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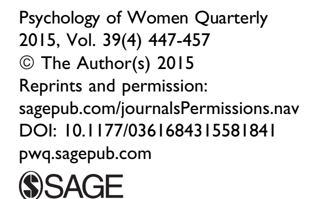

The Mediating Role of Appearance Comparisons in the Relationship Between Media Usage and Self-Objectification in Young Women

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Abstract

The media's portrayal of women is often sexually objectifying, and greater exposure to objectifying media is associated with higher levels of self-objectification among young women. One reason why media usage may be associated with self-objectification is because women may be comparing their appearance to others in the media. The present study examined (a) the relationship between the usage of different media types (online social media [Facebook], Internet, television, music videos, and magazines) and self-objectification among young women, (b) whether appearance comparison tendencies in general mediated any observed relationships, and (c) whether appearance comparisons to specific types of women on Facebook (self, family, close friends, distant peers, and celebrities) mediated any relationship between Facebook usage and self-objectification. Female participants ($N = 150$) aged 17–25 years completed questionnaires about their media usage, appearance comparison tendency in general, appearance comparisons to specific target groups on Facebook, and self-objectification. Results showed that Facebook usage and magazine usage were positively correlated with self-objectification and that these relationships were mediated by appearance comparisons in general. In addition, the relationship between Facebook usage and self-objectification was mediated by comparisons to one's peers on Facebook. These findings suggest that appearance comparisons can play an important role in self-objectification among young women.

Keywords

objectification, body image, social comparison, mass media, social media, physical appearance

The media's portrayal of women is often sexually objectifying because it focuses on women's appearance rather than on their personality or abilities (Aubrey & Frisby, 2011; Baker, 2005). According to objectification theory (Fredrickson & Roberts, 1997), experiences of sexual objectification, such as exposure to objectifying media, can lead women to view themselves from an observer's perspective and thus view their body as an object to be gazed upon (termed *self-objectification*). Indeed, research has found that exposure to sexually objectifying media—such as thin-ideal or sexually objectifying magazine images (Halliwell, Malson, & Tischner, 2011; Harper & Tiggemann, 2008; Morry & Staska, 2001), television (Aubrey, 2006), and music videos (Grabe & Hyde, 2009; Prichard & Tiggemann, 2012)—is associated with greater self-objectification in young women. Objectification theory proposes that self-objectification can lead to negative outcomes, such as body shame and anxiety, which in turn can lead to depression, sexual dysfunction, and eating disorders (Fredrickson & Roberts, 1997).

Consistent with objectification theory, there is empirical evidence showing that self-objectification is associated with negative outcomes that are harmful to women's well-being (Moradi & Huang, 2008). For example, self-objectification is associated with higher levels of depression (Peat & Muehlenkamp, 2011), body dissatisfaction (Fitzsimmons-Craft & Bardone-Cone, 2012; Strelan & Hargreaves, 2005), and disordered eating (Lindner, Tantleff-Dunn, & Jentsch, 2012; Tiggemann & Williams, 2012; Tylka & Hill, 2004). Although self-objectification and body dissatisfaction are associated with one another (Halliwell et al., 2011; Lindner et al., 2012), they are two separate constructs. Whereas body dissatisfaction describes the extent to which individuals are dissatisfied with

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their appearance and is thus evaluative, self-objectification describes the degree to which individuals prioritize their observable physical appearance traits and hence is not evaluative (Calogero, 2011). In addition, self-objectification can occur within women who are satisfied or dissatisfied with their appearance (Calogero, 2011).

There are several reasons why media usage may be associated with self-objectification among women. First, greater usage of sexually objectifying media may be associated with higher levels of self-objectification because these media focus on women's physical appearance (Aubrey & Frisby, 2011; Baker, 2005) and place pressure on women to focus on their own appearance (Fredrickson & Roberts, 1997). Second, the media's portrayal of women is often highly sexualized, with images of women in subordinate roles, images of males gazing at or touching women, and images containing only parts of women's bodies without showing their faces. By viewing images of other women being sexually objectified in the media, women may in turn feel objectified themselves (Harper & Tiggemann, 2008). Finally, exposure to objectifying media may be associated with self-objectification because women tend to compare their appearance to others in the media (Leahey, Crowther, & Mickelson, 2007), and these appearance comparisons, in turn, increase the salience of their own appearance (Tylka & Sabik, 2010). We focus on this latter process (i.e., the connection between social comparison and self-objectification) in the present research.

