-ED lifestyle, etc.) was present in 96% of #anarecovery, whereas only 12% of this content was found among #ana images. Notably, there was no significant difference in the frequency of body acceptance content between hashtags. Chi -square analyses are presented in Table 3.

DISCUSSION

The present study aimed to compare and contrast the themes and purposes of pro-anorexia and pro-recovery images on Instagram by using objectified body consciousness (OBC) and positive body image (PBI) as the guiding theoretical frameworks. The use of social media platforms (e.g., Twitter, Facebook, Instagram) has increasingly become the norm among adolescents and young adults. Instagram, in particular, is a convenient application that allows users to upload personal images in a public forum by including a searchable link (i.e., hashtag) along with a posted image. Since this application was launched in 2010, not much attention has been given to the nature of pro-anorexia social media content on Instagram (i.e., "#ana") and much less consideration has been given to content that documents individuals who are in recovery from Anorexia (i.e., "#anarecovery").

Within #ana, body shame was found to be the most frequently depicted OBC construct, whereas body surveillance and appearance control were less frequently depicted than body shame. Among PBI constructs, body acceptance was more frequently depicted than body protective, body functionality, and content that exhibits pro-recovery attitudes and behaviors (e.g., flexible eating, nutritionally balanced meals, etc.). Within #anarecovery images, pro-recovery content, body protective, and body functionality were the most frequently represented constructs, whereas body surveillance, appearance control, and body shame were less frequently represented among #anarecovery images.

Overall, all three OBC constructs were more frequently depicted among #ana than #anarecovery, whereas body protective, body functionality, and pro-recovery content was more frequently depicted among #anarecovery than #ana. There was no significant

difference in how frequently body acceptance was depicted between hashtags. In general, the main hypotheses were supported, except there was no significant difference in the extent to which body acceptance was present among images for either hashtag. The remainder of this paper will discuss these findings in relation to the existing literature and offer additional conceptual, measurement, and clinical implications stemming from these preliminary results.

Although many individuals may promote anorexia as a "lifestyle", the present findings still exhibited a significant dominating theme of body shame among #ana images consistent with previous research (e.g., Ghaznavi & Taylor, 2015), thus supporting the notion that individuals with anorexia attempt to rationalize anorexic behaviors as a "choice", despite empirical evidence that this "lifestyle" leads these individuals to engage in harmful messages of body shame, higher self-objectification, and subsequently experience poorer body image. Again, this also furthers the notion that the construct of body image is not polarized, but rather contains multiple overlapping constructs, including negative and positive aspects of body image (Williams, Cash, & Santos, 2004; Tylka, & Wood-Barcalow, 2015)

In line with expectations, an emphasis on portrayal of body functionality or competence (i.e., a focus on what the body can do) was more prominently featured among the #anarecovery images. Body functionality is viewed as an adaptive alternative to the appearance-driven emphasis of body objectification processes (Cox et al., 2016; Prichard & Tiggemann, 2008; Webb et al., 2015). Body functionality has been experimentally examined to investigate whether focusing on the functions that the body performs, rather than its appearance, provide protective effects against exposure to thin-

ideal media images (Alleva, Veldhuis, & Martijn, 2016). Results from a pilot study showed that women who reported higher satisfaction with the functional aspects of their bodies experienced greater body appreciation after viewing thin-ideal imagery (i.e., female model advertisements). Alleva et al. (2016) suggest that focusing on body functionality may be a useful individual-level strategy for helping women to uphold a more positive view of their body when faced with unrealistic beauty ideals. However, they also argued that, "feelings that are more deeply internalized, such as viewing oneself from an observer perspective [i.e., objectified body consciousness], could take more time and effort to change" (Alleva et al., 2016, p. 12).

Similarly, the frequency with which body protective content was depicted among #anarecovery images was also consistent with expectations. Body protective content contained messages that focused on rejecting or reframing unrealistic thin-ideal standards and internalizing positive information about their bodies. Developing an awareness of unrealistic beauty standards has been found to help young-adult college women create a protective "filter" to block out thin-ideal images and messages that might hinder their PBI and internalize information that preserved their PBI (Wood-Barcalow et al., 2010). These authors also suggest that women who adopt primarily negative filters are likely to experience negative affect, negative body evaluation, and high appearance focus. Adopting a protective filter appears to be widely used among those who exhibit facets of the recovery process via #anarecovery images. Andrew, Tiggemann, and Clark (2016) argue that it may not be the *amount* of appearance focused media that is consumed, but rather *how* it is viewed; for example, women with higher body appreciation may view

appearance focused media more critically, through consciously "filtering" messages in a protective manner (Tylka, 2011; Wood-Barcalow et al., 2010).

Additionally, the finding that certain images (whether #ana or #anarecovery) contained themes reflecting OBC constructs in addition to PBI constructs provides further demonstration of the relative independence of PBI and negative body image constructs such that they can dynamically co-occur within-persons (Tylka, 2011; Webb et al., 2014). For negative body image, there are many empirically supported constructs (i.e., body dissatisfaction, body image disturbance, etc.; McDonald, & Thompson, 1992; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Williams, Cash, & Santos, 2004), but researchers are still in the process of conceptualizing, distinguishing, and exemplifying positive body image constructs (Tylka & Wood-Barcalow, 2015; Webb et al., 2015). The more that PBI is conceptually fleshed out, the more it seems that there may exist a multifaceted continuum of experiencing stages of positive body image ranging from non-evaluative self-acceptance to self-love.

In contrast to the current findings, it was expected some aspects of PBI would be present among #ana images to a certain degree (i.e., body acceptance in response to achieving weight loss), considering that many individuals with anorexia endorse disordered eating beliefs as part of a "lifestyle". However, after comparing both hashtags, body acceptance was not significantly depicted to a higher degree among either group of images. For #ana images, a lack of body acceptance may be explained through various objectification pieces. Despite expectations that PBI might be higher among #anarecovery images than #ana images, recent critiques suggest that one facet in particular, body acceptance (e.g., experiencing content with one's appearance) may

remain a difficult achievement for those in the process of recovery (Isaacs, 2016; Rakova, 2015).

Body acceptance has been conceptualized as falling one notch below body positivity (e.g., experiencing love for one's appearance) (Rakova, 2015), it was surprising to find that it was not significantly present among #anarecovery images. Considered a radical concept, Rakova (2015) explains that "*body positivity*" petitions for active expressions of self-love, which arguably may help an individual combat pressures to engage in maladaptive appearance control or disordered eating behaviors. "Positivity" moves beyond simply accepting that body diversity exists, to viewing body diversity as valuable. Although honorable in its goals, the body positivity movement has been critiqued as being too idealistic and impractical, especially for those who suffer from eating disorders (Rakova, 2015).

Indeed, clinicians working in the field of eating disorder treatment have recently introduced the concept of "body neutrality" as part of the nomenclature of recovery (Fabello, 2016; Isaacs, 2016; Rakova, 2015;). Moving away from concepts that promote admiring one's physical appearance, the concept of *body neutrality* shifts an individual's focus away from physical appearance, thus reducing the pressure to achieve body positivity in the process of recovery (Rakova, 2015). Body neutrality cultivates a neutral attitude towards the body, refraining from passing judgments and "neither loving nor hating" one's body (Isaacs, 2016).

The present unanticipated findings with regard to the minimal presence of body acceptance across hashtags hold important implications for the conceptualization and measurement of PBI constructs such as body appreciation. For example, according to

Avalos et al. (2005), *body appreciation* is defined as: (a) *accepting* one's body regardless of its size or physical imperfections, (b) *respecting* and taking care of one's body by engaging in healthy behaviors, and (c) *protecting* one's body by rejecting unrealistically narrow standards of beauty promulgated in the media (Avalos, Tylka, Wood-Barcalow, 2005; Webb, Wood-Barcalow, & Tylka, 2015). The Body Appreciation Scale was developed according to items designed to asses the extent to which women: (a) hold favorable opinions of their bodies, (b) accept their bodies in spite of their weight, body shape, and imperfections, (c) respect their bodies by attending to their body's needs and engaging in healthy behaviors, and (d) protect their body image by rejecting unrealistic images of the thin-ideal prototype portrayed in the media (Avalos et al., 2005). All of these elements reveal absolute approval and reverence for one's body, thus termed "body appreciation". The authors of the 13-item BAS argue that this scale is useful for identifying predictors and outcomes of PBI.

