Tennessee v. Meta
Case No. 23-1364-IV
PX-00001

Appearance-based social comparison on Instagram

with Justin Cheng and Shruti Bhutada

Negative forms of social comparison, particularly appearance-based comparison, can worsen body image problems, eating disorders, anxiety, and loneliness. This is a high-reach, high-intensity problem [1, 2], that appears frequently in academic literature and the media. Teen girls perceive Instagram as the "worst" social media app in terms of body and appearance comparison.

In this note, we summarize a large international survey on Instagram measuring the prevalence of appearance-based social comparison on Instagram and more general body image issues, as well as the kinds of people most affected. In upcoming notes, we'll show log data identifying surfaces and content that are linked to high levels of appearance-based comparison. For a similar series on more general social comparison (not just appearance-based), see our previous series on social comparison on Instagram.

Takeaways

- Appearance-based comparison is common on Instagram. One-third (33%) of people say they compare their appearances to others' often or always. Nearly half (48%) of teen girls do.
- It causes people to feel bad about themselves: One quarter (26%) report often or always seeing posts that make them feel worse about their bodies or appearances. More than one-third (37%) of teen girls do.
- One-quarter of people on IG (23%) feel a lot or extreme pressure to look perfect on Instagram, and one-third of teen girls (34%) do.
- Appearance-based comparison is worse for teens, women of all ages, and people in globally western countries (US, GB, AU, France).
- Independent of Instagram, many people feel bad about their appearances (25%, including 32% of teen girls) or weight (40%) more generally (44% of teen girls).

Method

We surveyed 50,590 people in 10 countries (Australia, Brazil, France, Germany, Great Britain, India, Japan, Korea, Mexico, United States) in December 2020. Respondents answered questions adapted from the literature about their experiences with appearance comparison on Instagram as well as their body image and weight more generally (full survey). Responses are weighted using Graviton to match IG DAP.

Instagram's impact on body image

Appearance-based comparison is common on Instagram. **Roughly ⅓ of people on Instagram feel like they often or always compare their appearance to others on the platform, and ¼ feel intense pressure to look perfect** (orange bars in Figure 1). **It's worse for teen girls:** Nearly half of teen girls (48%) often or always compare their appearances on IG, and one-third (34%) feel intense pressure to look perfect (not shown).

While people's experiences vary widely, with many people feeling no comparison or pressure, there are two reasons to focus on people who feel frequent comparisons and pressure (orange bars below): (1) as we show in the next section, it's worse for teens, particularly girls, and (2) as we show at the end of this note, many people have some form of body dissatisfaction even if it doesn't manifest badly for them on Instagram, and by addressing the problem of Instagram making body image issues worse, we can create a more supportive environment for everyone.

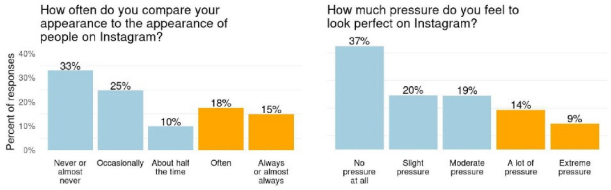


Figure 1. Frequency of appearance-based comparison and pressure to look perfect on Instagram. Orange bars indicate the highest frequency / most intense categories. Responses are weighted

to reflect IG DAP.

How do those appearance comparisons make them feel? Both better and worse about themselves (Figure 2). **Roughly 1 in 4 people (26%) say that they often see content that makes them feel worse about themselves (37% of teen girls, not shown), and 1 in 5 (18%) have felt worse in the past 7 days** (not shown, and 23% of teen girls, not shown).

We don't want to discount the positive, inspirational aspects of Instagram, and as Figure 2 shows, 23% of people on IG often or always see content that makes them feel better about themselves, too. This is consistent with prior research, that Instagram both triggers negative comparisons and inspires people [1, 2, 3].

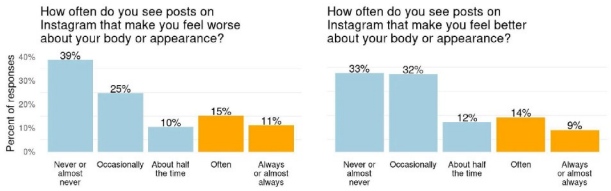


Figure 2. Outcomes of social comparison are a mixed bag. People see content on IG that makes them feel both worse (left) and better (right) about their bodies and appearances.

Appearance comparison on IG is worse for women and teens

Who experiences the most appearance comparison and its negative outcomes? Women and teens.

