Sex Roles
DOI 10.1007/s11199-014-0384-6

FEMINIST FORUM REVIEW ARTICLE

Social Media Effects on Young Women's Body Image Concerns: Theoretical Perspectives and an Agenda for Research

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Abstract Although there is a voluminous literature on mass media effects on body image concerns of young adult women in the U.S., there has been relatively little theoretically-driven research on processes and effects of social media on young women's body image and self-perceptions. Yet given the heavy online presence of young adults, particularly women, and their reliance on social media, it is important to appreciate ways that social media can influence perceptions of body image and body image disturbance. Drawing on communication and social psychological theories, the present article articulates a series of ideas and a framework to guide research on social media effects on body image concerns of young adult women. The interactive format and content features of social media, such as the strong peer presence and exchange of a multitude of visual images, suggest that social media, working via negative social comparisons, transportation, and peer normative processes, can significantly influence body image concerns. A model is proposed that emphasizes the impact of predisposing individual vulnerability characteristics, social media uses, and mediating psychological processes on body dissatisfaction and eating disorders. Research-based ideas about social media effects on male body image, intersections with ethnicity, and ameliorative strategies are also discussed.

Keywords Body dissatisfaction · Eating disorders · Social comparisons · Transactional media effects · Social media · Mass media

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Published online: 29 May 2014

Introduction

The mass media play an outsized role in the communication of cultural stereotypes about the aesthetics of body image. Bandura's (2009) social cognitive theory, the mass communication-focused cultivation model (Morgan et al. 2009), and the sociocultural perspective on body image (Thompson et al. 1999; Tiggemann 2011) assign central importance to media, emphasizing that exposure to media messages can impart unrealistic images of female beauty. Internalization of these distorted images is of concern because it can lead to body dissatisfaction, a key predictor of disordered eating (Smolak and Thompson 2009).

Research, primarily conducted in the U.S., UK, and Australia, has obtained considerable evidence for media effects on thinness ideals and body dissatisfaction (see Bell and Dittmar 2011 for a study conducted in the UK). Scores of experiments have demonstrated that exposure to thin-ideal media images increases women's dissatisfaction with their bodies, as well as negative affect (for example, see Homan et al. 2012 for a study in the U.S. and Tiggemann et al. 2009 for a study in Australia). Many cross-sectional and longitudinal surveys have found that media exposure predicts body dissatisfaction, thin body ideals, and eating disorder symptomatology among preadolescent girls and young women (see Botta 1999; Harrison and Hefner 2006; and Stice et al. 1994 for studies in the U.S.). Careful literature reviews (Levine and Harrison 2009; Scharrer 2013) and meta-analyses of research (Groesz et al. 2002; Grabe et al. 2008) indicate that media portrayals of the thin-ideal body exert an impact on body image concerns. As always, with media impact, the question is the strength of the effect, and meta-analytic studies indicate the effects are small to modest; they likely to operate in concert with individual differences in the internalization of gender-related attributes (Levine and Chapman 2011). Studies show that media exposure is consistently linked with women's body dissatisfaction,

internalization of the thin ideal, and eating behaviors (e.g., Grabe et al. 2008, though see Holmstrom 2004 and Knobloch-Westerwick and Crane 2012 for exceptions to these findings).

Importantly, the general pattern of results attesting to media effects on body dissatisfaction, noted recently by Tiggemann (2014), has emerged from research conducted in primarily Westernized societies using mainly White samples, frequently from the U.S., UK, and Australia, which share the same unrealistically thin "body perfect" ideal of female beauty (Bell and Dittmar 2011). Increasingly, however, researchers have begun exploring media effects on body images of young women from different racial and ethnic groups. There is evidence that some groups (e.g., Latinas) report body dissatisfaction at comparable rates to White young women (e.g., Schooler and Lowry 2011), as well as reports of few differences in ratings of ideal or physically attractive female figures across diverse regions of the world (Tiggemann 2011).

Although empirical studies have been theoretically grounded and heavily focused on measurement precision, the research, as will be discussed below, has been limited in an important respect. Studies have overwhelmingly focused on effects of conventional mass media—magazine depictions, television ads, TV entertainment programs, even music videos. But these are not the media that primarily attract adolescent and young adult women. There have been steep declines in magazine readership, and television viewing has dropped sharply, particularly among teenagers and young adults. U.S. residents aged 12 to 34 still watch television, but are increasingly engaged in time-shifted television viewing, or watch shows on iPads or mobile devices (Stelter 2012).

More than 80 % of 18–29 year olds in the U.S. are wireless Internet users, and 72 % of the online 18–29 year-old cohort uses social networking sites (Lenhart et al. 2010). A national survey conducted by the Pew Research Center found that in the U.S., 18–29 year-olds who use the Internet are the most likely of any demographic group to use a social networking site; importantly, women are more likely than men to tune into these sites (Duggan and Brenner 2013).

The present paper attempts to redress the imbalance in the research literature by offering a theoretically-grounded agenda for scholarship on social media effects on body image perceptions. The paper has four purposes. First, it presents a schematic model of social media effects on body image dynamics that can guide scholarship. Second, it seeks to stimulate research by offering a number of theoretically-grounded predictions about social media influences on young women's body image concerns. Third, the paper seeks to bridge social psychological and communication research terrains, integrating theoretical areas, such as norms, social comparisons, and media influences. In this way, it identifies collaborative pathways for social scientific scholarship on gender roles. Fourth, given the sociocultural role that media play in the development of body image and eating disorders, an in-depth focus on contemporary social media effects can shed light on some of the underlying dynamics of body image concerns, a persistent issue in gender role research. Research generated by the present perspective can enhance understanding of the ways that unrealistic body image ideals, as well as social comparisons and appearance-based schematic processing, are acquired and internalized (e.g., Cash 2011; Thompson et al. 1999; Tylka and Calogero 2011). A theme of the paper is that the causal determinants of body image perceptions are complex, and media influences on body dissatisfaction and eating disorders are a function of a host of interrelated psychological and normative processes. Accordingly, this paper argues that media-based interventions to ameliorate dysfunctional body image perceptions must take these exquisite complexities into account if they are to nudge individuals into changing their attitudes and behaviors.

