

Social Comparison on Social Media and Its Impact on Self-Esteem, Appearance Anxiety, and Career Worry

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Abstract. Social media has become a central part of everyday life, it can shape how people think and feel about themselves. A major process in this environment is social comparison, where individuals evaluate themselves against others. This paper examines recent research to determine how upward and downward comparisons on social media affect self-esteem and various types of worry. The methods employed in the reviewed paper include experiments, meta-analyses, and large-scale surveys, which together provide both causal and real-world evidence. The findings suggest that upward comparison typically lowers self-esteem, affects body image, and promotes negative feelings, but downward comparison may provide only temporary and inconsistent consolation. In terms of anxiety, upward comparison can cause social anxiety through rumination, appearance anxiety through self-objectification, career anxiety due to competition pressure, and online social anxiety when seeing portrait-based content. At the same time, protective elements like self-compassion and self-esteem can help mitigate these detrimental impacts. Overall, the studies reviewed confirm that upward comparison on social media is a major risk factor for young people's mental health. These results highlight the need for future research using more diverse methods, including long-term and experimental designs, as well as interventions that promote self-compassion and healthier online habits. The insights gained can support efforts to create safer and more supportive digital spaces.

Keywords: Social media, social comparison, self-esteem, anxiety, young adults

1. Introduction

Social media has become an integral part of our daily life. In addition to being an instrument for communication, social media has also turned into a constant source of social comparison. According to social comparison theory, people tend to evaluate themselves by comparing with others [1]. In the digital era, people tend to compare more with more people than ever before.

In our everyday life, upward and downward comparisons are easily visible. A college student browsing through Instagram may feel depressed when seeing their peers with better grades, better travels, or better appearances, and then feel relieved when seeing others who seem to struggle more. These types of comparisons affect how we see ourselves. Previous studies have shown that upward comparison generally decreases self-esteem and may lead to more negative emotions, while

downward comparison may offer some relief in the short term, but does not necessarily protect against stress.

It is important to be aware of these effects since social media use is nearly universal among young people. Self-esteem and anxiety are two major components in mental health that affect motivation, relationships, academic achievement, and overall well-being. By reviewing recent studies, in this paper we aim to explore how upward and downward social comparisons on social media affect self-esteem and different forms of anxiety (e.g. social anxiety, appearance anxiety) with a focus on young adults. This paper can help us to explain why social media sometimes lead to better mental health and other times lead to worse mental health.

2. Definition

Social comparison refers to the process by which individuals evaluate their abilities, achievements, or status by comparing themselves with others [1]. This process often takes two directions. Upward comparison occurs when people compare themselves with those perceived as better off, which can lower self-esteem or trigger negative emotions. Downward comparison happens when individuals compare themselves with those who seem worse off, serving as a coping strategy that may bring temporary comfort but does not always lead to long-term benefits.

Self-esteem is generally defined as a person's overall evaluation of their own worth and value. It reflects how positively or negatively individuals view themselves and is closely linked to psychological health, motivation, and resilience [2]. In the context of social media, self-esteem can be influenced by the frequency and direction of social comparisons.

Anxiety is a broad concept that includes different subtypes. Social anxiety is defined by the DSM-5, it involves a persistent fear of social situations where one may face negative judgment [3]. Appearance anxiety is a specific form of social evaluative anxiety. Hart et al. described it as the fear of being negatively judged because of one's physical appearance and developed the Social Appearance Anxiety Scale (SAAS) to measure it [4]. Another type is employment anxiety, which refers to the worry and stress related to career opportunities and job prospects, a concern that has become increasingly salient in the context of competitive labor markets. Finally, for online social anxiety, Caplan showed that individuals with higher social anxiety are more likely to experience problematic internet use, highlighting how online spaces create new forms of evaluative pressure [5].

3. Social comparison and self esteem

Social comparison on social media can influence how we think and feel about ourselves. To find out whether showing people content that makes them compare themselves upward (to someone who appears to be better off) or downward (to someone who appears to be worse off) would make them feel differently in terms of self-esteem and body-esteem, Taylor and Armes ran an experiment with people on Instagram [6].

The researchers wanted to see whether showing people Instagram posts that make them compare themselves upward (to someone who appears to be better off) or downward (to someone who appears to be worse off) would make people feel differently in terms of self-esteem and body-esteem. Taylor and Armes randomly assigned 50 university students who used social media to one of three groups: upward comparison, downward comparison, or a neutral control group. The upward comparison group was shown Instagram posts that showed perfect bodies, perfect relationships, and perfect vacations with positive words and comments attached to them. The downward comparison

group was shown Instagram posts that showed people in their struggles (crying, being sick, problems etc) with sad words and sympathetic comments. The neutral group was shown plain posts like a stone wall or people just standing with no expression on their faces and neutral words.