Wood-Barcalow, et al., (2010) expanded on Avalos et al.'s (2005) definition of PBI to include "an overarching love and respect for the body that allows individuals to (a) *appreciate* the *functions* that the body performs for them, (b) feel *beautiful*, *comfortable*, *confident*, and *happy* with their body, which is often reflected as an outer radiance, or a "glow;" (c) *emphasize* their body's assets rather than dwell on their imperfections; and (Wood-Barcalow et al., 2010, p. 112). It is unclear the extent to which these different constructs of the definition of PBI overlap and diverge from each other.

For example, what are the theoretical nuances between body *acceptance* and body *appreciation*? Is body acceptance a necessary prerequisite for experiencing body appreciation, or any other aspect of PBI (e.g., body functionality, body protective)?

Wood-Barcalow, et al.'s (2010) definition provides constructs that contain increasingly

positive valences for experiencing and relating to one's body, whereas Avalos et al.'s

(2005) definition contains more neutral valences, while lacking the positive emphasis on

the outward expression of body love. Thus, the expanded definition of PBI assumes that

an individual experiences a positive relationship with one's appearance. For individuals

with eating disorders, adopting a positive outlook on their appearance may be extremely

difficult perhaps particularly during the early stages of treatment.

Clinical Implications

Previous research on pro-ana websites has found that exposure to thin ideal media

may strengthen risk factors for development of an eating disorder (Bardone-Cone &

Cass, 2007; Groesx et al., 2002; Lenhart et al., 2010; Sharpe, et al., 2011). A recent meta-

analysis examining the influence of pro-ED websites on body image and eating pathology

found significant effect sizes of exposure to pro-ED website on body image

dissatisfaction (Rodgers, Lowy, Halperin & Franko, 2016). Prior research has examined

thinspiration websites, which showcase idealized images of thin women in order to

motivate weight loss, and documented the potentially hazardous messages contained on

these sites (Borzekowski, Schenk, Wilson, & Peebles, 2010).

Fitspiration websites showcase media that advocates a fit and healthy lifestyle. A

recent content analysis found that over 88% of *thinspiration* sites and 80% of *fitspiration*

sites contained one or more guilt-inducing messages regarding weight, fat/weight

stigmatization the presence of objectifying phrases, and dieting/restraint messages

(Boepple & Thompson, 2016). Another content analysis of #fitspiration images on

Instagram found that most images contain objectifying elements and depicted only thin

and toned body types (Tiggemann & Zaccardo, 2016). Therefore, viewing thin-ideal (e.g., #ana, #fitspiration, #thinspiration) images is likely to have negative effects on body image and increase the likelihood that a young woman may develop an ED, especially women who fall along a continuum of weight-loss behaviors. Pro-ana content places a major emphasis on body size and shape. As a result, the visual nature of pro-ana content functions in a phenomenological way that textual data cannot as it pertains to promoting ideas that eating disorders are lifestyle choices (Jensen, 2005). It remains unclear how images and messages depicted within Instagram's #ana and #anarecovery content might either help in the recovery process or potentially lead to more harm.

Certain risk factors may be affected by social media websites, such as body dissatisfaction, disordered eating, and self-esteem (Sharpe, et al., 2011). IG use might either be regarded as a protective factor (i.e., health maintenance) or a risk factor (i.e., body dissatisfaction) depending on what the user is exposed to (Yom-Tov et al., 2012), as well as other factors that have yet to be established (e.g., personality, mental health history, usage frequency, gender, etc.). The finding that dimensions of OBC were frequently depicted among #ana images aligns with past research examining the associations between body objectification, social media use, and ED symptoms (Harper & Tiggemann, 2008). As a result of OBC's negative impact on body image and its positive association with disordered eating (Harper & Tiggemann, 2008; Noll & Fredrickson, 1998), individuals in recovery from an eating disorder who engage in self-objectification processes on IG may increase their risk for relapse or worsen prognoses (Fitzsimmons-Craft, Bardone-Cone, & Kelly, 2011).

Comparatively, body shame was more frequently present among #ana images than #anarecovery images; however, body shame remained present among #anarecovery images, although OBC constructs were depicted less frequently overall in relation to PBI constructs among #anarecovery postings. Body surveillance and body shame have been shown to differ across stages of recovery from an eating disorder, in that individuals in full recovery and non-eating disorder controls were similar in how often they monitored and felt shame about their bodies (Fitzsimmons-Craft, et al., 2011).

Among individuals in partial recovery, body shame and surveillance were significantly similar to those with an active eating disorder. Uniquely, only one OBC construct, appearance control beliefs, has not been shown to differ across stages of recovery and non-eating disorder controls (Fitzsimmons-Craft, et al., 2011). This suggests that although an individual may demonstrate behavioral and physical improvements, elevated levels of these two experiential constructs indicate that psychological recovery may be ongoing. Regardless of whether an individual adopts a pro-ana or pro-recovery perspective, aspects of OBC remain present to a significant degree in young women's body image experience. Yet, findings suggest that the experience of those in recovery may also be characterized by increased positive body image alongside residual aspects of objectified body consciousness. Individuals espousing a pro-ana lifestyle in contrast may have overdeveloped OBC in the context of underdeveloped PBI capacities.

Typically, the most effective treatments for ED's include expensive, time intensive inpatient programs. Despite labeling ED treatments as "effective," the rate of relapse among those with an ED is estimated to range from 35% to 50% (McFarlane et

al., 2008). Approximately 46-50% of patients diagnosed with AN experience improvement over time, but 30% continue to experience symptoms and 20% still remain chronically symptomatic (Dawson et al., 2014; Steinhausen, 2002). Exposure to objectifying media images may negatively affect women in different stages of recovery who may be armed with varying levels of PBI resources, given that these images may increase body dissatisfaction and self-objectification, potentially exacerbating disordered eating behaviors.

These findings also suggest how the lack of distinction in the frequency of body acceptance observed between the two hashtags may be clinically relevant for exploring potential risk factors that persist in the process of ED recovery. Scales like the BAS and IES-2 may be used by clinicians in the treatment of EDs to further clarify which variables contribute to and stem from PBI. This may provide clinicians with an improved understanding of how to generate body appreciation, promote intuitive eating practices, and illustrate how these concepts impact clients' overall psychological well being (see Webb et al., 2015 for additional potential clinical applications). Interestingly, across all studies, women on average endorsed fairly positive body attitudes as demonstrated by a mean score ranging from 3.44 to 3.48 (*sometimes* and *often* responses), which challenges the traditional notion that the average woman experiences normative body discontent (e.g., Thompson et al., 1999; Avalos et al., 2005).

Body image abnormality is one of the most fundamental diagnostic criteria for AN (APA, 2013). Controlling for other variables (e.g., psychopathology, stress, and family dysfunction), body image is the strongest predictor of fluctuations in ED symptoms (Attie & Brooks-Gunn, 1989; Striegel-Moore, Silberstein, Frensch, & Rodin,

1989; Cattarin & Thompson, 1994). A literature review examining the extent to which body image is assessed and treated in ED treatment programs found that most psychological treatments for EDs confront body image issues (Rosen, 1995). It was also found that CBT with ED patients produce less clinically significant results than CBT with other patients (weight-preoccupied women, obese women, body dysmorphic disorder) are either more challenging or body image therapy in ED programs are briefer.

Multiple cognitive-behavioral treatments targeting and modifying body image concerns have been empirically examined for use among women with eating disorders. Some studies have found that CBT focusing on body image was more effective than CBT alone (Rosen, 1995). Bhatnagar et al. (2013) evaluated the effectiveness and feasibility of a CBT group intervention for treating body image disturbance (BID) in women with EDs. Results demonstrated that in comparison to a randomized waitlist control group, participants reported less depression and ED pathology from baseline to post-treatment; however, this difference was not statistically significant (Bhatnagar, et al., 2013). Considering past and current findings, authors investigating treatment effectiveness might consider augmenting CBT interventions by targeting aspects PBI in addition to BID.