Appearance Comparisons

According to social comparison theory, people have a drive to evaluate their progress and standing on various aspects of their lives and, in the absence of objective standards, compare themselves to others to know where they stand (Festinger, 1954). Indeed, research shows that women regularly evaluate their appearance by comparing themselves to others (Leahey et al., 2007) and that a greater tendency to make appearance comparisons is associated with greater body dissatisfaction (Myers & Crowther, 2009) and disordered eating (Keery, van den Berg, & Thompson, 2004). Objectification theory proposes that the negative consequences of self-objectification may result from women continually comparing their appearance to an unattainable cultural thin ideal and coming up short (Fredrickson & Roberts, 1997).

Correlational studies have found an association between self-objectification and appearance comparisons (Lindner et al., 2012; Tylka & Sabik, 2010), and those authors argue that this relationship may be bidirectional. This perspective is consistent with the *circle of objectification* proposed by Strelan and Hargreaves (2005), which suggests that women who self-objectify seek out appearance comparisons and these comparisons in turn lead to greater self-objectification. Specifically, Strelan and Hargreaves argued that an increased focus on one's appearance (i.e., high self-objectification) could lead to a greater tendency to make appearance comparisons and that, when making appearance comparisons to others, one's own body and the body of the comparison target (e.g., a model in a magazine) are effectively reduced to objects, which may lead to an increase in self-objectification. To date, however, there is no direct evidence that women's tendency to make appearance comparisons to others accounts for the relationship between the usage of either traditional (magazines, television, and music videos) and newer online (social media [Facebook] and Internet) media types and self-objectification.

Media Usage and Self-Objectification

Most research on media usage and self-objectification has focused on traditional media formats, such as print magazines, television, and music videos. This research has found that greater exposure to media that focuses on women's appearance—such as objectifying magazines images (Halliwell et al., 2011; Harper & Tiggemann, 2008; Morry & Staska, 2001), television programs (Aubrey, 2006), and music videos (Grabe & Hyde, 2009; Prichard & Tiggemann, 2012)—is associated with greater self-objectification in young women. However, online social networking websites such as Facebook are becoming increasingly popular among young women who have reported spending around 2 hours/day on Facebook (Australian Bureau of Statistics, 2013; Fardouly & Vartanian, 2015; Tiggemann & Slater, 2013). Thus, it is important for researchers to consider how these newer media are related to self-objectification.

Facebook allows users to create personal profiles and to customize their profile with photographs and information about themselves. Given the large number of images posted to Facebook (currently over 250 billion images; Facebook, 2013), as well as the appearance-related comments they often receive from others, Facebook may well be considered an appearance-focused media type. Consequently, it is possible that spending time on Facebook would be associated with greater self-objectification in women. Despite the popularity of Facebook among young women, few studies have investigated the relationship between Facebook usage and self-objectification. One study found that the amount of time spent on social networking websites (as well as fashion magazines and music videos, but not television) was associated with greater self-objectification among female high school students (Vandenbosch & Eggermont, 2012). Similarly, Slater and Tiggemann (2015) found that time spent on social networking websites (as well as objectifying magazines, but not television or the Internet in general) was associated with greater self-objectification. Another study, which looked more specifically at Facebook usage, found that it was greater exposure to photographs on Facebook that was associated with self-objectification in adolescent girls (Meier & Gray, 2014). Together, these findings suggest that social media in general (and Facebook in particular) are worth examining in relation to self-objectification.

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One unique feature of the images available on Facebook compared to the images available in more traditional media types (e.g., print fashion magazines) is the types of people these images contain. Traditional forms of media generally include images of models, celebrities, and other strangers, whereas Facebook mainly contains images of people who are known to the user. Of course, within the group of "known" others on Facebook, there are people who vary in relational closeness to the user, such as family members, close friends, and distant peers (people one may know but with whom they do not regularly socialize). Although Facebook is typically used to interact with one's peers (Hew, 2011), Facebook may also contain images of models and celebrities (through advertisements and fan or commercial pages for companies, products, and celebrities) that users can "like" and follow. Thus, Facebook provides users with a wide variety of different targets to whom they can potentially compare their own appearance.

One study focusing on body image concerns examined women's appearance comparisons to different target groups on Facebook and found that it was comparisons to peers (close friends and distant peers) that mediated the relationship between Facebook usage and women's body image concerns, whereas comparisons to family members and celebrities did not (Fardouly & Vartanian, 2015). The authors argued that comparisons to peers may have been more strongly associated with body image concerns among young women than were comparisons to female family members or celebrities because peers may be seen as more relevant comparison targets than these other target groups. Family members may not be seen as being as relevant a comparison target as one's peers due to the varying age of female family members (e.g., mother, aunt, and grandmother). In addition, celebrities may not be seen as being as relevant a comparison target as one's peers because the appearance of peers may be more personally attainable than the appearance of celebrities due to the more similar lifestyle and resources that peers may have. Just as comparisons to different target groups on Facebook were differentially associated with body image concerns, comparisons to different target groups on Facebook might also be differentially associated with self-objectification among young women. For example, appearance comparisons to peers on Facebook may be most strongly associated with self-objectification because the appearance of peers may be more salient and memorable than is the appearance of family members or celebrities, perhaps because the appearance of peers may be seen as more personally attainable.

