Negative comparisons about one's appearance mediate the relationship between Facebook usage and body image concerns

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ABSTRACT

Use of social media, such as Facebook, is pervasive among young women. Body dissatisfaction is also highly prevalent in this demographic. The present study examined the relationship between Facebook usage and body image concerns among female university students ($N = 227$), and tested whether appearance comparisons on Facebook in general, or comparisons to specific female target groups (family members, close friends, distant peers [women one may know but do not regularly socialize with], celebrities) mediated this relationship. Results showed a positive relationship between Facebook usage and body image concerns, which was mediated by appearance comparisons in general, frequency of comparisons to close friends and distant peers, and by upward comparisons (judging one's own appearance to be worse) to distant peers and celebrities. Thus, young women who spend more time on Facebook may feel more concerned about their body because they compare their appearance to others (especially to peers) on Facebook.

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Introduction

For young women in Western society, the Internet is the most commonly used form of media (Bair, Kelly, Serdar, & Mazzeo, 2012; Bell & Dittmar, 2011), and social networking websites, such as Facebook, are used more often than any other websites (Australian Bureau of Statistics, 2013; Tiggemann & Slater, 2013). Given the popularity of social media, it is important to understand its association with young women's body image concerns. Body dissatisfaction has become normative among young women both in high school (Bearman, Presnell, Martinez, & Stice, 2006; Ricciardelli & McCabe, 2001) and in university settings (Berg, Frazier, & Sherr, 2009; Neighbors & Sobal, 2007). The high prevalence of body dissatisfaction among young women is particularly concerning because body dissatisfaction is one of the most robust risk and maintenance factors for eating disorders (Stice, 2002). Sociocultural models of eating disorders highlight the role of the media in the development and maintenance of body image problems (Keery, van den Berg, & Thompson, 2004; van den Berg, Thompson, Obremski-Brandon, & Coovert, 2002), but research connecting the use of social media and body image concerns is sparse.

A few recent studies have found that Facebook usage in general is associated with appearance concerns. For example, research with Australian samples found that preadolescent and adolescent female Facebook users reported greater appearance concerns and dieting behavior than did non-users (Tiggemann & Slater, 2013, 2014). Similarly, research with female high school students in the United States found that Facebook users had higher levels of self-objectification (i.e., placed more value on their appearance than their competence), and made more appearance comparisons than did non-users (Meier & Gray, 2014). Beyond simply comparing users and non-users, research has examined the connection between the amount of time spent on Facebook and appearance concerns. Female primary school and high school students in Australia who reported spending more time on Facebook were more dissatisfied with their appearance, internalized the thin ideal to a greater extent, and had greater drive for thinness (Tiggemann & Miller, 2010; Tiggemann & Slater, 2013, 2014). Research has also found that it is greater exposure to photographs on Facebook, rather than overall Facebook usage, that is associated with greater body dissatisfaction in female high school students (Meier & Gray, 2014). The authors of several of these studies on Facebook usage suggested that appearance comparisons might be the mechanism responsible for the relationship between Facebook usage and body image concerns (Tiggemann & Miller, 2010; Tiggemann & Slater, 2013, 2014), but no research has directly investigated the role of appearance comparisons in this relationship.

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Sociocultural models of body image and disordered eating highlight the role of appearance comparisons in the possible development and maintenance of body dissatisfaction (Fitzsimmons-Craft et al., 2014; Keery et al., 2004; van den Berg et al., 2002; Vartanian & Dey, 2013). In particular, negative body image can result when women make upward appearance comparisons, comparing their appearance to someone whom they believe to be more attractive than themselves (Myers, Ridolfi, Crowther, & Ciesla, 2012; as is the case with many celebrities and fashion models, for example; Leahey & Crowther, 2008). The majority of research on appearance comparisons has focused on comparisons to media images through magazines, television, or music videos (Myers & Crowther, 2009), and exposure to these traditional media types has been found to lead to greater body image concerns in young women (Bell, Lawton, & Dittmar, 2007; Groesz, Levine, & Murnen, 2002; Halliwell & Dittmar, 2004; Hargreaves & Tiggemann, 2004). Furthermore, research examining exposure to these traditional media types has found that people's tendency to compare their appearance to the appearance of others accounted for the relationship between media exposure and women's body dissatisfaction (Tiggemann & McGill, 2004; Tiggemann & Slater, 2004). That is, media exposure is linked to body dissatisfaction because of appearance comparison. Similar processes might be at play in the context of social media. Given the vast number of images that are uploaded to Facebook every day (Mayer-Schönberger & Cukier, 2013), this platform provides women with regular opportunities to make appearance comparisons with others. Furthermore, because people tend to present an idealized version of the self on social media (Manago, Graham, Greenfield, & Salimkhan, 2008; Zhao, Grasmuck, & Martin, 2008), upward comparisons to other Facebook users may be particularly likely.