Given the time-honored concerns about media effects on women's body image and self-concept (e.g., Grabe et al. 2008; Levine and Harrison 2004), the focus of this paper is on adolescent girls and young adult women. The reader should note that all cited studies that follow are based on U.S. samples, unless otherwise indicated.

Internalization of thin-idealized female beauty is a key element in a culturally stereotyped standard of beauty that is ubiquitously communicated in contemporary media throughout Westernized societies (Levine and Chapman 2011). This restrictive view of a desirable body type parallels continued social constraints on gender roles, as well as over-time consistencies in gender stereotypes, despite decades-long social activism designed to increase gender equality (Berk 2000). As a result of traditional gender role socialization processes, girls and women learn to self-objectify, internalizing societal emphases on attending to outward appearance rather than inner qualities; they also come to assign more importance to physical appearance than do boys, and are more attuned to appearance management to conform to stereotyped physical attractiveness ideals (Dion et al. 1990; Fredrickson and Roberts 1997). While there are individual differences among women in their adoption of these beliefs, and more untoward effects on some young women than others, they occupy a prominent part of sex-typed socialization in contemporary Western societies, with girls as young as 3–5 years old ascribing positive characteristics to thinner targets (Harriger et al. 2010).

As scholarship over the past two decades has amply demonstrated, a core component of idealized female beauty in Westernized societies is a thin body size, curvaceously slender, physically appealing, and unrealistically thin (Tiggemann 2011). Internalization of the thin ideal for females has its roots in a host of social and cultural forces, including pressures to conform to socially-defined ideals of physical attractiveness, peer influence, media depictions, same-sex interpersonal modeling, and symbolic, cultural, even ideological, representations of female beauty (Bandura 2009; Maccoby 1966;

Thompson et al. 1999). Another important social learning factor is self-objectification, the process by which girls and women come to view their bodies as objects to be looked at, much as an observer would (Fredrickson and Roberts 1997). This psychological internalization of an observer's perspective toward one's body can lead to body surveillance, which in turn can produce body image disturbances, an experience so common it has been famously termed "normative discontent" (Rodin et al. 1985, p. 267; see also Erchull et al. 2013).

Internalization of "body perfect" ideals and body size stereotypes begin when girls in Western societies are as young as 3 years-old (Dittmar et al. 2006). Mass media have been implicated as an especially significant source of influence of these perceptions (Dittmar 2009). Beginning with young girls' exposure to mass communicated images of the Barbie doll—"the cultural icon of female beauty" (Dittmar et al. 2006, p. 283)—moving developmentally to viewing of television advertisements and programs that celebrate ultra-thin models, and culminating in adolescence and early adulthood with appearance-focused Facebook conversations, picture-sharing, and fashion-focused tweets (Chrisler et al. 2013), contemporary mass and social media exert a potent impact on the development of thinness ideals and body dissatisfaction. It is the latter—the provocative, but relatively unexplored, effects of social media—that are the focus of the present paper.

The paper is divided into three sections, which draw from a common core of communication and social psychological concepts. The first portion describes the distinctive communicative attributes of contemporary interactive media and their applications to appearance-focused social media features. This section introduces the particular facets of contemporary online media that make them potent sources of influence on body image concerns. Building on this, the second section integrates social psychological and communication perspectives, introducing a model of social media influences on body image and eating disorders, and articulating potential impacts of social media on perceptions and affect. A number of specific ideas and predictions about the impact of social media on body image concerns are described. Particular attention is paid to the hypothesized effects of the Internet and social media on eating disorders, and the processes by which this occurs. Drawing on concepts discussed throughout the paper, the final section takes a broader approach, theorizing about potential social media effects on men and on women from different ethnic groups. It ends on a positive note, proposing ways to harness social media to help young women adopt healthier attitudes toward their bodies.

Three caveats are offered at the outset. First, this paper focuses on potential social media influences on adolescent girls and young adult women. Media can strongly influence boys' and young men's body image concerns (Ricciardelli et al. 2009). But because the bulk of research has documented influences of mass media portrayals on women's body dissatisfaction, and young women have a more negative, distorted body image than young men (Helgeson 2009), a focus on women seemed to provide a more appropriate focus for this, a pioneering probe designed to generate research on social media effects.

Second, it is important to consider the cultural context in which research has taken place. The overwhelming majority of studies have been conducted in Western countries, frequently in the U.S., and with a focus on predominantly Caucasian women (Fitzsimmons-Craft and Bardone-Cone 2012; Forbes et al. 2012; Mellor et al. 2013). There is a persistent question about whether these findings apply to individuals of different racial and ethnic groups. African-American women are less prone to be dissatisfied with their bodies than White women (Botta 2000; Fitzsimmons-Craft and Bardone-Cone 2012; Franko and Roehrig 2011; Gillen and Lefkowitz 2012), in light of different subcultural norms.

Yet the global diffusion of sex-typed ultra-thin images of women seems to have left an imprint on other ethnic groups, as thinness ideals can be found across the world. For example, Argentine, Malaysian Chinese, and Fiji women have displayed considerable body dissatisfaction or Western-style desires for thinness (Forbes et al. 2012; Franko et al. 2012; Mellor et al. 2013; see Anderson-Fye 2011 for a review). However, there are complexities, as women rejected Western-style thinness ideals in Belize, where body shape is more highly valued than body size; more generally, as Anderson-Fye notes, "Western individualistic notions of body image are not universal" (p. 250). Thus, the ways culture and media interact to influence body disturbances is a complex issue, beyond the scope of this paper.

Third, when discussing theoretically-based social media effects, the focus is on body image concerns. Body image is a multidimensional concept, with cognitive, affective, and behavioral aspects (Wertheim et al. 2009), one that has been reliably assessed in a variety of ways (Yanover and Thompson 2009). Clearly, body dissatisfaction can influence eating disorders (Smolak and Thompson 2009), but impacts on eating behaviors are complex, contingent on a host of psychological and contextual factors, and a detailed discussion is beyond the focus of this paper. However, the intersection between social media and eating disorders is worthy of attention and is discussed later in the paper.