Another unique feature of Facebook is that, unlike more traditional media types, Facebook contains images of the user. People often upload images of themselves to their Facebook profiles and photo albums as well as use images of themselves as their profile picture, and their friends and family members may also upload images of them to Facebook. Thus, Facebook provides people with regular opportunities to make appearance comparisons to their previous self. Comparisons to one's previous (or future) self are known as *temporal comparisons* (Albert, 1977) and, along with social comparisons to others, can be used as a form of self-evaluation (Wilson & Ross, 2000; Zell & Alicke, 2009). According to temporal comparison theory (Albert, 1977), comparisons to one's self at different points in time may function as a way to maintain a sense of identity over time. However, research investigating temporal appearance comparisons is sparse. One study by Franzoi and colleagues (2012) found that women were more likely to make appearance comparisons to others whom they perceived to be more attractive than themselves (upward comparisons) than they were to make appearance comparisons to their past or future selves. However, the authors also found that, along with upward appearance comparisons to others, appearance comparisons to one's previous and future self were associated with greater body concerns.

Given the number of images of one's previous self that appear on Facebook, this medium also provides the opportunity to measure the frequency of appearance comparisons to one's previous self, as well as the connection of such comparisons to self-objectification. Not only does Facebook provide people with ample opportunity to make self-comparisons (perhaps more so than in everyday life), but also comparing one's appearance to images of one's self on Facebook may be particularly objectifying because, in such circumstances, one is literally looking at oneself from an observer's perspective. Furthermore, these self-comparisons to images of a previous self might engender a greater focus on specific body parts, also contributing to self-objectification.

The Present Study

Overall, the aims of the present study are to investigate (a) the relationship between the usage of different media types (Facebook, Internet, television, music videos, and fashion magazines) and self-objectification in young women, (b) if appearance comparisons to others in general mediate any observed relationships between media usage and self-objectification, and (c) if appearance comparisons to specific target groups on Facebook (self, family, close friends, distant peers, and celebrities) mediate any relationship between Facebook usage and self-objectification. Based on the results of previous research (Slater & Tiggemann, 2015; Vandenbosch & Eggermont, 2012), we predict that print magazine, music video, and Facebook usage will be positively correlated with self-objectification, but that television (in general) and Internet (in general) usage will be unrelated. Television usage and Internet usage are not expected to be associated with self-objectification due to the wide variety of content (both appearance and nonappearance focused) available on these media. We further hypothesize that any relationship between media usage and self-objectification will be mediated by appearance comparison tendency in general. Based on previous research (Fardouly & Vartanian, 2015), we also predict that comparisons to peers (close

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friends and distant peers) on Facebook will mediate any relationship between Facebook usage and self-objectification. Because no known previous research has investigated the mediating role of appearance comparisons on media usage and self-objectification, these last two mediation hypotheses are largely exploratory.

Method

Participants

Participants ($N = 150$) were female university students and staff members at a university in the United Kingdom between 17 and 25 years ($M = 20.52$, $SD = 1.73$). Their mean body mass index (BMI: kg/m^2) was 23.30 ($SD = 4.16$, range = 14.72–40.90), which falls within the "normal-weight" range. Note that all analyses reported subsequently did not change when controlling for participants' age and BMI. The majority of participants identified as White ($n = 114$, 76%), 15 (10%) as Asian, 9 (6%) as Black, 5 (3.3%) as mixed race, and 5 (3.3%) as "other"; ethnicity information was missing for two women. Participants were recruited through the university's psychology student participant pool ($n = 53$) and given course credit for their participation or through flyers posted around the university ($n = 97$) and paid £10 for their participation.

Design, Procedure, and Measures

Our study employed a cross-sectional design with an online self-report questionnaire. In order to reduce demand characteristics, our study was described to participants as an investigation into the influence of media use on memory. Participants were sent an e-mail with a link to the online questionnaire that included measures of media usage (Facebook, Internet, television, music videos, and fashion magazines), appearance comparison tendency in general, frequency of appearance comparisons to specific target groups on Facebook, and self-objectification, as well as other measures related to the self and appearance. In keeping with the cover story, participants also completed questionnaires related to memory. All measures were presented in a counterbalanced order. Finally, participants were asked to report their age, ethnicity, and height and weight (used to calculate BMI). These data were collected as part of a larger experimental study (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015), but there was no overlap in the research questions addressed in the studies. The experiment was completed 1 week before participants were sent the online survey for the present study, and the experiment is therefore unlikely to have had any carryover effects on the present study.