Another important feature of sociocultural models of body image, such as the tripartite influence model (van den Berg et al., 2002), is the emphasis on appearance-related pressures from different sources, including one's family, peers, and the media. Similarly, it may be that examining appearance comparisons to women within these different groups (family, peers, models/celebrities) can play an important role in understanding the development of body image concerns. Unlike more traditional forms of media (such as magazines and television), which predominantly features images of models, celebrities, or other strangers, social media (such as Facebook) contains images of a variety of different types of individuals. Facebook generally features known others (or "friends") who vary in relational closeness to the user, including family members, close friends, and distant peers (i.e., people the viewer may know but does not regularly socialize with in person). In addition, when using Facebook, people are also exposed to images of models and celebrities through advertisements, fan pages, and other commercial pages. Despite being exposed to a variety of different target groups on Facebook, people mainly use Facebook to interact with their peers (Hew, 2011), and having more "friends" on Facebook has been associated with greater body image concerns among female high school students (Tiggemann & Slater, 2013). There is also some evidence to suggest that appearance comparisons to peers may have a stronger association with body image concerns than does comparisons to models or celebrities (Carey, Donaghue, & Broderick, 2014), perhaps because the appearance of peers may be seen as more personally attainable than the appearance of celebrities. However, these effects have not been consistent in the literature (Leahey & Crowther, 2008; Ridolfi, Myers, Crowther, & Ciesla, 2011; Schutz, Paxton, & Wertheim, 2002). Given that Facebook contains images of a variety of potential comparison targets varying in relational closeness, it is important to examine whether the frequency and direction of comparisons to specific target groups accounts for the relationship between Facebook usage and women's body image concerns.

The Present Study

Overall, the aims of this correlational study are to: (a) investigate the relationship between the frequency of Facebook usage and body image concerns among female university students; and (b) examine whether appearance comparisons in general or comparisons to different target groups on Facebook account for this relationship. Extrapolating from previous research (Tiggemann & Miller, 2010; Tiggemann & Slater, 2013, 2014), we predict that greater Facebook usage would be associated with higher levels of body image concerns. Furthermore, based on research using traditional media types (Tiggemann & McGill, 2004; Tiggemann & Slater, 2004), appearance comparisons to women on Facebook are expected to mediate, or account for, the relationship between Facebook usage and body image concerns. Finally, the frequencies and directions (i.e., whether the target was judged to be more [upward comparison] or less [downward comparison] attractive than oneself) of appearance comparisons to different target groups on Facebook are expected to be differentially associated with women's body image concerns. Given that Facebook is generally used to interact with one's peers (Hew, 2011), and that having more "friends" on Facebook is associated with greater appearance concerns (Tiggemann & Slater, 2013), appearance comparisons to peers on Facebook are expected to have the strongest association with young women's body image concerns.

Method

Participants

Participants (*N* = 227) were female first-year psychology students at a large public university in eastern Australia. Power analysis indicated that this sample size was sufficient to detect small-to-medium effects with 80% power and alpha set at .05. The mean age of participants was 19.13 years (*SD* = 2.21), and their mean Body Mass Index (BMI: kg/m^2) was 21.41 (*SD* = 3.93). One-hundred-and-five participants (46.3%) identified as White, 95 (41.9%) identified as Asian, and 27 (11.8%) identified as "other."

Measures

Facebook usage. Two questions were used to measure how much time participants usually spend on Facebook: "On a typical day, how often do you check Facebook (even if you are logged on all day)?" (1 = *not at all*, 2 = *once a day*, 3 = *every few hours*, 4 = *every hour*, 5 = *every 30 minutes*, 6 = *every 10 minutes*, 7 = *every 2 minutes*); and "Overall, how long do you spend on Facebook on a typical day?" (1 = *5 minutes or less*, 2 = *15 minutes*, 3 = *30 minutes*, 4 = *1 hour*, 5 = *2 hours*, 6 = *4 hours*, 7 = *6 hours*, 8 = *8 hours*, 9 = *10 hours or more*). Because these indicators were highly correlated, *r* = .57, *p* < .001, responses on these two questions were standardized and then averaged to form a single measure of Facebook usage.

Facebook appearance comparisons in general. Three statements taken from the Physical Appearance Comparison Scale (PACS; Thompson, Heinberg, & Tantleff, 1991) were modified to measure participants' tendency to compare their appearance to others on Facebook. These three statements were chosen because they refer to the specific situation or place where the comparisons take place (e.g., "at parties or social events") and could therefore be modified to address comparisons through Facebook. Participants were asked to indicate their level of agreement on a 5-point scale (1 = *definitely disagree*, 5 = *definitely agree*) with each of the following statements: "When using Facebook, I compare my physical appearance to the physical appearance of others," "When using Facebook, I compare how I am dressed to how other people are dressed," and