Rosen (1995) suggests that current practice in body image treatments might be strengthened by: (a) focusing on distressing body image situations aside from those related to eating, (b) using behavioral strategies such as exposure and response prevention, and (c) targeting body image attitudes and behaviors through self-monitoring (p. 340). An emerging area of recovery research has begun to conceptualize AN treatment as an emphasis on the personal experience of recovery (Dawson et al., 2014).

J.R. Grant and T.F. Cash (1995) used CBT with 23 women who suffered from extreme body dissatisfaction and found equivalent and successful outcomes for body-image CBT in group therapy versus self-directed format with modest therapist contact. Cash (1995) developed a self-help book to be administered with minimal professional contact, which was found to produce significant improvements in body image and outcomes were equivalent to treatment involving greater professional contact (Cash & Lavallee, 1997). Thus, positive body image, in addition to self-guided treatment formats, may help to support women experience a recovery journey that encompasses hope, connection, and feelings of personal fulfillment.

The majority of the studies mentioned largely focus on investigating the effectiveness of ED treatments and evaluate whether the treatment provides substantial remission from disordered eating behavior and modifies poor body image. However, these studies have limitations with respect to targeting and measuring variables of change related to constructs of positive body image. Based on the suggestions from this study's findings, treatment efforts might want to focus on ways to monitor and teach young women to increase aspects of positive body image, not just solely target facets of negative body image and disordered eating behavior.

According to the pattern of results found among #anarecovery IG images, body protective was the primary construct of PBI depicted, with body functionality as secondary. Perhaps, these results suggest that to engender body acceptance among individuals with AN, emphasizing specific aspects of PBI may prove helpful in treatment. For example, cultivating skills in engaging in body protective self-talk may help women work against internalizing thin-ideal messages, and by doing so, women may be provided

with a necessary foundation to begin working on decreasing negative body image and increasing body acceptance.

Menzel and Levine (2011) have argued that engagement in activities that involve mind-body integration (i.e., "embodiment") is crucial for PBI. Boudette (2006) argues that the practice of yoga may assist individuals with an ED in the recovery process by encouraging patients to focus "on process rather than product" through "being in the moment" and "letting go of judgment" (p. 169). Yoga may offer a non-verbal, experiential adjunct to traditional forms of therapy that allows an individual to connect with their physical body and inner experience (Boudette, 2006). Daubenmier (2005) found that yoga practice is associated with greater awareness of and responsiveness to bodily sensations, lower self-objectification, greater body satisfaction, and fewer disordered eating attitudes. Similarly, women who participated in a mind-body yoga intervention experienced a decrease in self-objectification, reporting that physical appearance was less important to them than how their bodies felt after undergoing the intervention (Impett, Daubenmier, Hirschman, 2006). This growing body of research suggests that the process of objectification may make it difficult for women to be mindful of their inner bodily states and that mind-body practices, that utilize mindfulness techniques to draw attention to the body's function and sensations rather than appearance, may provide women with positive experiences of their bodies that traditional talk therapy cannot (Cox, Ullrich-French, Cole, D'Hondt-Taylor, 2016).

Mindfulness, compassion, and acceptance-based approaches may be useful given the differences observed between OBC and PBI for both #ana and #anarecovery images. Mindfulness-based cognitive therapy (MBCT) includes a variety of practices aimed to

cultivate nonjudgmental and nonreactive observation and acceptance of bodily sensations, perceptions, and emotions (Kristeller, Baer, & Quillian-Wolever, 2006). Acceptance and commitment therapy (ACT) draws from an avoidance model that suggests that many forms of disordered behavior are related to attempts to avoid negative emotions and urges, and emphasizes nonjudgmental acceptance of thoughts and feelings while changing behavior to work toward higher life goals (Hayes, Wilson, Gifford, Follete, & Strosahl, 1996). ACT has been applied to anorexia nervosa and includes several mindfulness and acceptance based strategies aimed toward fat-related thoughts, images, and fears (Kristeller, et al., 2006). "Acceptance without judgment" and "action with awareness" as two types of mindfulness skills were found to be associated with lower eating disorder symptoms (Prowse, Bore, & Dyer, 2013).

As suggested earlier, the concept of body *neutrality* may be a necessary prerequisite to body acceptance. Body neutrality may provide support for mindfulness and self-compassion based acceptance treatment/practices. These notions of body neutrality have yet to demonstrate evidence based effectiveness for those suffering from AN. However, the concept of *body functionality* has been empirically examined and findings lean strongly towards implementing *body functionality* as an approach for increasing body acceptance and improving body image overall. Emphasizing the concept of body functionality seems to provide those who are externally focused and appearance driven with necessary resources to cognitively restructure the way they value their bodies by refocusing their values internally.

The lack of body acceptance found across both #ana and #anarecovery images might be the source of resistance encountered within treatment for AN, as well as a

possible predictor for relapse among those in recovery. Similarly, yet one notch below body positivity, one blogger stressed, "body acceptance requests that we approve of all the imperfections of our bodies, but not necessarily view everything through a positive lens" (Rakova, 2015). From this study's findings, it may be that even body acceptance is too challenging for individuals with AN. Body image therapy, as well as related constructs provided through psychoeducation, give clients the "what" (e.g., love your body) without the "how". How does a woman with AN learn to love her body when she has spent so much energy hating it? In order to teach individuals suffering from poor body image to love themselves, clinicians may first aim to help them understand ways to forgive and accept themselves. Hence, the rationale for further distinguishing and disseminating the concepts of "body acceptance", as this may be realistically attainable for most individuals at the start of recovery.

STRENGTHS AND LIMITATIONS

A major strength of the current study is the clearer understanding of how OBC and PBI themes are represented among #ana and #anarecovery images on Instagram. The researcher under the guidance of her graduate advisor developed a rigorous coding guide. Additionally, the current study extends past research on PBI and OBC by providing an examination of overlaps among and distinctions between OBC and PBI constructs depicted among social media content.

This project has its limitations. The graduate student researcher was the only coder for the official images. Subjectivity statements written by the trained research assistant and graduate student researcher are provided to ensure transparency and to practice reflexivity within qualitative work (see Appendix C). Additionally, manifest and latent content among images were not fully captured through single-person coding. Capturing manifest and latent content would help to further clarify the poster's intent and motivation for posting the image (e.g., attention seeking behavior). To gather evidence about manifest and latent meaning of social media images, researchers may want to include multiple coders, or may observe and record participants' reactions to and opinions of image content.

FUTURE DIRECTIONS

Building upon this research, investigators may pursue how using social media platforms, such as Instagram, may potentially be an effective self-directed method for young women to support their process of recovery from an eating disorder. A future aim will be to address how the lack of distinction between body image disturbance/disordered body image and normative body discontent may be relevant for interpreting constructs of positive body image among general and clinical populations. Since many OBC and PBI constructs may overlap among either #ana or #anarecovery images, one way to fine tune theoretical distinctions among PBI might be to perform multiple regression analyses while controlling for dimensions of OBC. This may help to better identify and distinguish the construct of body acceptance from other visual aspects of PBI and OBC.

Another consideration might be to investigate how beliefs about physical health (e.g., body functionality) fit into PBI and OBC conceptual frameworks. Additionally, the use of quantifiable health indicators may help to distinguish constructs found among #ana and #anarecovery images. For example, to distinguish body acceptance among #ana in comparison to #anarecovery, BMI or waist-to-hip ratios may clarify the extent to which an individual may be promoting an acceptance of maladaptive eating behaviors and thin-ideal beliefs. From the current findings, many questions remain regarding the conceptual distinctions among PBI constructs. This research further supports the call for more expanded and distinguished definitions of the constructs comprise PBI (i.e., body neutrality, body acceptance vs. body appreciation), for both clinical and theoretical implications.