Media usage. Participants were asked to report how often they use a variety of different media types (Facebook, Internet, television, music videos, and print magazines). The questions and anchors were chosen to suit the nature of the specific medium and the way in which people commonly use them. For television, music video, Internet, and Facebook, participants were asked to report how long they spend using each media type on a typical day: "Overall, how long do you spend watching television on a typical day?" Response options and their coding were 1 (*5 minutes or less*), 2 (*15 minutes*), 3 (*30 minutes*), 4 (*1 hour*), 5 (*2 hours*), 6 (*3 hours*), 7 (*4 hours*), 8 (*5 hours*), 9 (*6 hours*), 10 (*7 hours*), 11 (*8 hours*), 12 (*9 hours*), and 13 (*10 hours or more*). A supplementary question was asked about Facebook usage: "How often do you check Facebook on a typical day, even if you are "logged on" all day?" Response options and their coding were 1 (*not at all*), 2 (*once a day*), 3 (*every few hours*), 4 (*every hour*), 5 (*every 30 minutes*), 6 (*every 10 minutes*), and 7 (*every 2 minutes*). Responses on the two Facebook usage questions were highly correlated, $r = .57$, $p < .001$, and were therefore standardized and then averaged to form a single measure of Facebook usage. For magazine usage, participants were asked to report on how often they read women's fashion magazines, with responses and coding of 0 (*never*), 1 (*sometimes*), and 2 (*almost every time they come out*).

Appearance comparisons in general. The Upward and Downward Appearance Comparison Scale (O'Brien et al., 2009) was used to measure participants' general tendency to compare their appearance to others. Participants responded to 18 items regarding their tendency to compare their appearance to others whom they perceive to be better looking (e.g., "When I see good-looking people I wonder how I compare to them") or worse looking (e.g., "I compare myself to people less good looking than me") than themselves by indicating their level of agreement with each statement from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were averaged, with higher scores reflecting a greater tendency to compare one's appearance to others (Cronbach's $\alpha = .91$).

Comparisons to specific target groups on Facebook. Participants were asked to report how often they compared their appearance to six different female target groups when looking at images on Facebook. Participants were informed that the question "refers to people of the same sex as you" and were asked, "When looking at photos of the following people on Facebook, how often do you compare your appearance to theirs?" with response options ranging from 1 (*never*) to 5 (*very often*). The female target groups included previous self, family members, close friends (people you are friends with on Facebook and regularly hang out with), Facebook friends (people you are friends with on Facebook but don't regularly hang out with), friends of friends (people you know but are not friends with on Facebook and you do not regularly hang out with), and celebrities (e.g., actors, musicians, and models). Ratings for the Facebook friends and friend of friends target groups were averaged to form a single measure labeled as *distant peers* (Cronbach's $\alpha = .80$).

Self-objectification. The Self-Objectification Questionnaire (SOQ; Noll & Fredrickson, 1998) was used to measure the extent to which participants view their body in terms of its

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appearance (objectified) or competence (non-objectified). Participants were asked to rank how important 10 attributes are to their physical self-concept, from 1 (*most important*) to 10 (*least important*), and were instructed to "use the computer mouse to click, drag, and drop each attribute to the appropriate place" on rows labeled 1 to 10. Half the attributes were appearance-related (weight, sex appeal, firm/sculpted muscles, physical attractiveness, and measurements) and the other half were competency-related (physical coordination, health, strength, physical fitness, and energy level). The sum of the competency items was subtracted from the sum of the appearance items to obtain a total score (ranging from −25 to +25), with higher scores indicating greater self-objectification. The SOQ has good construct validity (Noll & Fredrickson, 1998).

Results

Media Usage

Descriptive statistics were calculated for the magazine, television, music video, and Internet usage questions, as well as separately for the two Facebook usage questions (before they were combined to form a single item). Participants reported spending around 2 hours/day on Facebook ($M = 5.23$, $SD = 2.26$, range = 1–13) and checked Facebook around "every few hours" ($M = 2.85$, $SD = 1.22$, range = 0–6). Participants also reported spending around 5 hours/day on the Internet (overall, including Facebook: $M = 7.89$, $SD = 2.22$, range = 3–13), 2 hours/day watching television ($M = 5.25$, $SD = 2.10$, range = 1–13), 15 minutes/day watching music videos ($M = 2.35$, $SD = 1.76$, range = 1–9), and "sometimes" reading women's fashion magazines ($M = 0.78$, $SD = 0.61$, range = 0–2).