Distinctive Attributes of Social Media

Contemporary media technologies encompass the Internet, Websites, and an array of social media sites—Facebook, Twitter, Tumblr, Instagram and Pinterest—that allow for the rapid creation and sharing of user-generated messages, as well as instantaneous communication with other uses on a plethora of hand-held devices (Sundar and Limperos 2013). Collectively, these technologies differ from the conventional mass

media, which have been the focus of research on body image effects, in several ways.

A key feature that distinguishes contemporary social media technologies from conventional mass media is interactivity (Eveland 2003). Users are sources, as well as receivers, sometimes virtually simultaneously. Second, by affording users of digital communicative technologies the capacity to shape, customize and direct online interactions, contemporary media transform formerly-passive mass media receivers into full-fledged communicators, enhancing autonomy, self-efficacy, and personal agency (Sundar et al. 2013).

Third, social media are immensely more personal outlets than conventional impersonal mass media. People can bond with technology, and content can revolve around the self, illustrated by the contemporary parlance (Facebook *personal* profiles, *You*Tube, *selfies* or digitized self-portraits, and, more broadly, the *i*-phone). Self-disclosure has long played a prominent role in computer-mediated communication (Joinson and Paine 2007). This manifests itself in the multitude of blogs, personalized customization of sites, and digitized pictures that depict the self, friends, or strangers an individual personally admires, available on Instagram, Pinterest, and Snapchat, with its visual story application (Wortham and Goel 2013).

Fourth, in a related fashion, social media are interpersonally rich modalities that offer graphic apps, videos, animation, and transformative multimedia cues that lend a feeling of presence, offering the potential to transport individuals to psychologically involving domains that can encourage suspension of belief and attitude change (Barak 2007; Green et al. 2004). Finally, unlike mass media, which cultivate a large heterogeneous audience, social media sites cater to communities of like-minded individuals, offering easy and frequent access to similar others (Amichai-Hamburger 2007). They are fundamentally media of one's peers.

These differences between conventional and social media have important implications for social media effects on body image concerns. Social media are filled with pictures of an individual, her online friends, and multitudes of thin-idealized images that an adolescent girl or young woman may have located and pinned to a page. Social networking sites are available for viewing, content-creating, and editing 24/7, on mobile devices, anywhere, anytime, allowing for exponentially more opportunities for social comparison and dysfunctional surveillance of pictures of disliked body parts than were ever available with the conventional mass media.

Even as society has come to recognize the health risks posed by ultra-thin images of feminine beauty (Hartocollis 2013), pictures of thin, sometimes photo-shopped, comparison others are widely available on social networking sites; sleek, slender images of female beauty dominate Thinspiration on Tumblr (sometimes with weight in pounds listed, along with before and after weight-loss images); pro-anorexia sites promote thinness thematically in a variety of empirically-documented ways (Norris et al. 2006); and advertisements on teen Websites continue to promote stereotyped thin beauty ideals (Slater et al. 2012). And, as noted above, in contrast to mass media, social media are the domain of similar others, a veritable electronic nation peopled by peers. This has important implications. The conventional mass media "are saturated with depictions of thin women" (Holmstrom 2004, p. 210); these images have become so commonplace (and even lampooned) that they may not exert the effects they once did. Social media, with their emphasis on attractive peers—and not exclusively ultra-thin models—may elide persuasion defense mechanisms, leading to a host of potentially significant effects on body image-related attitudes.

A Model of Social Media and Body Image Concerns

Review of Recent Research

Only a handful of studies have examined the content of Internet eating disorder sites and effects of the Internet and social media on body dissatisfaction (e.g., Bardone-Cone and Cass 2006, 2007; Chrisler et al. 2013; Tiggemann and Slater 2013; see also Yom-Tov and Boyd 2014). Turning to content, there has been a proliferation of pro-anorexia or pro-ana and pro-bulimia (pro-mia) Websites (approximately 400) that unabashedly promote anorexic and bulimic lifestyles (Levine and Chapman 2011). More content analytic and effects research has focused on the pro-ana sites.

The sadly iconic Kate Moss aphorism—"Nothing tastes as good as skinny feels"—exemplifies the electronic world of the pro-ana sites. Many Websites are devoted to promoting pro-anorexic ideals (see Bardone-Cone and Cass 2007). These contain positive depictions of an anorexic lifestyle; religiously-based metaphors; and some 10 core themes, such as perfection (cultural norms linking thinness with perfection); transformation (eating disorders can help transform an individual from the hated "ugly" and "fat" to the desired "thin and beautiful"); and success (association of success with strength and ability to keep the weight off; see Norris et al. 2006). Healthy Living blogs also emphasize thin appearance values and disordered nutritional messages, while also containing self-objectifying messages about women (Boepple and Thompson 2013).

Two experiments with female undergraduates have examined the impact of pro-ana Websites, indicating that exposure to these sites exerts a number of short-term negative influences, such as lower self-esteem, negative affect, and decreased perceived attractiveness (e.g., Bardone-Cone and Cass 2006, 2007). Pro-bulimia or pro-mia Websites may also exert harmful effects on young women (Levine and Chapman 2011).

Intriguing and suggestive as these results are, the studies suffer from the typical limitations in experimental media research on psychological issues, such as a focus on short-term effects and undue appreciation of the real-world contexts in which media influences occur. We do not know whether the sites are actually accessed by most adolescent girls or young adult women, who might be susceptible to thinness appeals. Indeed, it is likely that young women who frequent the sites have higher levels of eating disorders and body image concerns, as a correlational study suggests (Harper et al. 2008), in line with the time-honored tradition of mass communication research that documents the pervasiveness of selective exposure to mass communication materials (Knobloch-Westerwick et al. 2013). In a similar fashion, research demonstrating a correlation between Internet exposure and thin-ideal internalization (Tiggemann and Slater 2013) understates the bi-directional nature of media influences, as well as the role that individual susceptibility characteristics play in the media effects process (Valkenburg and Peter 2013a). A more nuanced approach that reflects the transactional, dynamic effects of media is needed.