To answer this question, we created an IG appearance comparison scale by averaging three of the questions above (appearance comparison, pressure to look perfect, and feeling worse about your body, alpha = 0.78). As Figure 3 shows, appearance comparison is worse for women at nearly all ages (23% worse than men on average), and it begins to decline around age 30. (Respondents reported their age on the survey.) People who choose to use custom genders (not shown) also experience higher negative social comparison on IG, 11% higher than men, though the number of responses is low (139), so additional research on appearance comparison among those with non-binary genders is needed.

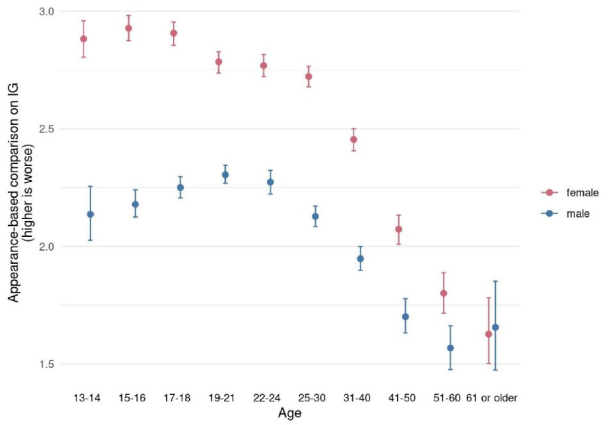


Figure 3. Appearance-based comparison on Instagram is worse for women at nearly all ages, and is higher for teens and young adults than older adults.

Appearance comparison on IG is worse in western countries

Appearance-based comparison on IG is greatest in globally western countries, including Great Britain, Australia, France, and the US (Figure 4, also see Footnote 1). In most countries, it's worse among women, though this result is not uniform. **In India, comparison is higher among men than women.** This is consistent with prior research, that women generally experience more social comparison than men, with exceptions in some countries such as India. In the countries where men experience more comparison, women generally comprise a smaller proportion of the paid workforce, suggesting that men there may experience comparison and stress on more dimensions (professional and social). It's surprising that these results hold for appearance-based comparison specifically (not just comparison of achievements or status), especially since societal expectations for appearance are stricter for women than men in India.

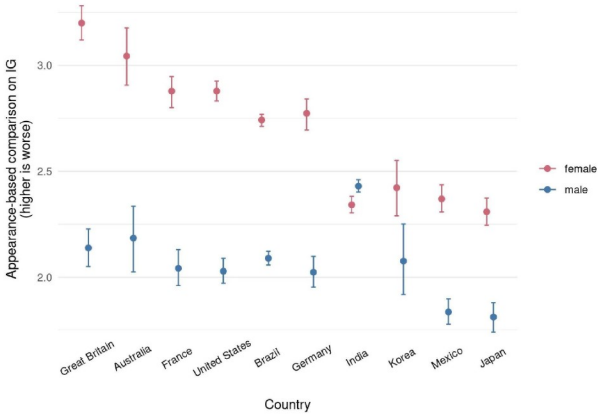


Figure 4. Appearance-based comparison on Instagram is highest in globally western countries. In most countries, it's worse among women, though this result is not uniform. In India, comparison on IG is higher among men.

From the academic literature on body image (summary), body dissatisfaction may be higher in East Asia than in the US/UK, in part because of adoption of western beauty standards. As we discuss below (Figure 8), this bears out in our survey data: general body dissatisfaction is much higher in Japan and Korea. So, it's surprising here that Instagram's role is much lower in those two countries -- people there report feeling like they don't compare themselves to others on IG as often as people in the US/UK do.

Independent of IG, how do people feel about their bodies and weight?

Thus far, we've described people's feelings about appearance-based comparison on Instagram. Independent of our platform, how do people generally feel about their bodies and weight?

We asked respondents four questions derived from the academic literature on body image, capturing four dimensions of body image (see Figure 5):

- Appearance satisfaction
- Weight satisfaction
- Body appreciation
- Appearance orientation (how important it is to look good)

A substantial proportion of people report body image concerns, independent of their feelings about Instagram. As shown in Figure 5, **1 in 4 (25%) are dissatisfied with their appearance and 40% are dissatisfied with their weight** (orange bars). Roughly 1 in 3 (38%) never feel good about their bodies, or only occasionally. The fourth dimension, appearance orientation, is orthogonal to the others, identifying how important it is for that person to look good physically. (A person may be dissatisfied with their appearance, but it doesn't matter much to them.) The majority (53%) say that it's quite or very important to look good physically.