Media Usage and Self-Objectification

We examined the correlation between each type of media usage and self-objectification. Magazine usage ($r = .31$, $p < .001$) and Facebook usage ($r = .28$, $p = .001$) were both significantly positively correlated with self-objectification, but usage of the Internet, television, and music videos were not (rs $< |.09|$, ps $> .39$). In addition, both magazine usage ($r = .20$, $p = .02$) and Facebook usage ($r = .26$, $p = .003$) were positively correlated with general appearance comparison tendency, but usage of the Internet, television, and music videos were not (rs $< |.15|$, ps $> .10$).

Next, we conducted mediation analyses using the bootstrapping procedure described by Preacher and Hayes (2008) to test the hypothesis that the relationship between Facebook/magazine usage and self-objectification would be mediated by appearance comparisons in general. Bootstrapping involves repeatedly sampling from the data set (in this case, 5,000 bootstrap resamples) to create an approximation of the sampling distribution of the indirect effect and to generate confidence intervals (CIs) for these effects. The indirect effect is considered statistically significant if the CI does not include zero. Consistent with our hypothesis, mediation analysis using bias-corrected 95% CIs showed that general appearance comparison tendency mediated the relationship between magazine usage and self-objectification, 95% CI [0.24, 2.66] (see Figure 1a), and between Facebook usage and self-objectification, 95% CI [0.30, 2.01] (see Figure 1b).

Comparisons to Specific Target Groups on Facebook

Next, we conducted a repeated measures analyses of variance to test whether the frequency of appearance comparisons varied by target group (self, family members, close friends, distant peers, and celebrities). As seen in Table 1a, participants reported comparing their appearance most often to images of themselves, then to their close friends and distant peers, and least often to celebrities and family members. Correlations were then calculated between the frequencies of appearance comparisons to each of the five target groups with both Facebook usage and self-objectification (see Table 1b). Appearance comparisons to images of themselves, close friends, and distant peers were significantly positively correlated with both Facebook usage and self-objectification. Additionally, appearance comparison with celebrities was significantly positively correlated with self-objectification, but not with Facebook usage, so that this target group was not considered in our subsequent analyses.

We tested the frequency of appearance comparisons to each of the relevant target groups (themselves, close friends, and distant peers) as a potential mediator of the association between Facebook usage and self-objectification. Unexpectedly, comparisons to one's previous self, 95% CI [−0.01, 1.15], did not mediate the relationship between Facebook usage and self-objectification. Consistent with our hypothesis, however, mediation analyses revealed that comparisons to close friends, 95% CI [0.23, 1.80] (see Figure 2a), and distant peers, 95% CI [0.60, 2.35] (see Figure 2b), each mediated this relationship. Multiple mediation analysis was also conducted in order to compare the strength of the indirect effects. There was no difference in the strength of the indirect effect for comparisons to close friends or distant peers, 95% CI [−1.80, 1.00]; comparisons to themselves or distant peers, 95% CI [−2.02, 0.35]; or comparisons to themselves or close friends, 95% CI [−1.36, 0.41]. Furthermore, when tested together, only comparisons to distant peers, 95% CI [0.03, 1.92], mediated the relationship between Facebook usage and self-objectification; comparisons to themselves, 95% CI [−0.30, 0.79], and to close friends, 95% CI [−0.06, 1.36], did not mediate this relationship.

Discussion

The results of the present study showed that both Facebook usage and magazine usage were significantly correlated with self-objectification, but the use of television, music videos, and the Internet in general were not. These findings are similar to those reported by Vandenbosch and Eggermont (2012)

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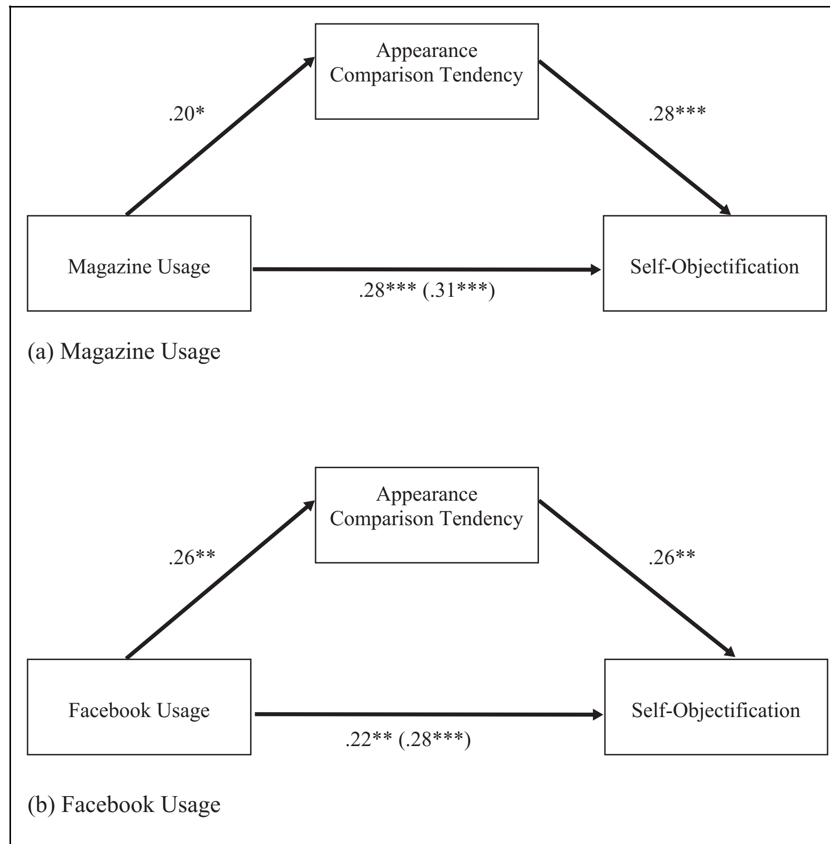