A Model of Social Media Influences

Social media influences are complex. Given the multifaceted, multiply-determined nature of body image disturbance, it is unrealistic to expect that exposure to social media will exert a simple, direct impact on body disturbance, and a number of studies have failed to find clear-cut effects of media exposure on body dissatisfaction or thin ideals (see Botta 1999 and Bell and Dittmar 2011 for a study in the U.K.). Simple exposure to social media or to Facebook-instigated social comparisons with thin attractive friends will not lead to body dissatisfaction in many adolescent girls or adult women. In and of themselves, social media uses and gratifications are not likely to cause eating disorders, and may even exert positive impacts, such as enhanced companionship (Ferguson et al. 2011). Nonetheless, the foregoing review of relevant theory and research suggests that media thinness portrayals can exert deleterious influences, ones with potentially serious psychological implications, in combination with certain individual difference factors, a point acknowledged even by scholars who doubt the pervasiveness of media effects (Ferguson et al. 2011).

Contemporary theoretical perspectives emphasize that media effects involve a complex transaction between media content and what the individual brings to media, in terms of needs, personality factors, and social situational constraints (Slater 2007; Valkenburg and Peter 2013a, b). As Valkenburg and Peter (2013b) helpfully observe, “only by formulating clear hypotheses about which individuals are particularly susceptible to the effects of media are we able to specify the boundary conditions for media effects” (p. 203). Levine and Harrison (2009) emphasize that media effects involve “reciprocal transactions between the nature and context of the medium and the psychology of the perceiver,” person/media intersections that can sadly lay “the foundations for self-defeating but self-perpetuating cycles of media engagement” for adolescents and adults (p. 506).

Figure 1 lays out a model of social media impact, providing a framework for the hypotheses. There are a number of social and individual difference factors that can place young women at risk for body image disturbances. Based on theory and research on the role individual difference variables play in body image dynamics, one can reasonably argue that the following should place adolescent girls and young women at risk for body image problems: low self-esteem, depression, perfectionism, internalization of the thinness ideal, and centrality of appearance to self-worth. Data-based evidence for the effects of these particular factors on body image concerns, as well as reviews offering empirically-derived and conceptually-based arguments for the impact these characteristics should exert on body image dynamics, can be found in Crowther and Williams 2011; Levine and Chapman 2011; Mischner et al. 2013; Mitchell et al. 2012; Murray et al. 2013; Myers et al. 2012; Noser and Zeigler-Hill 2014; Paxton et al. 2006; Sinton and Birch 2006; Stice et al. 1994; Wertheim et al. 2004, 2009.

Importantly, given that that self-worth can be domain-specific (Crocker et al. 2003), low self-esteem, depression, and perfectionism should primarily influence body image perceptions when they occur in concert with appearance-related concerns, such as internalization of the thinness ideal and centrality of appearance to self-esteem (e.g., “My sense of self-worth suffers whenever I think I don’t look good”; Crocker et al. 2003, p. 899). Thus, low self-esteem should mainly influence body image perceptions when women are high in thin-ideal internalization or when appearance is a major aspect of self-esteem. Research findings do not as yet allow a determination of which of these factors is most important, nor whether each factor has to be present for social media effects to occur. There have not been enough studies comparing the relative impact of these variables on body dissatisfaction at this time. Nonetheless, the model offers fruitful suggestions about the role that individual difference factors can play in body image dynamics.

Predisposing individual characteristics are important. Media rarely exert simple main effects or occur in isolation, but interact with context and “differential-susceptibility variables” (Valkenburg and Peter 2013a, p. 226). Social media uses and gratifications are presumed to intervene between predisposing individual difference factors and attitudinal and behavioral outcomes, as thoughtful perspectives on media effects suggest (Slater 2007). Psychological processes, such as social comparisons, should mediate the impact of social media uses on body image concerns.

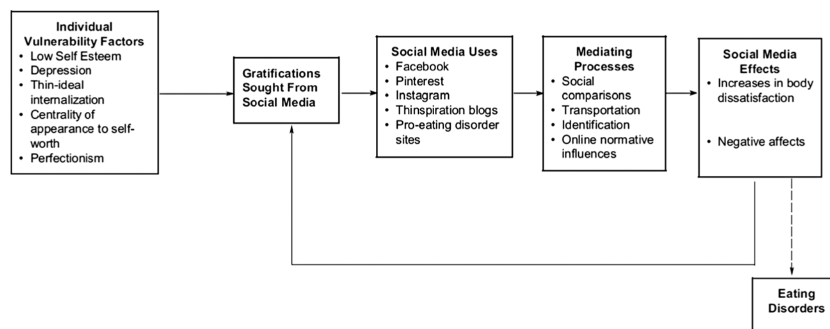

Fig. 1 Transactional model of social media and body image concerns

Thus, women with the aforementioned individual susceptibility characteristics should gravitate to appearance-focused social media content, seeking particular gratifications, such as reassurance and validation. These gratifications should propel them to spend considerable time with social media, which will set in motion a host of psychological processes, such as social comparisons. As will be discussed, social media use leads to increased body dissatisfaction and negative affective reactions. A feedback loop ensues. Motivated all the more to alleviate the resultant negative affect and seeking even more validation, these young women selectively expose themselves to social media yet again, peruse pictures of attractive and less attractive others on a host of social networking sites, engage in upward and downward comparisons, ruminate about parts of their bodies that make them look bad, and in some cases end up feeling unhappy about their bodies once again. A "mutually reinforcing" relationship between exposure and effects on body image concerns ensues, leading to "reinforcing spirals" of influence that strengthen and exacerbate deleterious impacts (Slater 2007, pp. 284–285).

Young women with the previously-described vulnerability characteristics, preexisting body image disturbances, and eating disorder symptomatologies should be particularly likely to seek out pro-eating disorder sites, as transactional perspectives suggest (e.g., Valkenburg and Peter 2013a). Exposure should in turn set in motion social comparisons, as well as transportation, identification, and online normative influences, which may increase body dissatisfaction and negative affective reactions. These can then lead to increases in eating disorder pathologies. This is represented by a dotted line in the figure to emphasize that body dissatisfaction effects on eating disorders are complex; increases in body dissatisfaction do not necessarily cause eating disorder problems. Instead eating disorders and disordered eating attitudes are a function of a host of complex social, emotional and personality processes (e.g., Arroyo and Segrin 2013; Crowther and Williams 2011; Delinsky 2011).