REFERENCES

Aardoom, J.J., Dingemans, A.E., Boogaard, L.H., & Van Furth, E.F. (2014). Internet and patient empowerment in individuals with symptoms of an eating disorder: A cross-sectional investigation of a pro-recovery focused e-community. *Eating Behaviors, 15*. 350-356. Retrieved from: dx.doi.org/10.1016/j.eatbeh.2014.04.003

Allen, K.L., Oddy, W.H., Byrne, S.M., & Crosby, R.D. (2013). DSM-IV-TR and DSM-5 eating disorders in adolescents: Prevalence, stability, and psychosocial correlates in a population-based sample of male and female adolescents. *Journal of Abnormal Psychology,* 122 (3), 720-732. Retrieved from: doi: 10.1037/a0034004.

Alleva, J.M., Veldhuis, J., & Martijn, C. (2016). A pilot study investigating whether focusing on body functionality can protect women from the potential negative effects of viewing thin-ideal media images. *Body Image, 17*. 10-13. Retrieved from: dx.doi.org/10.1016/j.bodyim.2016.01.007

American Anorexia Bulimia Association, Inc. (2001). [online] (aabainc.org).

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed, text revision). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (5th ed.). Arlington, VA: American Psychiatric Association.

Amichai-Hamburger, Y. (2007). Personality, individual differences and Internet use. In A.N. Joinson, K.Y.A. McKenna, T. Postmes & U.D. Reips (Eds.), *The Oxford handbook of Internet psychology* (pp. 187-204). New York: Oxford University Press

Andrew, R., Tiggemann, M., & Clark, L. (2014). Positive body image and young

women's health: Implications for sun protection, cancer screening, weight loss, and alcohol consumption behaviours. *Journal of Health Psychology.* Retrieved from: dx.doi.org/10.1177/1359105314520814.

Andrew, R., Tiggemann, M., & Clark, L. (2016). Predictors and health-related outcomes of positive body image in adolescent girls: A prospective study. *Developmental Psychology, 52*(3). 463-474. Retrieved from: dx.doi.org/10.1037/dev0000095

Attie, I., & Brooks-Gunn, J. (1989). Development of eating problems in adolescent girls: A longitudinal study. *Developmental Psychology, 25*. 70-79.

Avalos, L.C., Tylka, T.L., & Wood-Barcalow, N. (2005). The Body Appreciation Scale: Development and psychometric evaluation. *Body Image, 2,* 285-297. Retrieved from://dx.doi.org/10.1016/j.bodyim.2005.06.002

Avalos, L.C., & Tylka, T.L. (2006). Exploring a model of intuitive eating with college women. *Journal of Counseling Psychology, 53,* 486-497. Retrieved from: dx.doi.org/10.1037/0022-1067.53.4.486

Bahadur, N. (2013). *Twitter thinspiration: Petition to ban thinspo hashtags introduced.* Retrieved from .huffingtonpost.com/2013/04/18/Twitter-thinspiration-thinspo-petition-ban-hashtags n 3111228.html

Bardone-Cone, A.M. & Cass, K.M. (2007). What does viewing a pro-anorexia website do? An experimental examination of website exposure and moderating effects. *International Journal of Eating Disorders, 40.* 537-548). Retrieved from: doi 10.1002/eat

Bhatnagar, K.A.C., Wisniewski, L., Solomon, M., Heinberg, L. (2013). Effectiveness and

feasibility of a cognitive-behavioral group intervention for body image

disturbance in women with eating disorders. *Journal of Clinical Psychology,*

69(1), 1-13. Retrieved from: DOI: 10.1002/jclp.21909

Beopple, L. & Thompson, J.K. (2016). A content analytic comparison of fitspiration and

thinspiration websites. *International Journal of Eating Disorders, 49.* 98-101.

DOI: 10.1002/eat.22403

Boepple, L., Ata, R.N., Rum, R., Thompson, J.K. (2016). Strong is the new skinny: A

content analysis of fitspiration websites. *Body Image, 17*, 132-135. Retrieved

from: dx.doi.org/10.1016/j.bodyim.2016.03.001

Beumont, P.J. & Touyz, S.W. (2003). What kind of an illness is anorexia nervosa?

European Child and Adolescent Psychiatry, 12. 20-24. doi: 10.1007/s00787-003-

1103-y

Bordo, S. (1993). *Unbearable weight: Feminism, western culture, and the body.* Los

Angeles: University of California Press.

Borzekowski, D.L.G, Schenk, S. Wilson, J.L., Peebles, R. (2010). E-ana and e-mia: A

content analysis of pro-eating disorder websites. *American Journal of Public*

Health, 100. 1526-1534. doi: 10.2105/AJPH.2009.172700.

Boudette, R. (2006). Question & answer: Yoga in the treatment of disordered eating and

body image disturbance: How can the practice of yoga be helpful in recovery

from an eating disorder? *Eating Disorders, 14.* 167-170. DOI:

10.1080/10640260500536334

Cash, T.F. & Lavelle, D.M. (1997). Cognitive-behavioral body-image therapy: Extended

evidence of the efficacy of a self-directed program. *Journal of Rational-Emotive Cognitive-Behavior Therapy, 15*(4). 281-294. DOI: 10.1023/A:1025041926081

Casilli, A. Tubaro, P. & Araya, P. (2012). Ten years of ana. Lessons from t ransdisciplinary body of literature on online pro-eating disorder websites. *Social Science Information, 51*(1). 121-139. DOI: 10.1177/0539018411425880

Cattarin, J.A., & Thompson, J.K. (1994). A three-year longitudinal study of body image, eating disturbance, and general psychological functioning in adolescent females. *Eating Disorders: The Journal of Treatment and Prevention, 2,* 114-125.

Cohen, J. (1988). *Statistical power and analysis for the behavioral sciences* (2nd ed.). New Jersey Lawrence Erlbaum Associates, Inc.

Columbia Broadcasting System New York. (2012). *Thinspiration: Doctors concerned with social media sites like pinterest, facebook, and tumblr promoting eating disorders.* Retrieved from Retrieved from: newyork.cbslocal.com/2012/07/17/thinspiration-doctors-concerned-with-social-media-sites-promoting-eating-disorders/

Cook-Cottone, C.P., Tribole, E., & Tylka, T.L. (2013). *Healthy eating in schools: Evidence-based interventions to help kids thrive.* Washington, DC: American Psychological Association. Retrieved from: dx.doi.org/10.1037/14180-000

Cox, A.E., Ullrich-French, S., Cole, A.N., & D'Hondt-Taylor, M. (2016). The role of state mindfulness during yoga in predicting self-objectification and reasons for exercise. *Psychology of Sport and Exercise, 22*. 321-327. Retrieved from: dx.doi.org/10.1016/j.psychsport.2015.10.001

Custers, K. (2015). The urgent matter of online pro-eating disorder content and children:

clinical practice. *European Journal of Pediatrics,* 174. 429-422. DOI 10.1007/s00431-015-2487-7

Daubenmier, J. J. (2005). The relationship of yoga, body awareness, and body responsiveness to self-objectification and disordered eating. *Psychology of Women Quarterly,* 29. 207-219.

Dawson, L., Rhodes, P., & Touyz, S. (2014). "Doing the impossible": The process of recovery from chronic anorexia nervosa. *Qualitative Health Research, 24*(4). DOI: 10.1177/1049732314524029

Dawson, L., Rhodes, P., & Touyz, S. (2014). The recovery model and anorexia nervosa. *Australian & New Zealand Journal of Psychiatry, 48* (11). 1009-1016. DOI: 10.1177/0004867414539398

Diagnosing Eating Disorders: What's new in the DSM-IV. (1995). *Patient Care.*

Dias, K. (2003). The ana sanctuary: Women's pro-anorexia narratives in cyberspace. *Journal of International Women's Studies, 4*(2). 31-45. Retrieved from: vc.bridgew.edu/jiws/vol4/iss2/4

Duggan, M., & Brenner, J. (2013). *The demographics of social media users. A demographic portrait of users of various social media services.* Retrieved from .pewinternet.org/Reports/2013/Social-media-users/Social-Networking-Site-Users/Demo-portrait.aspx

Eddy, K.T., Dorer, D.J., Franko, D.L., Tahilani, K., Thompson-Brenner, H., Herzog, D.B. (2008). Diagnostic crossover in anorexia nervosa and bulimia nervosa: implications for DSM-V. *American Journal of Psychiatry, 165.* 245-250.