Figure 1. Mediational models for the indirect effects of appearance comparison tendency on the relationship between (a) magazine usage and self-objectification and (b) Facebook usage and self-objectification. All numbers are standardized β weights. Numbers in parentheses represent the direct, unmediated effects. *p < .05. **p < .01. ***p < .001.

Table 1. Descriptive Statistics and Correlations for Appearance Comparisons to Target Groups.

	Target Groups				
	Themselves	Family	Close Friends	Distant Peers	Celebrities
	(a) Descriptive Statistics for appearance comparisons				
Mean	3.59_a	2.31_c	3.07_b	3.01_b	2.39_c
SD	1.08	1.07	1.10	0.94	1.22
	(b) Correlations with appearance comparisons				
Facebook usage	0.17*	−0.03	0.21*	0.28***	0.06
Self-objectification	0.19*	0.14	0.33***	0.37***	0.23***

Note. Appearance comparison frequencies were rated on a scale from 1 (*never*) to 5 (*very often*). For the appearance comparisons, means with different subscripts are significantly different from each other at p < .001.
*p < .05. ***p < .001.

who found that magazines and social networking websites were associated with self-objectification, but television usage was not (also see Slater & Tiggemann, 2015). However, unlike our study on female university students, in Vandenbosch and Eggermont's (2012) female adolescent sample, the usage of music videos was also associated with self-objectification. This discrepancy may be due to the relatively limited amount of time that our older participants spent watching music videos.

Participants in the present study reported spending significant amounts of time watching television (around 2 hours/day) and browsing the Internet (around 5 hours/day), but these media types were not associated with self-objectification. The lack of association between overall

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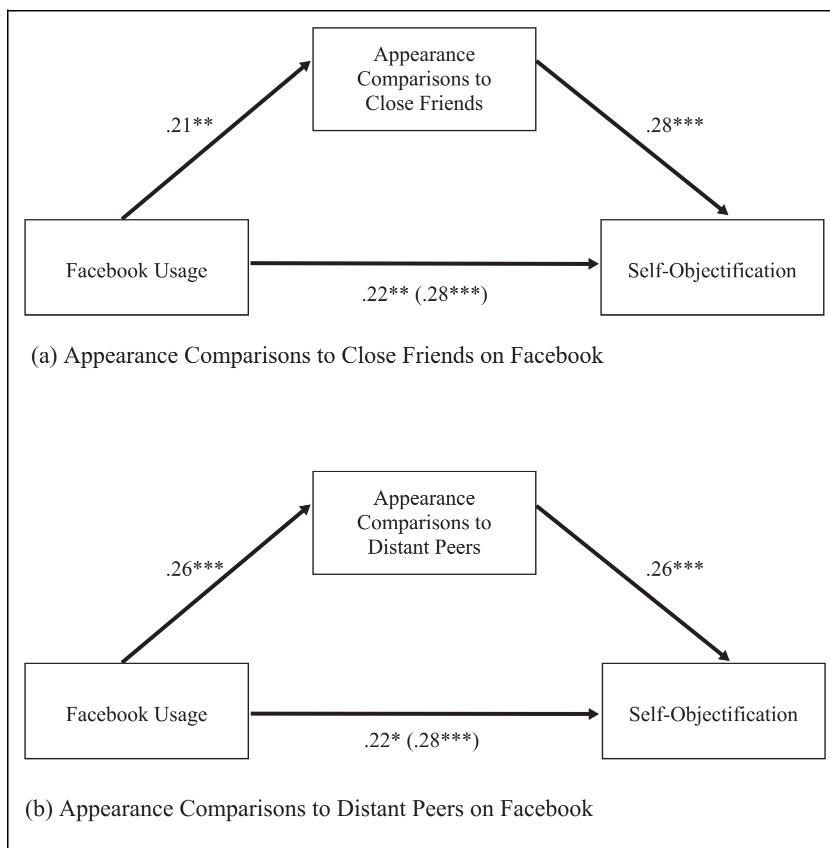