Using the model as a roadmap, let's look at the ways that social media can influence body dissatisfaction and eating disorders. Note that the model focuses on potential effects of different media modalities, such as Facebook, the ubiquitous message-exchanging social networking service; Pinterest, an online site that allows for uploading, saving, and sharing visual images known as pins; and Instagram, a video- and photo-sharing social media site. The model also focuses on specific content that can appear on social media and the Internet, such as on Thinspiration, the umbrella term for a variety of thinness-inspiring Internet-based blogs and images, and on Web sites that specifically promote eating disorders like anorexia and bulimia. Facebook, Instagram, and Pinterest are social media formats that allow for the creation and exchange of messages on particular body image-related content, exemplified by Thinspiration blogs and pro-eating disorder material. Collectively, these modalities' interactive features differentiate them from earlier media forms, raising possibilities of a host of cognitive and attitudinal effects.

With this in mind, our first step is to explore the motivations individuals with the aforementioned constellation of vulnerability characteristics have for turning to social media. As we will see, these motivations can set in motion a veritable web of media effects.

Gratification-Seeking from Social Media

A classic mass communication perspective—uses and gratifications—emphasizes that people are not passive and submissive when it comes to media use. Instead, the uses and gratifications approach stipulates that individuals are active participants who use media to satisfy needs, seeking particular gratifications to fulfill motives and deriving gratifications from media use that can be either psychologically functional or dysfunctional (e.g., Blumler and Katz 1974; Rubin 2009). Applied to social media and body image, the uses and gratifications approach suggests that individuals who are vulnerable to body image disturbances will seek different gratifications from social media than their less vulnerable counterparts.

We know that personal distress influences gratifications sought from media (Rubin 2009). Moreover, in findings germane to this paper, college women's reading of beauty and fashion magazines was strongly predicted by their motive to improve themselves—i.e., to "make myself a more interesting person," and to "lift my spirits and make me feel happy"

(Thomsen et al. 2002, p. 124). As suggested above, young adult women who are low in self-esteem and high in thin-ideal internalization, or high in perfectionism and appearance-based self-worth, should turn to social media to satisfy gratifications, such as reassurance and validation regarding physical and social attractiveness, as well as escape from appearance-related personal distress. They may satisfy reassurance needs by compulsively checking their Facebook profile pictures, validate their self-concepts by spending considerable time comparing their Instagram pictures to those of less attractive friends, and try to ritualistically escape personal problems by tweeting celebrity role models. In these ways, they will try to satisfy psychological appearance-gratifying needs and convince themselves they measure up to idealized others. But because ultimate satisfaction of these needs typically cannot come externally, but internally, young women can end up feeling disappointed and hurt.

In sum, one would expect that individuals with these personal susceptibility characteristics would be especially likely to turn to social media to validate their self-concepts, satisfy personal reassurance needs, and convince themselves they measure up to thinness ideals. Once they are on social media, they will encounter a host of actual and perceived pressures that may aggravate body disturbances.

Mediating Role Played by Social Comparison Processes

Research on sociocultural factors and body image has emphasized the role that social comparisons play in explaining media effects on body image concerns (Botta 1999; Thompson et al. 1999). Social comparison theory, in its original version (Festinger 1954) and revised iterations (Suls and Wheeler 2000), states that people find it diagnostic and functional to compare themselves to others, particularly those who are similar on attributes that are central to their definition of self (Wood and Taylor 1991).

This has interesting implications for social media effects. Social media are the domain of peers, and peer comparisons are highly salient to adolescents (Steinberg 2008). Intriguingly, upward social comparisons with attractive peers can actually lead to more negative self-attractiveness ratings than comparisons with attractive advertising models, who are perceived as less similar and therefore a less diagnostic comparison group (Cash et al. 1983). The online environment is filled with pictures of peers and opportunities for social comparisons. Negative comparisons can (theoretically) be particularly likely when young women compare their online pictures with peers, not knowing their peers have digitally altered the photographs (Tiggemann et al. 2014).

Social media-triggered social comparisons should have particularly problematic effects on body dissatisfaction when certain social and individual difference factors are operative. One factor that makes negative comparisons especially likely, suggested by both social comparison perspectives and the media/body image research (e.g., Myers et al. 2012), is internalization of the thinness ideal. Social comparison theory stipulates that comparisons on dimensions that are self-relevant have greater impact than comparisons that do not bear on the self-concept (Wood and Taylor 1991). Self-relevant comparisons should be processed more deeply, accessed more easily, connect with self-relevant nodes, and touch on more affective domains that bear on the self, causing them to exert a stronger psychological impact. Thus social media-triggered appearance-focused comparisons should have a greater effect on body image disturbance when a thin body image is an important part of women's self-concept. Specifically, we would expect that appearance-focused social comparisons made on social media sites will lead to more online and offline body dissatisfaction and negative affect among women for whom appearance is a major dimension of self-worth, or are high in thin-ideal internalization, particularly when these women are depressed or low in self-esteem.

Theoretical accounts (e.g., Swallow and Kuiper 1988, 1993; Major et al. 1991) suggest that individuals who are depressed, due to negative affect or lack of perceived control, and are low in self-esteem frequently lack the buffers that protect the self from the threatening impacts of stressful life events. Swallow and Kuiper (1993) found that depressed individuals who performed poorly on a task were less likely than their non-depressed counterparts to invoke a self-protective strategy of downward comparisons, preferring instead to focus on similar, not worse-off, comparison targets.

In a similar fashion, low self-esteem individuals may avoid self-protective social comparisons after failure. Research indicates that people with low self-esteem are less motivated than their high self-esteem counterparts to repair negative moods after a failure event, in part because they may be more acclimated to negative moods and accept them with greater resignation (Heimpel et al. 2002). Self-esteem also has been found to play a role in body image effects. Research indicates that low self-esteem is associated with body dissatisfaction in middle-school girls (Mitchell et al. 2012), and self-esteem mediates the impact of stress on body satisfaction among Australian adolescents (Murray et al. 2013). College women in the Netherlands who are low, but not high, in self-esteem are negatively influenced by sexually objectifying facets of media fare (Mischner et al. 2013).