Espindola, C.R., & Blay, S.L. (2009). Anorexia nervosa treatment from the patient

perspective: A metasynthesis of qualitative studies. *American Clinical Psychiatry,*
21. 38-48.

Fabello, M.A. (2016, February). What if body acceptance doesn't work? How about body
neutrality? *Everyday Feminism.* Retrieved from: Retrieved from:
everydayfeminism.com/2016/02/body-positivity-vs-neutrality/

Ferguson, C.J., Munoz, M.E., Garza, A., Galindo, M. (2013). Concurrent and prospective
analyses of peer, television and social media influences on body dissatisfaction,
eating disorder symptoms and life satisfaction in adolescent girls. *Journal of*
Youth and Adolescence. 1-14. DOI 10.1007/s10964-012-9898-9

Fitzsimmons-Craft, E.E., Bardone-Cone, A.M., & Kelly, K.A. (2011). Objectified body
consciousness in relation to recovery from an eating disorder. *Eating Behaviors,*
(12). 302-308. DOI:10.1016/j.eatbeh.2011.09.001

Galsworthy-Francis, L. & Allan, S. (2014). Cognitive behavioral therapy for anorexia
nervosa: A systematic review. *Clinical Psychology Review, 34*: 54-72.

Ghaznavi, J., & Taylor, L.D. (2015). Bones, body parts, and sex appeal: An analysis of
#thinspiration images on popular social media. *Body Image, 14*. 54-61. Retrieved
from: dx.doi.org/10.1016/j.bodyim.2015.03.006

Glaser, B. (1965). The constant comparative method of qualitative analysis. *Social*
Problems, 12, 436–445

Giles, D. (2006). Constructing identities in cyberspace: The case of eating disorders.
British Journal of Social Psychology, 45. 463-477.
DOI:10.1348/014466605X53596

Gillen, M. (2015). Associations between positive body image and indicators of men's and

women's mental and physical health. *Body Image, 13*. 67-74. Retrieved from: dx.doi.org/10.1016/j.bodyim.2015.01.00

Grabe, S., Ward, L.M., & Hyde, J.S., (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*. 460-476. Retrieved from: dx.doi.org/10.1037/0033-2909.134.3.460

Groesz, L.M., Levine, M.P., & Murnen, S.K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders, 31*. 1-16. Retrieved from: dx.doi.org/10.1002/eat.10005

Gotestam KG, Eriksen L, Hagen H. (1995). An epidemiological study of eating disorders in Norwegian psychiatric institutions. *International Journal of Eating Disorders*, 18. 263-268.

Hampton, K. N., Sessions, L. F., & Her, E. J. (2009). *Social Isolation and New Technology*. Pew Internet and American Life Project.

Harper, B., & Tiggemann, M. (2008). The effect of thin ideal media images on women's self-objectification, mood, and body image. *Sex Roles, 58.* 649-657. Retrieved from: dx.doi.org/10.1007/s11199-007-9379-x

Hay, P., Bacaltchuk, J., Byrnes, R.T., et al. (2009). Individual psychotherapy in the outpatient treatment of adults with anorexia nervosa. *Cochrane Database Systematic Review, 4*: CD003909.

Hay, P.J., & Cho, K. (2013). A qualitative exploration of influences on the process of

recovery from personal written accounts of people with anorexia nervosa. *Women & Health, 53*(7). 730-740. Retrieved from: dx.doi.org/10.1080/03630242.2013.821694

Hayes, S.C., Wilson, K.G., Gilford, E.V., Follette, V.M., & Strosahl, K.D. (1996). Emotional avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64.* 1152-1168.

Instagram stats. Retrieved from: Instagram.com/press/ (accessed Oct. 28th, 2015).

Isaacs, T. (2016, January). Here's an idea: Body-neutrality. *Fit is a Feminist Issue.* Retrieved from: fitisafeministissue.com/2016/01/04/heres-an-idea-body-neutrality/

Jensen, R.E. (2005). The eating disordered lifestyle: Imagetexts and the performance of similitude. *The Journal of The American Forensic Association: Argumentation & Advocacy, 42.* 1-18.

Krishna, R. (2015). *Meet the teen girls using Instagram to recover from anorexia.* Retrieved from: buzzfeed.com/krishrach/the-girls-using-instagram-to-recover-from-anorexia.

Kuboki T, Nomura S, Ide M, Suematsu H, Araki S. (1996). Epidemiological data on anorexia nervosa in Japan. *Psychiatry Research,* 62:285-286.

Lager, G.E. & McGee, B.R. (2003). Hiding the anorectic: A rhetorical analysis of popular discourse concerning anorexia. *Women's Studies in Communication, 26*(2).

Lee, E., J-A, L., Moon, J.H., Sung, Y. (2015). Pictures speak louder than words:

Motivations for using Instagram. *Cyberpsychology, Behavior, and Social Networking, 18*(9). DOI: 10.1089/cyber.2015.0157

Lenhart, A., & Madden, M. (2007). *Teens, privacy & online social networks: How teens manage their online identities and personal information in the age of MySpace.* Washington, DC: Pew Internet & American Life Project.

Lenhart, A. Purcell, K., Smith, A., & Zickuhr, K. (2010). *Social media and young adults. Twitter among teens and adults.* Retrieved from .pewinternet.org/Reports/2010/Social-Media-and-Young-Adults/Part-3/4-Twitter-among-teens-and-adults.aspx

Lewis, S.P. & Arbuthnott, A.E. (2012). Searching for *thinspiration:* The nature of internet searches for pro-eating disorder websites. *Cyberpsychology, behavior, and social networking, 15*(4). DOI: 10.1089/cyber.2011.0453

Makino, M., Tsuboi, K., & Dennerstein, L. (2004) Prevalence of eating disorders: A comparison of western and non-western countries. *Medscape General Medicine, 6*(3), 49.

McDonald, K., & Thompson, J. K. (1992). Eating disturbance, body image dissatisfaction, and reasons for exercising: Gender differences and correlational findings. International Journal of Eating Disorders, 11, 289–292.

McKinley, N.M., & Hyde, J.S. (1996). The objectified body consciousness scale: Development and validation. *Psychology of Women Quarterly, 20.* 181-215.

McKinley, N.M. (1999). Women and objectified body consciousness: Mothers' and daughters' body experience in cultural, developmental, and familial context. *Developmental Psychology, 35*(3). 760-769.

McKinley, N.M. (2006). Feminist consciousness and objectified body consciousness. *Psychology of Women Quarterly, 35*(4). 684-688. DOI: 10.1177/0361684311428137

McFarlane, T.L., Carter, J.C., Bewell, C.V., Olmsted, M.P. Woodside, D.B., Kaplan, A.S., et al. (2008). Maintenance treatment for anorexia nervosa: A comparison of cognitive behavior therapy and treatment as usual. *International Journal of Eating Disorders, 42*. 202-207.

Menzel, J.E. & Levine, M.P. (2011). Embodying experiences and the promotion of positive body image: The example of competitive athletics. In R.M. Calogero, S. Tantleff-Dunn, & J.K. Thompson (Eds.), *Self-objectification in women: Causes, consequences, and counteractions* (pp. 163-186). Washington, DC: American Psychological Association. Retrieved from: dx.doi.org/10.1037/12304-008

Morry, M.M., & Staska, S.L. (2001). Magazine exposure: Internalization, self-objectification, eating attitudes, and body satisfaction in male and female university students. *Canadian Journal of Behavioural Science, 33*. 269-279. Retrieved from: dx.doi.org/10.1037/h0087148

Murnen, S.K., Smolak, L., Mills, J.A., & Good, L. (2003). Thin, sexy women and strong muscular men: Grade-school children's responses to objectified images of women and men. *Sex Roles, 49*. 427-437. Retrieved from: dx.doi.org/10.1023/A:1025868320206

Nobakht M & Dezhkam M. (2000). An epidemiological study of eating disorders in Iran. *International Journal of Eating Disorders*, 28:265-271.

Noll, S.M., & Fredrickson, B.L. (1998). A meditational model linking self-

objectification, body shame, and disordered eating. *Psychology of Women Quarterly, 22.* 623-636.