Figure 2. Mediational models for the indirect effects of appearance comparisons to (a) close friends and (b) distant peers on the relationship between Facebook usage and self-objectification. All numbers are standardized β weights. Numbers in parentheses represent the direct, unmediated effects. $*p < .05$. $**p < .01$. $***p < .001$.

television/Internet usage and self-objectification may be due to the wide variety of content available to view on those media formats. For example, television contains both appearance- and nonappearance-focused programs. Similarly, Internet websites can be focused on appearance or not. In contrast, fashion magazines contain many images, advertisements, and articles related to women's appearance (Baker, 2005). Similarly, Facebook contains a large amount of images (Facebook, 2013), with over 10 million new photos uploaded to Facebook every hour (Mayer-Schönberger & Cukier, 2013) that often receive appearance-related commentary from others, and young women have reported spending around 40% of their time on Facebook engaging in photo-based activities (Meier & Gray, 2014). Thus, although the content in fashion magazines and on Facebook also varies, these media may contain a higher proportion of appearance-related content than television (in general) and the Internet (in general) and may therefore be considered more appearance-focused media types that can have more of an impact on young women's self-objectification. Of course, it may be that, rather than overall television and Internet usage, viewing specific sexually objectifying television programs (Aubrey, 2006) and sexually objectifying websites (Bair, Kelly, Serdar, & Mazzeo, 2012) are associated with greater self-objectification and appearance concerns among young women.

Building upon previous research (Halliwell et al., 2011; Harper & Tiggemann, 2008; Meier & Gray, 2014; Morry & Staska, 2001; Slater & Tiggemann, 2015; Vandenbosch & Eggermont, 2012), we also found that general appearance comparison tendency mediated the relationship between print magazine usage and self-objectification, as well as between Facebook usage and self-objectification. When comparing one's appearance to others viewed via these media types, one must frequently focus on the appearance of both oneself and the comparison targets. This process is likely to make one's own appearance attributes more salient and possibly lead one to place more importance on physical appearance than on competence, personality, or skills. However, future experimental research examining the impact of appearance comparisons on self-objectification is needed to support this suggestion.

Although there is evidence to suggest that magazine usage is declining among young women (Bell & Dittmar, 2011), this demographic has reported spending large amounts of time on Facebook (Fardouly & Vartanian, 2015; Tiggemann & Slater, 2013). Given the popularity of Facebook usage among young women (Fardouly & Vartanian, 2015; Tiggemann & Slater, 2013), and given that appearance comparison tendency and self-objectification have both been associated with body dissatisfaction and disordered eating (Lindner et al., 2012;

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Stice, 2002; Tiggemann & Williams, 2012), the present research highlights the need for experimental research to investigate the causal impact of Facebook usage on self-objectification through appearance comparisons.

Because Facebook contains a variety of different comparison targets, we examined whether comparisons to specific target groups mediated the relationship between Facebook usage and self-objectification. Interestingly, participants reported comparing their appearance most frequently to images of themselves on Facebook, followed by their peers (close friends and distant peers), and rarely to family members and celebrities. Temporal comparisons, or comparisons to images of themselves, on Facebook may be particularly common due to people's emphasis on self-presentation on Facebook (Haferkamp, Eimler, Papadakis, & Kruck, 2012; Wilson, Gosling, & Graham, 2012). When monitoring their self-presentation on Facebook, women may compare their current appearance to images of their previous appearance. Thus, the frequency of appearance comparisons to one's self on Facebook may be related to the amount of time individuals spend monitoring their self-presentation on Facebook.

In addition to examining the overall frequency of comparisons, we examined the extent to which comparisons to each target group were associated with Facebook usage and self-objectification. Appearance comparisons to images of one's self on Facebook, as well as comparisons to close friends and distant peers, were all positively correlated with both Facebook usage and self-objectification. However, the correlations with images of one's self were relatively weak and, similar to the findings of past research on young women's body image concerns (Fardouly & Vartanian, 2015), it was appearance comparisons to peers (both close friends and distant peers) that mediated the relationship between Facebook usage and self-objectification. Thus, although appearance comparisons to the self are more frequent on Facebook, they appear to be less meaningful than comparisons to one's peers.