The foregoing theoretical perspectives and research have interesting implications for social media effects on body image. They suggest that the aforementioned individual vulnerability factors should instigate social comparisons made on social media, which in turn should have affective impacts, such as producing dissatisfaction with one's own body (see Myers and Crowther 2009). Swallow and Kuiper's research, in concert with the studies of self-esteem, suggest that negative social comparisons can lead to time spent ruminating

online and offline about social media-triggered appearance issues. For example, in a prosaic, but subjectively important, fashion, young adult women who are depressed or low in self-esteem, and higher in thin-ideal internalization, should experience more negative affect than their counterparts after discovering that changes they made in their personal profile pictures elicited fewer "likes" than did those of comparison others, or when looking at the online photos of thinner, more attractive comparison others. One might also expect that thin ideal-consumed young adult women who are depressed, low in self-esteem or high in dispositional perfectionism will be less likely than their counterparts to invoke the self-protective strategy of engaging in downward appearance-based comparisons with online comparison others. They should also spend more time ruminating about appearance-focused online comparisons. The resultant feelings of failure to compare favorably with online comparison others will generate more (a) online and offline body dissatisfaction; (b) envy (Nabi and Keblusek 2014); and (c) negative affect for depressed, perfectionist, and low self-esteem individuals, who are high in thinness ideals, than for comparable controls.

Social Media Effects on Eating Disorders: Mediating Roles Played by Transportation, Identification, and Perceived Norms

The previous section outlined ways that social comparisons mediate social networking site effects. This section articulates the hypothesized impacts of transportation (Green et al. 2004), identification (Moyer-Gusé 2008), and normative considerations set in motion by presumed media influence (Gunther and Storey 2003). The focus is on how social media, in concert with predisposing individual difference characteristics, can instigate changes in disordered eating patterns.

As noted earlier, a disturbing number of pro-ana and pro-mia Websites and blogs promote anorexic and bulimic lifestyles (e.g., Norris et al. 2006). But this content will not exert simple main effects on most young women, for the simple reason that selective exposure processes (Knobloch-Westerwick et al. 2013) are likely to be operative. Young women who are highly dissatisfied with their bodies, have disordered attitudes toward eating, and possess the previously-described constellation of vulnerability characteristics are probably most apt to click onto these Websites and related social media materials. Individuals frequently selectively expose themselves to supportive media materials, gravitating to content they already agree with, find appealing, or on which they have come to rely because the content is in sync with their attitudes or personality-based preferences (Slater 2007; Valkenburg and Peter 2013b). This suggests that young adult women who are low in self-esteem or depressed, and for whom thin ideals or appearance-based self-worth are important, are dissatisfied with their bodies (Delinsky 2011), and even suffer from anorexia will be particularly likely to frequent pro-ana sites and similar social media fare. Young women with perfectionist dispositional tendencies (Crowther and Williams 2011), are highly dissatisfied with their bodies, and suffer from bulimia nervosa should be especially inclined to spend time on pro-mia sites.

As noted above, the scholarly consensus is that media effects are transactional and reciprocal, with psychological characteristics predisposing individuals to tune into particular media fare, and the content instigating self-defeating cycles of intersections between media and personality-based susceptibility characteristics (Levine and Harrison 2009). If, as predicted, heavy users of pro-ana and pro-mia sites are young women who already have significant body image and eating disorder problems, then a transactional approach suggests they should be influenced by what they see. But how? Research suggests two pathways: narrative-induced transportation (Green and Dill 2013) and normative influences (Gunther and Storey 2003).

A narrative is a symbolic exposition of a series of events—a coherent story with a setting, characters, and conflict that offers resolution to a social problem (e.g., Bilandzic and Busselle 2013). Narrative can be fictional or nonfictional and can occur in different content genres and in a host of media, from print to interactive. Pro-ana, as well as Thinspiration, sites can be viewed as narratives, offering a setting (a site featuring a homey, sometimes-cult-like devotion to thinness ideals); characters (the many young women who blog, post pictures, offer confessionals, and share religiously-tinged messages about skinniness as salvation); conflict (internal psychological conflict and struggles with a society that does not understand their needs); and resolution (the celebration of weight control and skinny girls who do not have an ounce of fat and serve as role models for troubled women; see Norris et al. 2006).

The transportation model stipulates that narratives can transport individuals into narrative worlds, where "travelers" become immersed in the journey, transfixed by the narrator's vision, and psychologically open to the world-view presented in the story (Green et al. 2004; Green and Dill 2013). Transportation is more likely the more that narratives feature characters with whom individuals can identify, a plot that can be mentally imagined, and events that can actually happen (van Laer et al. 2014). Transportation in turn can lead to adoption of story-congenial beliefs and attitudes (van Laer et al. 2014). These findings, in conjunction with and other research (Moyer-Gusé 2008), suggest that the more that eating disorder sites and related social media content (a) promote identification, (b) are perceived as realistic, (c) contain rich imagery, and (d) elicit perceptions of receiver-source similarity, the greater the likelihood they will increase body dissatisfaction and subsequent negative affects among the young women

with body image and eating disturbances who tune into these sites.

Social media effects can also be amplified through normative processes. Increasingly, researchers are finding that effects can be indirect, a subtle function of perceptions of significant others' beliefs. Perceptions of peers' normative concerns can, of course, exert direct impacts, as exemplified by evidence that Australian girls who believed that their friends wanted a slimmer ideal figure desired a slimmer figure themselves (Dohnt and Tiggemann 2006). More complexly, social beliefs can also develop from individuals' meta-beliefs about how others are influenced by what they see and hear in media (Perloff 2009). By directing the gaze of media users outward, onto the audience, media can instigate heuristically-based presumptions of broad media impact, and these presumptions of media effects can themselves influence perceptions and attitudes.