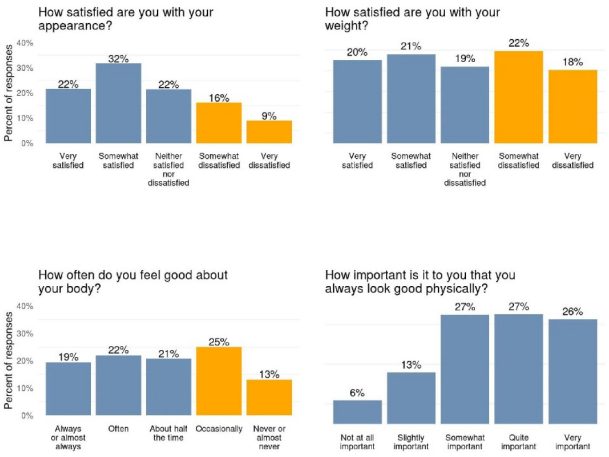


Figure 5. Responses to general body image questions (not about Instagram). A large proportion of people report body image concerns (orange bars), including dissatisfaction with appearance or weight, and only occasional body appreciation. A majority of people (53%) feel that it's quite or very important to always look good physically. Responses are weighted to reflect IG DAP.

To understand how body image concerns vary by demographics, we created a general body image scale by averaging three of the questions above (appearance satisfaction, weight satisfaction, and body appreciation, alpha = 0.79).

The contours of body image concerns are somewhat different from those specific to Instagram (Figure 6 has a different shape than Figure 3). As Figure 6 shows, **women still experience greater body image concerns than men at nearly all ages.** However, rather than decreasing with age like IG-specific appearance comparison, body image concerns dip in the late teens/ early twenties, and then increase again. While individuals' experiences may vary, **on average men**

experience increasing body concerns as they age, while women become more comfortable in their bodies around age 50. (As noted, these are averages and individuals may feel differently.) Despite that, women still experience worse body image concerns than men; it's the worst for teen girls and even a woman in her mid-50s still has more body image concerns than a teen boy.

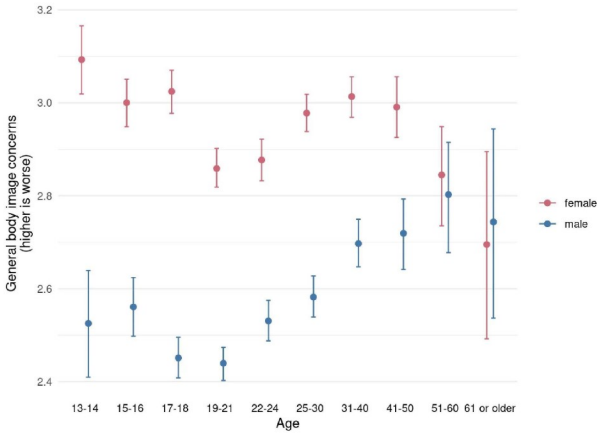


Figure 6. Body image concerns (not specific to Instagram) by age and gender.

Separating IG's role from general body image concerns

We know that teens, women of all ages, and people in western countries experience higher levels of both general body image concerns and problems with appearance comparison on Instagram. In the plots below, we separate these two dimensions (general body image concerns vs. IG-specific appearance comparison). As you can see in Figure 7, for teens and young adults, both dimensions are high. However, **around age 30, the role of IG begins to diminish:** even though people still have high levels of body image concern, they don't compare themselves to others on IG as much, and don't report as many of the negative outcomes. **This reinforces the idea that we should focus our efforts on teens and younger adults.**

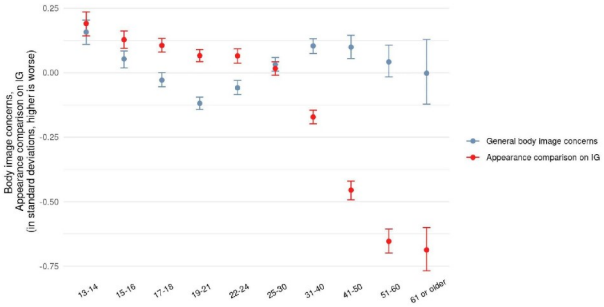


Figure 7. General body image concerns vs. IG-specific appearance comparison by age.

In many western countries, IG-specific issues track general body image concerns (the two sets of points are roughly parallel in Figure 8). However, in Korea, Japan, and Mexico, concerns over IG-specific comparison are low, while body image issues are high. Why might IG's impact be less negative in those places? Some possible hypotheses needing deeper dives include (1) content shared in those countries might be less appearance- and body-focused and (2) people in these countries interpret appearance- and body-focused content in a way that doesn't hurt their own self-image (see footnote 1). Furthermore, though general body image concerns are relatively lower in India, issues with appearance comparison on IG is substantially higher there, suggesting we need to better understand appearance-based content shared in India better and its impact on viewers.