One possible reason for why appearance comparisons to peers rather than to the self may have mediated the relationship between Facebook usage and self-objectification is that the discrepancy between how an individual looks and how an image of themselves looks is smaller than the discrepancy between how that individual looks and how an image of a peer looks. Women may think that looking like a previous image of themselves is attainable and, therefore, appearance comparisons to attractive images of themselves on Facebook might lead to self-enhancement rather than to an increased focus on their appearance and self-objectification. When it comes to peers, however, their appearance might be perceived as attainable enough to serve as relevant targets of comparison but also unattainable enough to still influence how women evaluate their own appearance. These suggestions are speculative and further research is needed to determine whether the salience of peers as an appearance comparison target may be driven by the perceived attainability of the peers' appearance.

Limitations and Future Directions

Several limitations to the present study should be noted. First, because this was a correlational study, we cannot infer causation and, therefore, we do not know if spending time on Facebook leads to more self-objectification or if women who already self-objectify spend more time on Facebook. Consistent with Strelan and Hargreaves's (2005) circle of objectification theory, it may also be that the relationship is bidirectional: that is, Facebook's focus on self-presentation might lead to more self-objectification because it offers women who already self-objectify further opportunity to present themselves as an image or persona to be observed. Future experimental research is needed to establish a causal link between Facebook usage and self-objectification and also to test whether acute Facebook exposure leads to increased state self-objectification in young women.

Second, in the present study, we focused on exposure to different media types in general as a first step in determining whether the relationship between media usage and self-objectification is mediated by appearance comparison tendency. Future research could focus on specific aspects of these media types that may be driving these effects, such as specific sexually objectifying television programs or websites, images containing particular people, or content containing appearance-related messages.

Third, the present study included Facebook as an example of social media because of its immense popularity, but the use of other social media types such as Instagram, Twitter, or Pinterest may emphasize appearance and may therefore also be associated with self-objectification. In fact, unlike Facebook, which contains a mixture of images and text, other social media types (e.g., Instagram) are predominantly image-based and may therefore have even stronger effects on young women's self-objectification. Future research is needed to examine the impact of other social media types on women's self-objectification.

Fourth, unlike traditional media that contain images that focus primarily on the body, women have been found to upload more portrait pictures than full-bodied pictures to their Facebook profiles (Haferkamp et al., 2012), which would in turn provide women with more opportunities to make facial comparisons than body comparisons. Although both body comparisons and facial comparisons may increase focus on one's appearance, they may be associated with different forms of appearance concern and therefore with different consequences. Further research is needed to examine whether both facial comparisons and body comparisons fit within the objectification theory framework. Finally, because the present study was conducted on relatively small homogenous convenience sample, further research is needed to test whether the results of the present study are generalizable to a larger, more diverse, and more representative sample.

The findings of the present study highlight the importance of appearance comparisons in the possible development of

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self-objectification through media usage. The influence of appearance comparisons has been largely overlooked in the self-objectification literature, and our findings highlight the need for future self-objectification research to consider the influence of appearance comparisons. In addition, our findings show that appearance comparisons to different target groups are differentially associated with self-objectification and thus future self-objectification research should consider the impact of different comparison targets, including self-comparisons.

Practice Implications

The findings of the present study have implications for body image and disordered eating intervention programs. Young women's appearance comparison tendency is positively associated with both self-objectification (Lindner et al., 2012; present study) and body dissatisfaction (Fardouly & Vartanian, 2015; Tiggemann & McGill, 2004; Tiggemann & Slater, 2004), which have both been found to be associated with eating disorders (Lindner et al., 2012; Stice, 2002; Tiggemann & Williams, 2012). Therefore, intervention programs could focus on reducing any negative impact of appearance comparisons through different media types, including Facebook, to improve the well-being of young women. For example, because the usage of appearance-focused media is associated with self-objectification, and because women report spending large amounts of time on Facebook (compared to magazine usage), women could be encouraged to reduce the appearance focus of their profile and newsfeed. In addition, women could be encouraged to "follow" pages on Facebook that are not overly appearance focused (in regard to posted images of people) and post less appearance-based content themselves. Reducing the amount of appearance-based content available on Facebook would reduce the opportunities that women have to make appearance comparisons and could increase the occurrence of nonappearance comparisons, which can be beneficial (Lew, Mann, Myers, Taylor, & Bower, 2007).

Conclusions

Overall, Facebook usage and magazine usage were both associated with greater self-objectification, and these relationships were mediated by women's appearance comparison tendency. However, the usage of music videos, television (in general), and the Internet (in general) were not associated with self-objectification. These findings highlight that media usage in a general sense is not associated with self-objectification but rather that specific media types that focus on women's appearance are linked with greater self-objectification. Because participants reported spending large amounts of time on Facebook, future research is needed to examine the specific influence of Facebook on self-objectification in young women, particularly focusing on the influence of appearance comparisons to peers on Facebook.

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