The presumed influence of the media thinness ideal (Gunther and Storey 2003) should be particularly impactful among individuals who frequent pro-ana sites, pro-mia sites, and Thinspiration blogs. These individuals already live in an electronic world populated by thin others, can be expected to accept the normative ideal of thinness, and should perceive that the norm is staunchly reinforced by exposure to the sites. Theory and research (e.g., Park 2005) suggest that time spent on eating disorder Websites or with similar social media content should bolster descriptive beliefs in the prevalence of thinness norms directly, as well as indirectly through the presumed influence heuristic. In the latter case, exposure to thin-idealized images on social media sites may lead to inferences that these images are highly prevalent, which in turn can produce a belief that others are influenced by these prevalent images, as a result of learned assumptions of powerful media effects. Perceiving that the thin female ideal influences others can enhance perceived impact of the thin ideal on the self, due to pressures to follow perceived peer norms. Perceived social media influence on the self can strengthen women's desire to be thin (see Park 2005).

Feedback Loop to Gratifications Sought from Social Media

Social media and Web-based effects—working through transportation, norms, and social comparisons—can lead to self-perpetuating cycles of influence. Motivated all the more to reduce negative affect that occurs via the mediating mechanisms discussed above, young women struggling with body image disturbances and eating disorders may turn to Websites and social media anew, hoping to derive reassurance and validation gratifications. This may instigate more negative social comparisons, transportation, and normative influences, thereby reinforcing the embrace of unrealistic, dysfunctional body image ideals. This can lead to even greater body image disturbance, which in turn can exacerbate disordered eating, measurable with the battery of instruments described by Stewart and Williamson (2004) and Anderson and Paulosky (2004).

Broader Perspectives: Males, Ethnicity, and Ameliorative Efforts

Although the focus of the present article has been on social media effects on young White women from Westernized countries, notably the U.S., social media have global reach and their influences on body image extend to a variety of other groups. It is useful to sketch out some possible impacts, with an eye toward stimulating empirical investigations.

Adult men have also reported dissatisfaction with their bodies, and sociocultural factors (including media depictions) can influence body image concerns (e.g., Galioto and Crowther 2013). The male body ideal, although more variable than the idealized female image, contains several stock features: thinness, leanness, strong ("ripped") muscularity, and height. Although much less is known about media effects on male body satisfaction, research has reported positive correlations between consumption of media, such as magazines emphasizing health and fitness, and both body dissatisfaction and use of muscle-enhancing supplements (Levine and Chapman 2011). Experiments have uncovered the familiar negative contrast effect, with exposure to muscular media images causing male undergraduate participants to report less satisfaction with their bodies (Galioto and Crowther 2013), though not always (see McCreary 2011). As with research on media effects on young adult women (and mass communication studies in general), many of the studies, particularly on males' drive for muscularity, have been conducted with White, North American university students (McCreary 2011). Media effects are likely to interact with concerns with thinness and internalization of a muscular body ideal (Fernandez and Pritchard 2012).

Based on the framework articulated in this paper, one would expect that social media can form and strengthen male "body perfect" norms that emphasize thinness and muscularity. Participation in social media conversations on appearance issues should enhance perceptions that the male body ideal is a lean, tall, and muscular look both directly, and indirectly, via conformity-inducing perceptions that peers will be influenced by appearance-focused posts. The model articulated in this paper emphasizes that particular vulnerability characteristics will predispose men to turn to appearance-based content, producing social comparison and perceived norm-mediated effects.

Social media should exert an especially significant impact on some men's body image concerns, in view of social media's ability to access social comparisons through pictures

(real or computer-modified) of muscular comparison others. Given stereotypes about male expression of emotions (Helgeson 2009), some men may find the more protected social media environment a welcome outlet to disclose wishes and fears, enhancing social networking effects. Upward social comparisons to muscular models or celebrity athletes could instigate negative contrast effects, with men harboring a strong drive for musculature (Rodgers et al. 2012) especially likely to be influenced.

At the same time, social media research on body image concerns should also focus on populations that vary in age and ethnicity. Interestingly, middle-aged and older women report dissatisfaction with their weight and body shape (see Grogan 2011 for a review). With social media diffusing across age groups, it is likely that Facebook, Instagram, and other sites could induce older women for whom appearance or thin ideals are central to self-esteem to make social comparisons, perhaps upward comparisons with more physically appealing peers. Alternatively, age brings maturity, suggesting both that social media effects will be less affectively-toned as women get older and, more generally, that lifespan-developmental studies of changes in social media effects on body image would be an interesting contribution to the literature.

In a similar fashion, research is needed to explore processes and effects of social media on women from a variety of ethnic groups. Given that family members can influence body image attitudes of African-Americans (Franko and Roehrig 2011), studies should explore ways that family members' body image attitudes intersect with social media to influence the attitudes of young Black women. In light of evidence that greater acculturation of Latinas into mainstream Caucasian culture is linked with higher rates of disordered eating (Schooler and Lowry 2011), it would be useful to explore the degree to which acculturation works in concert with social media content to influence body dissatisfaction. In this vein, recent research has found that ethnic identity can serve as a buffer, protecting Latina young women from the harmful influences of exposure to thin-ideal media images of White women (Schooler and Daniels 2014). Research should pinpoint the conditions under which ethnic identity exerts a buffering, rather than mainstreaming, impact on Latina adolescents.

The proliferating effects of social media world-wide suggest that Facebook and other sites can penetrate cultures and nationalities previously immune from Western-style body image ideals. Just as the introduction of television in Fiji caused women to view their bodies as changeable and to adopt slender Western-style ideals of female beauty (Anderson-Fye 2011), social media may convince young women (and men) from non-Western cultures to rethink their attitudes toward their bodies, in light of what they perceive to be media-relayed social norms and titillating pressures to share thin, attractive pictures. The intersections between time-honored cultural beliefs and social media represent an intriguing area for future scholarship.

On a more conceptual level, research should also explore the ways that factors other than individual differences—for example, sociocultural factors like family interactions (Arroyo and Segrin 2013) and acute stressors like sexual abuse (Wertheim et al 2004)—predispose individuals to seek out social media, with the expected constellation of effects. And researchers should also be open to the possibility, broadly suggested by positive psychology perspectives (Seligman 2002), that individuals' strengths may buffer them against the impact of thinness messages; social media can, under some circumstances, exert salutary effects on body image-related attitudes, perhaps when body ideals are depicted as attainable (Knobloch-Westerwick and Romero 2011); and these effects and mitigating variables frequently work complexly in concert with the web of negative influences articulated above.