Onken, S.J., Craig, C.M., Ridgway, P., et al. (2007). An analysis of the definitions and elements of recovery: A review of the literature. *Psychiatric Rehabilitation Journal, 31.* 9-22.

PewResearch. (2013). *Social Media Update.* Retrieved from: .pewinternet.org/2013/12/30/social-media-update-2013/.

PewResearch. (2014). *Internet & American Life Project.* Retrieved from: .pewinternet.org/

Prowse, E. Bore, M., & Dyer, S. (2013). Eating disorder symptomatology, body image, and mindfulness: Findings in a non-clinical sample. *Clinical Psychologist,* 17. 77-87. doi:10.1111/cp.12008

Pulvers, K.M., Lee, R.E., Kaur, H., Mayo, M.S., Fitzgibbon, M.L., Jeffries, S.K., Butler, J., Hou, Q., Ahluwalia, J.S. (2004). Development of a culturally relevant body image instrument among urban African Americans. *Obesity Research, 12*(10). 1641-1651.

Rakova, K. (2015). 4 Variations on the Body-positive Movement and Why We Need Them. *Adios Barbie.* Retrieved from: .adiosbarbie.com/2015/11/4-variations-on-the-body-positive-movement-and-why-we-need-them/

Rathner G, Tury F, Szabo P. (2001). Eating disorders after the political changes in the formerly communist Eastern-European countries. *Orv Hetil,* 142:1331-1333.

Rodgers, R.F., Paxton, S.J., & McLean, S.A. (2013). A biopsychosocial model of body

image concerns and disordered eating in early adolescent girls. *Journal of Youth Adolescence.* DOI 10.1007/s10964-013-0013-7

Rodgers, R.F., Lowy, A.S., Halperin, D.M., Franko, D.L. (2016). A meta-analysis examining the influence of pro-eating disorder websites on body image and eating pathology. *European Eating Disorders Review, 24.* 3-8. DOI: 10.1002/erv.2390

Rooney B, McLelland L, Crisp AH, Sedgwick PM. (1995). The incidence and prevalence of anorexia nervosa in three suburban health districts in south west London, U.K. International Journal of Eating Disorders, 18:299-307.

Rice, R.E., & Katz, J.E. (2001). *The Internet and health communication: Experiences and expectations.* New York: Sage. Rooney B, McLelland L, Crisp AH, Sedgwick PM. The incidence and prevalence of anorexia nervosa in three suburban health districts in south west London, U.K. Int J Eat Disord. 1995;18:299-307.

Rouleau, C.R., & von Ranson, K.M. (2011). Potential risks of pro-eating disorder websites. *Clinical Psychology Review, 31* (4). 525-531.

Rosen, J.C. (1995). Body image assessment and treatment in controlled studies of eating disorders. *International Journal of Eating Disorders, 20*(4). 331-343.

Sandelowski, M. (1995). Sample size in qualitative research.*Research in Nursing & Health*, 18, 179–183

Sharpe, H., Musiat, P., Knapton, O. & Schmidt, U. (2011). Pro-eating disorder websites: facts,fictions, and fixes. *Journal of Public Health, 10*(1). 34-44. DOI 10.1108/17465721111134538

Silverstein, B., Perdue, L., Peterson, B., Kelly, E. (1986). The role of mass media in

promoting a thin standard of bodily attractiveness for women. *Sex Roles, 14,* 519-532.

Smink, F.R.E., van Hoeken, D., Oldehinkel, A.J., Hoek, H.W. (2014). Prevalence and severity of DSM-5 eating disorders in a community cohort of adolescents. *International Journal of Eating Disorders, 47*. 610-619. DOI: 10.1002/eat.22316

Smolak, L., & Levine, M.P. (1996). Developmental transitions at middle school and college. In L. Smolak, M.P. Levine, & R.H. Striegel-Moore (Eds.), *The developmental psychopathology of eating disorders: Implications for research, prevention, and treatment.* 207-233. Mahwah, NJ: Erlbaum.

Striegel-Moore, R.H., Silberstein, L.R., Frensch, P., & Rodin, J. (1989). A prospective study of disordered eating among college students. *International Journal of Eating Disorders, 8*, 499-509.

Steinhausen, H. (2002). The outcome of anorexia nervosa in the 20th century. *American Journal of Psychiatry,* 159. 1284-1293. doi:10.1176/appi.ajp.159.8.1284

Stice, E., Schupak-Nueberg, E., Shaw, H., & Smith, R.J. (1994). Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology, 103*(4). 836-840.

Swami, V. & Szmigielska, E. (2013). Body image concerns in professional fashion models: Are they really an at-risk group? *Psychiatry Research, 207*. 113-117. Retrieved from: dx.doi.org/10.1016/j.psychres.2012.09.009

Thompson, J.K., Heinberg, L.J., Altabe, M., & Tantleff-Dunn, S. (1999). Exacting beauty: Theory, assessment and treatment of body image disturbance. Washington, D.C.: American Psychological Association.

Tiggemann, M. & Zaccardo M. (2016). 'Strong is the new skinny': A content analysis of

    #fitspiration images on Instagram. *Journal of Health Psychology.* 1-9. DOI:

    10.1177/1359105316639436

Tylka, T.L. (2011). Positive psychology perspectives on body image. In T.F. Cash & L.

    Smolak (Eds.), *Body Image: A handbook of science, practice, and prevention* (2nd

    ed., pp. 56-64). New York: Guilford Press.

Tylka, T.L., & Kroon Van Diest, A.M. (2013). The Intuitive Eating Scale-2: Item

    refinement and psychometric evaluation with college women and men. *Journal of*

    Counseling Psychology, 60. 137-153. Retrieved from:

    dx.doi.org/10.1037/a0030893

Tylka, T.L. & Wood-Barcalow, N.L. (2015). What is and what is not positive body

    image? Conceptual foundations and construct definition. *Body Image, 14*. 118-

    129. Retrieved from: dx.doi.org/10.1016/j.bodyim.2015.04.001

Williams, E.F., Cash, T.F., & Santos, M.T. (2004, November). *Positive and negative*

    body image: Precursors, correlates, and consequences. Paper presented at the

    38th Annual Meeting of the Association for Advancement of Behavior Therapy,

    New Orleans, LA.

Webb, J.B., Wood-Barcalow, N.L., & Tylka, T.L. (2015). Assessing positive body

    image: Contemporary approaches and future directions. *Body Image, 14*. 130-145.

    Retrieved from: dx.doi.org/10.1016/j.bodyim.2015.03.010

Wood-Barcalow, N.L., Tylka, T.L., & Augustus-Horvath, C.L. (2010). "But I like my

body": Positive body image characteristics and a holistic model for young adult

women. *Body Image, 7*. 106-116. Retrieved from:

dx.doi.org/10.1016/j.bodyim.2010.01.001

Yom-Tov, E. Fernandez-Luque, L., Weber, I. & Crain, S.P. (2012). Pro-anorexia and

pro-recovery photo sharing: A tale of two warring tribes. *Journal of Medical*

Internet Research, 14(6). 1-10.

APPENDIX A: LIST OF TABLES

TABLE 1: Intercoder Reliability Estimates for #ana Training Images

General categories	Variables	Cohen's Kappa
Image type	visual, textual, or both	1.0
Image purpose	OBC, PBI, or Pro-recovery	1.0
Image content	multiple	1.0
	quote	.69
	likes	1.0
	male or female	.92
	age, race	1.0
	selfie	1.0
	before/after	1.0
	full body	1.0
	face only	1.0
Body fragmentation	fragmented	1.0
	thighs	1.0
	torso	1.0
	breast	1.0
	feet	1.0
	back	1.0
	arm	1.0
	abdomen	1.0
	hand	1.0
	neck/collarbone	.85
	hip	1.0
	butt	1.0
	calves, shin, knee, ankle	1.0
Extreme thinness	present/not present	1.0
Hashtag	specify number	1.0

Note. (N= 15). Weak= 0.0-0.35; Moderate= 0.36-0.68; Strong= 0.69-1.0.