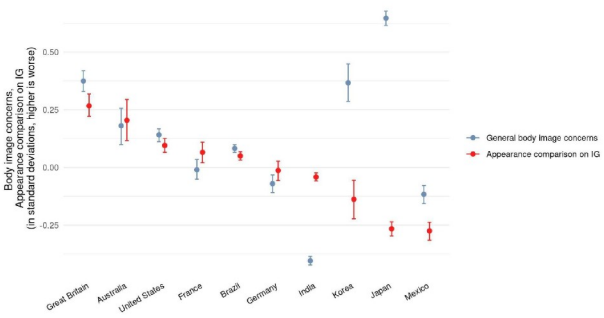


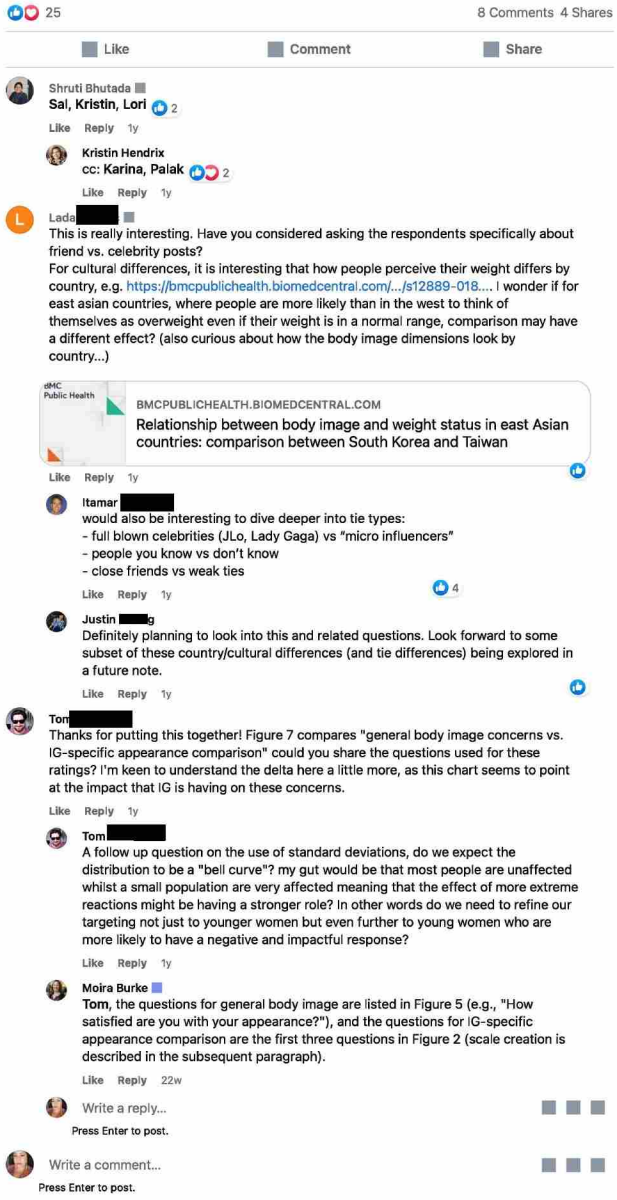
Figure 8. General body image concerns vs. IG-specific appearance comparison by country.

Appearance-based comparison on Instagram is common and can have significant implications for individuals. The findings in this note reinforce previous findings that we should focus our efforts on teens, women of all ages, and people in globally western countries, where levels of appearance-based comparison are highest. In upcoming notes, we'll explore the role of post topics (e.g., fashion posts), advertisements, surfaces, and celebrities in order to inform product controls and changes to better support the well-being of people who use our products.

Footnote:

1. Some of the between-country variation may be due to cultural differences in responding to survey scales (e.g,. though appearance-based comparison on IG appears lowest in Japan, that may be due to hesitance to select the most extreme ends of the scales or a resistance to blaming a piece of technology; see this notebook for response distributions per question per country. Tests of measurement invariance are borderline, suggesting that there aren't substantial differences inherent in how people interpret these questions, but these country differences may not be as large as they appear. Cognitive testing social comparison questions would allow us to make broader generalizations between countries.

Additional thanks to Shilpa Mody and Wendy Gross.



Recommended Reading



Appearance comparison: Defining sensitive ("High-NAC") content...

Justin [redacted]g

Be Different

Naomi Gleit

Preview of Return-To-Office room booking experience...

Kaeri [redacted]