Social Media Campaigns

The final issue is ameliorative. How can social media be harnessed to help young people, particularly those with predisposing vulnerability characteristics, to adopt healthier body images and resist pressures to engage in dysfunctional habits of disordered eating? Research has documented that a variety of media interventions and persuasive regimen can have positive effects in reducing unhealthy appearance-based perceptions and eating disorder symptoms (e.g., Levine and Harrison 2009; Stice et al. 2006). Online interventions are playing an increasingly critical role in health campaigns designed to reach young adults, and campaigns are more likely to change attitudes if they take into account relevant theories, understand the audience, and tailor the message to particular audience characteristics (Rice and Atkin 2009). Social media campaigns harnessing the interactive strengths of Facebook, Twitter, and other networking sites have potential to influence beliefs and attitudes.

Research on the knowledge bias provides a helpful starting point. The knowledge bias is the perception that a communicator harbors a biased view of an issue, as a result of his or her gender, ethnicity, religion, age, or other background factors (Eagly et al. 1978). When audiences assume a communicator harbors a knowledge bias on an issue, they conclude that the speaker lacks credibility. However, when a communicator is believed to have violated the knowledge bias, as when a former alcoholic embraces stricter penalties for drunk driving or makes statements that cannot be easily attributed to a demographic background factor that predisposes the communicator to a biased position, the speaker is perceived through a different, more credible set of eyes. The communicator is perceived to be a credible source on the issue, having both

overcome his or her biases and recognized the wisdom of an alternative view. This suggests that campaigns directed at young adult women will be more effective if they chose as spokespersons women who suffered from eating disorders, but have overcome their problems, than if they selected health experts or other demographically similar young women who do not have these credentials. Online technologies, with their ability to provide easily-accessible video displays of campaign spokespersons and in vivo apps, can enhance credibility assessments. Indeed, the trappings of technology can trigger cognitive heuristics, peripheral cues that bolster the believability of the communicator (Sundar 2008).

A second way to nudge adolescents into questioning thinness ideals is by harnessing social norm-based approaches. These perspectives call on the psychology of norms—what we think important others are doing or believe significant others think we *should* do (Fishbein and Ajzen 2010). Persuaders thus attempt to convince targeted individuals that they hold mistaken ideas about the frequency with which peers engage in certain unhealthy behavior. The theory is that once young adults understand that they hold erroneous impressions about the commonality of particular behaviors, the motivation to hold accurate attitudes and to fit into peer norms will propel them to alter their behaviors in ways that congeal with social norms. As a result, the theoretical approach suggests, individuals will reduce their endorsement of unhealthy social practices, curbing their performance of behaviors that can have negative consequences for their health, and embracing healthy behaviors that have the imprimatur of a majority of their peers (Lapinski et al. 2013).

Campaigns emphasizing creation of new social norms have been employed on the issue of binge drinking, with communications suggesting that binge drinking is much less common than students assumed. These campaigns have had some success in curtailing binge drinking and reducing peer endorsement of alcohol use (Godbold and Pfau 2000; Schroeder and Prentice 1998). If communications suggested that thinness is *no*t a universally-shared ideal and that a growing number of women are rejecting this belief, then young women might feel less social pressure to adopt ultra-thin ideals. Social media, with its rapid-fire ability to convey multiple, simultaneous conversations, could be especially helpful. By transmitting a plethora of thinness-rejecting posts from many different users, enhanced by selfies encouraging perceptions of source-receiver similarity, the message could gain credibility by triggering a "strength of numbers," bandwagon heuristic.

Finally, campaigns, using the rich technological repertories inherent in social media, should borrow from the positive psychology manual (e.g., Seligman 2002), encouraging adolescent girls to appreciate their body shape and image. Research has found that a positive body image can serve as a psychological buffer, protecting female university students in the U.K. from accepting thin-idealized media images (Halliwell 2013). Consistent with this approach, a recent campaign in New York City depicted girls of different sizes and races, playing sports, with a robust 12-year-old girl saying, "I'm a girl. I'm funny, playful, daring, strong, curious, smart, brave, healthy, friendly and caring." The ads end with the campaign tagline, "I'm beautiful the way I am" (Hartocollis 2013, p. A17).

Message strategies like these are particularly important because they address the domain-specific nature of self-esteem, wherein appearance is an important dimension of self-worth for many young women (Crocker et al. 2003). Interventions should start early, attempting to dissuade pre-adolescent girls from adopting an appearance-centered definition of self, perhaps by calling attention to the untoward aspects of appearance-contingent self-worth, such as excessive body surveillance and feelings of body shame (Noser and Zeigler-Hill 2014). This campaign strategy could be usefully adapted to mass media, and also to popular social media sites, employing standard health campaign pre-testing and formative evaluation.

Social media and contemporary digital technologies are the playing field of today's youth, places where lessons are learned, attitudes are formed, and body image concerns can be cultivated and metastasized into convictions. Research, guided by the model presented in this paper, is needed to illuminate the processes and effects of social media on adolescent girls and young adult women. Theoretically-based studies can offer insights into the subtle, striking effects that new media exert on young adult women, while also generating strategies to help women and men of a variety of ethnic groups adopt healthier attitudes toward their bodies. The insights of researchers in the media and body image arenas should be harnessed to generate new empirical studies. As the venerable theorist of self and others, Hillel, opined, "If not now, when?"

Acknowledgments The author gratefully acknowledges the journal's anonymous reviewers for their excellent suggestions on how to improve the paper, as well as the journal's editor, Dr. Irene H. Frieze, and managing editor, Susan Dittrich, for their extremely helpful recommendations. In addition, I appreciate the insights contributed by Cleveland eating disorder experts Ann Hull, Dr. Tara Tozzi, and Dr. Lucene Wisniewski. Thanks are also due to Jennie A. Ford and Jessica Newell for their incisive insights on the effects of contemporary social media on young women. I also thank Dr. Patricia Burant, Jim Bagwell, Peggy Giavroutas, Crystal Prizner, Chelsea Reynolds, and Dr. Julia A. Krevans for their perceptive thoughts and ideas.

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