TABLE 2: . Intercoder Reliability Estimates for #anarecovery Training Images

General categories	Variables	Cohen's Kappa
Image type	visual, textual, or both	1.0
Image purpose	OBC	1.0
	body acceptance	1.0
	body protective	.74
	body functionality	1.0
	Pro-recovery	1.0
Image content	multiple	1.0
	quote	.69
	likes	1.0
	male or female	.92
	age, race	1.0
	selfie	1.0
	before/after	1.0
	full body	1.0
	face only	1.0
Body fragmentation	fragmented	1.0
	thighs	1.0
	torso	1.0
	breast	1.0
	feet	1.0
	back	1.0
	arm	1.0
	abdomen	1.0
	hand	1.0
	neck/collarbone	.85
	hip	1.0
	butt	1.0
	calves, shin, knee, ankle	1.0
Extreme thinness	present/not present	1.0
Hashtag	specify number	1.0

Note. (*N*=15). Weak= 0.0-0.35; Moderate= 0.36-0.68; Strong= 0.69-1.0.

TABLE 3: Frequencies of OBC and PBI Constructs Among #ana and #anarecovery Official Images.

Construct	#ana (N = 150) Present	#anarecovery (N = 150) Present	X^2	V	Kappa
Body Shame	62.7%	10.7%	87.33***	.54***	1.0
Body Surveillance	22%	4%	21.49***	.27***	1.0
Appearance Control	22%	4.7%	19.5***	.25***	1.0
Body Acceptance	7.3%	11.3%	1.42	.07	1.0
Body Protective	6%	67.3%	121.5***	.64***	.88
Body Functionality	2%	38.7%	62.25***	.46***	1.0
Pro Recovery	12%	96%	213.04***	.84***	1.0

Note. Frequencies and chi-square analyses of thematic distinctions between #ana and #anarecovery (***$p < .001$; ** $p < .05$). Cramer's V effect size estimates: .1 = small, .3 = medium, .5 = large (Cohen, 1988). Kappa inter-rater reliability estimates: 0.01-0.40 slight to fair, 0.41-0.80 moderate to substantial, 0.81-1.00 almost perfect agreement.

APPENDIX B: LIST OF FIGURES

Figure 1. Pulver's et al. (2004) Figure Rating Scale

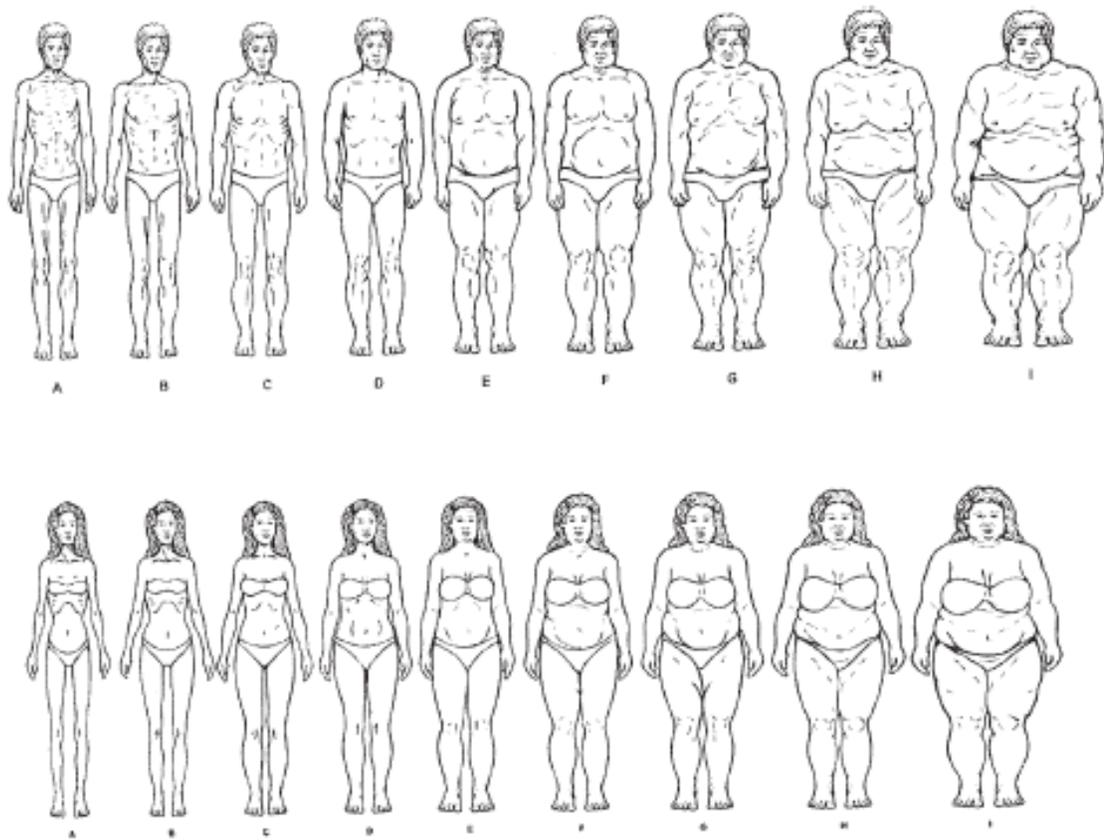Culturally Relevant Body Image Instrument, Pulvers et al.

Figure 1: Male and female body image instrument (master form).

APPENDIX C: CODING GUIDE

SAMPLE SIZES: *#ana* (200); *#anarecovery* (200) (100 training images and 300 official images total)

MATERIALS NEEDED:
- Coding Guide
- Data Collection Protocol
- Excel Data Coding Spreadsheet
- Digital PDF Files of Instagram Images
- Pulvers et. al (2004) Figure Rating Scale

1. Coder ID (for Training Images only):
   a. 1= Nadia
   b. 2= Alex

2. Today's Date: MM/DD/YY

3. Image ID: Use the number assigned to the image file found in the appropriate subfolder of the flash drive. Code the files in consecutive order starting with image 1 and ending with image 150 for each #.

4. Image Type: (Do not include image caption or blog comments)

   1= Visual only image
   2= Text only image
   3= Visual and text combined in the image

5. Image Purposes/Functions/Themes: (Include the image caption AND additional hashtags posted underneath or on the side of the image and/or comments, emoticons, etc.. This may help clarify the intent of or motivation behind the post if needed. Images can include a wide range of content, not only photographs of actual people.) Please select 0= Not present or 1= Present for each category below to indicate whether the thematic content is present in the image posted to capture the intended purpose(s) of the posting.

   a. OBC 1: Body Shame: the image, text caption, and hashtags convey that the poster (e.g., person who posted the content) expresses criticism, dissatisfaction, or shame regarding their weight, size, appearance, body or body parts (e.g., the text states "I wish I was skinny" or image contains self-mutilating behaviors).

   b. OBC 2: Body Surveillance: the image, text caption, and hashtags convey that the poster expresses scrutiny and objectification regarding their own body, body parts, weight, size, appearance (e.g., the text states

"Body check" or "I''ve been gaining weight" or the image contains the poster's body or body parts). Post conveys intense fear of gaining weight or becoming fat. Post conveys body weight/shape disturbance, undue influence of body weight/shape on self-evaluation, or persistent lack of recognition of seriousness of low weight on health status through text, image, caption, and/or hashtags.

c. OBC 3: Appearance Control/Pro-Eating Disorder Lifestyle Tips/Restrictive Monitoring of Dietary/Food Intake: the image, text caption, and hashtags convey that the poster expresses an attempt to control their own appearance through certain behaviors (e.g., the text states exercise tips to achieve a "thigh gap" and/or the image contains portioned food). The image and/or text caption depicts caloric restriction, extremely small portions of food relative to typical portion sizes, and/or extremely low quantity of food, description of or amount of caloric intake (e.g., fat, carbs, proteins, sugars) and/or description of nutritional content, etc. The image/text convey the motivation to restrict, starve, and/or limit food intake and the types of foods consumed. The image and/or text caption convey advice and/or tips on how to limit food intake, describe exercise routines, strategies to quell hunger pain and/or avoid social settings where food is consumed and/or others observe eating behaviors; Post describes persistent behavior that interferes with weight gain through text, caption, image, and/or hashtags. .

d. PBI1: Body Appreciation/Acceptance/Admiration the image, text caption, and hashtags overtly conveys that the poster expresses either: a) an *appreciation* of the unique beauty of their body; b) an *acceptance and admiration* of their body, including those aspects that are inconsistent with idealized images; c) feeling *beautiful, comfortable, confident*, and happy with their body, which is often reflected as an outer radiance, or a "glow"; d) an emphasis of their *body's assets* rather than dwell on their imperfections.

e. PBI2: Body Protective: the image, text caption, and hashtags conveys that the poster interprets incoming information (e.g., thin media ideals, pro-ana tips, etc.) in a *body protective manner whereby most positive information is internalized and most negative* information is rejected or reframed.

f. PBI3: Body Functionality: the image, text caption, and hashtags conveys an appreciation or admiration of the functions that the body performs for them, rather than being focused on how the body appears (i.e.,#strongnotskinny, #fitness, #yoga, etc.).

g= Pro-Recovery/Flexible Monitoring of Dietary/Food Intake/Intuitive Eating Style: the image, text caption, and hashtags convey nutritionally

balanced meals or food items, healthier, intuitive, flexible, mindful, and/or non-restrictive eating behavior and food choices. The image/text convey the motivation to normalize and/or improve eating behaviors.

6. Image Content Qualities/Attributes: (Do not include the image/caption/additional hashtags). Only code these attributes for images with only one photo of a single person or figure. If there are multiple images of the same person in one image post use all of the images to assess the presence or absence of specific attributes collectively.

    a. Contains two or more images?
        0= No
        1= Yes

    b. Motivational quote, poem, or lyrics?
        0=No
        1=Yes

    c= Social Endorsement: the post contains likes and/or comments. Specify the number of likes the image contains, but do not include any comments.

    d. Gender:
        999= N/A (e.g., image content does not specify gender; image does not include at least one male or female human or human-like figure)

        888= Unsure or it is difficult to discern the gender of the individual/figure

        i. Number of human females/figures
        ii. Number of human males/figures

    e. Age:
        999= N/A (e.g., image does not include either at least one male or female or human-like cartoon figure; image depicts a headless, fragmented body part; figure's head/face is obscured, etc.)

        1= child or youth (appears 15 or younger)
        2= older adolescent (appears younger than 20)
        3= 20s
        4= 30s
        5= 40s
        6= 50s
        7= older than 50s

    f. Race/Ethnicity:

999 = N/A (e.g., image does not include either at least one male or female human or human-like figure; image is in black and white; image depicts a headless, fragmented body part; figure's head/face is obscured, etc.)

1 = White/European American
2 = Black/African American
3 = Hispanic/Latino American
4 = Asian/South Asian American
5 = Other

g. Selfie Image
999= N/A (e.g., image does not contain a human or human-like figure, etc.)

0=No
1= Yes

h. Before/After Image?
999= N/A (e.g., image does not contain a human or human-like figure, etc.)

0= No
1=Yes

i. Full Body or 3/4ths Body Visible? All body parts including at least right above the knees must be visible in the image. Please code only for images that have one person or figure in them depicted.

999= N/A (e.g., image does not contain a human or human figure, there is more than one person, etc.)

0= No
1= Yes

j. Headshot or Face Only Visible? Please code only for images that have one person or figure.
999= N/A (e.g., image does not contain a human or human figure, there is more than one person, etc.)

0= No
1= Yes

k. Body Fragmentation Present? A fragmented image would be headless and depict one or two body parts (e.g., a woman's legs emphasizing a wide and/or narrow thigh gap, etc.) Please code only for images that have one person or figure depicted.

999= N/A (e.g., image does not contain a human or human figure, there is more than one person, etc.)

0= No
1= Yes

l. Specific Body Parts Included in Fragmented Image? Please code only for images that have one person or figure depicted. Code for the presence if roughly half or the body part is visible in the image. The skin does not have to be bare in order to make this assessment.

999= N/A (e.g., if the image was not coded as fragmented in the previous code, image does not contain a human or human figure, there is more than one person, etc.)

    i. Thighs
    ii. Torso
    iii. Breasts
    iv. Feet
    v. Back
    vi. Arms
    vii. Abdomen/stomach
    viii. Hands
    ix. Neck/Collarbone/Shoulders
    x. Hips/pelvis
    xi. Butt
    xii. Calves
    xiii. Shins
    xiv. Knees
    xv. Ankles

m. Depiction of Extreme Thinness? Post conveys restriction of energy intake relative to requirements, leading to low body weight for age, sex, development & physical health through text, image, caption, and/or hashtags. Use Pulvers et. al (2004) Figure Rating Scale as a reference for body weight. To clarify your estimation of body weight for each image, code either Yes (1) or No (0) if BMI falls between item1 and item 2 on the PRS.
    0= No
    1=Yes
    999= N/A

q. Total Number of Hashtags: Please specify.

APPENDIX D: SUBJECTIVITY STATEMENTS

Subjectivity Statement by Nadia Jafari

I was born into a generation fundamentally influenced by computers. The zeitgeist of the 1990's has inherently shaped my inclination towards regular Internet use. I am a smartphone owner and a daily user of social media applications such as Facebook and Instagram. During my undergraduate career, I began using Facebook as a way to connect with my collegiate peers. Social events were commonly documented on Facebook via photos, event invites, group and status updates. Many of my friends from home and collegiate peers use online social networking sites, so these profiles became a convenient way for us to stay in touch after graduation. Throughout college, I began to feel personally affected by the photos in particular. I was not accustomed to seeing myself in photos posted online. I started to think about ways in which I felt pressured to look and act a certain way. I was going pursue a professional career as a professor and therapist, so if photos of me were going to be posted publicly online, I felt pulled to ensure that my online persona was depicted genuinely and completely.

As a 25-year old female with a degree in Psychology, I am attuned to and interested in the various psychosocial impacts of social media, specifically as it relates to my peers and the overall female condition. These impacts may be described by impression management efforts, as a result of social comparison and body objectification experiences. Multiple psychosocial factors may be uniquely experienced among young women who frequently engage in online social networking and social media mobile applications. I was drawn to the concept of body image and eating concerns when I created an Instagram account in my post-undergraduate career. I started my own

Instagram account to document my journey as a graduate student. With the intent to establish healthy eating and fitness schedules, I began to follow Instagram accounts devoted to fitness tips and meal prep ideas. Soon after, I noticed that fitness posts were promoting female bodies that seemed unattainable and highly sexualized. On the same vein, food related posts were using hashtags such as "#foodporn" and promoting certain meal recipes as being "sexy" and "clean." Moreover, some Instagram users would provide comments on these pages, such as "pretty girls don't eat" and others would bear Usernames such as "skinnyxwishes" or "depressedfatsuicide." From a researcher's perspective, I became intrigued and started further exploring these pages to understand how current theories underlie the messages promulgated from social media content.

Subjectivity Statement by Alexandria Davies

Social media sites such as Facebook and MySpace started becoming popular during my time in high school, and at 16 years old I opened my Facebook account. Before social media became the norm, I relied mainly on calling friends and directly organizing social events to interact with my peers. As social media became more prominent, however, it created an easy way to stay in touch and allowed me to feel connected to other people without actually having to see them. I had a window into the lives of not only my close friends but also minor acquaintances. While Facebook allowed me to be more socially connected because I could contact friends from my past and quickly learn what they were doing in their lives, I also was prone to using Facebook to engage in upward social comparison. For example, I erroneously believed that many of my Facebook friends were living more fulfilling lives than myself. It did not occur to me until later that people were selectively publicizing positive events in their lives rather

than negative events. As a 24 year old female who is applying to graduate school, I also have self-edited my Facebook to create a more professional image that would be more appealing to potential graduate schools.

Unlike other forms of media that focus on the lives of celebrities, social media presents a skewed form of reality consisting of the behaviours and successes of our peers. Because we personally know these people, we are less likely to doubt its content and believe our friends are more successful than ourselves.

I am interested in body image research and the media's influences on health, but few studies have focused on social media because it is relatively new to our society. As social media becomes more ubiquitous, it is important for research to examine how people are using social media so that we can develop media literacy programs.