Before and after being shown the posts, the participants filled out two questionnaires including the State Self-Esteem Scale and the Body-Esteem Scale for Adolescents and Adults. This procedure enabled the researchers to determine what, if anything, changed in how the participants felt about themselves.

The results were very clear-cut. The participants in the downward group scored higher on both the self-esteem scale and body-esteem scale after being shown the posts. This means that looking at others who appear to be worse off can make people feel better about themselves. The participants in the upward group scored lower on the body-esteem scale after being shown the posts. This means that idealized content makes people feel worse about their bodies. But, in this case, their scores on the self-esteem scale changed not very much at all. The participants in the neutral group showed no change in either self-esteem or body-esteem.

This research is important because it provides experimental evidence that social media content can change people in a given direction very quickly. It also shows that upward and downward comparison work through different psychological mechanisms in different ways. Downward comparison can provide a boost to both self-esteem and body-esteem, in the short-term, while upward comparison mainly lowers body-esteem.

These results can help people understand why they sometimes feel worse after looking at social media, especially worse about their bodies, and why it's not a good idea to constantly be exposed to idealized content on the internet.

3.1. Meta-analytic evidence

A single experiment can be suggestive, but a set of experiments can show a pattern that no single experiment can reveal. McComb and her colleagues searched many research databases, as well as look for unpublished research, to collect a diverse set of studies on social comparison and social media [7]. They only included experiments in which people were randomly assigned to conditions, the experiment took place on a real social media site, and the experiment was clearly designed to make people compare themselves to others. Each experiment also needed to have a control group showing either neutral content or people who seemed worse off. Following these rules, McComb and her colleagues found many experimental studies on social media such as Instagram, Facebook, and WeChat.

By adding up the data of these selected studies, the meta-analysis found out how looking at people who appear "better" on social media influences people's feelings and self-perception. And the results are very clear: looking at upward comparison posts on social media makes people feel worse. On all of the studied, looking at posts of people who appear better on social media made people feel worse about themselves: their self-evaluations were down by social media posts of upward comparison. People felt more negative emotions. It also hurt in particular in 4 areas: body, self-esteem, mental health, and well-being. Many people felt envious or sad after looking at others who appeared better looking, more successful, or happier. The authors explain that this is because most of us tend to contrast more than assimilate: we tend to see others as very different from ourselves instead of finding similarities and feel inspired. While assimilation means seeing others as similar and feel inspired, contrast means seeing them as very different from yourself and feeling worse off. And in this meta-analysis, contrast was much more common than assimilation, which hardly ever appeared. The researchers also analyzed if there was any difference depending on age or gender, but

there was not. This means that both people of any age and gender can be harmed by upward comparison on social media. So, this study gives very strong evidence that idealized and comparison-filled social media environment makes upward comparison common and harmful. It shows that the negative effect of upward comparison appears again and again in different experiments, people, and social networks.

3.2. Correlational evidence from everyday use

Le Blanc-Brillon et al. did two survey studies to see how using social media is related to mental health in young adults [8]. They asked many normal Instagram and Facebook users some questionnaires about how much they use these social networks, how much they compared themselves to others who appear better (people who are upward comparison) or worse (people who are downward comparison), and about their self-esteem and depressive feelings. And the results were that people who used social media more also said they did more upward comparisons. Upward comparison was a strong predictor of lower global self-esteem and physical self-esteem, and higher levels of depressive symptoms. Downward comparison was not strongly related to any of the studied mental health outcomes. So, this study suggests that upward comparison might be one of the main reasons why social media can have negative effects on mental health.

3.3. Supporting evidence

Rüther et al. analyzed how seeing idealized images of influencers was affecting self-esteem [9]. And they found out that these images triggered social comparison of type upward. And upward social comparison was connected to lower appearance-related self-esteem. But, these images had a direct positive connection to overall self-esteem probably because subjects felt similar to the influencers (upward assimilation) or because they felt good about the emotions that the posts triggered. So, this study suggests that influencer content can affect self-esteem in different ways: it can harm it and it can also boost it in different aspects depending on mediating variables. It shows that upward comparison is not always purely negative.

Content type also matter in another way. Ozimek et al. compared two kinds of social media comparisons: ability-related (skills, achievements) and opinion-related (preferences, personal views) [10]. Ability-related upward comparison had a stronger negative impact on self-esteem and life satisfaction than opinion-related comparison. This means that not all comparison is created equally bad. When we see others as better than us in terms of abilities or achievements, we feel worse about ourselves than when we recognize opinion differences from others. This result supports the idea that the area in which we compare ourselves to others plays a role in how strongly it influences our self-esteem.

3.4. Synthesis and discussion

As mentioned above, all these studies show that social media comparisons strongly shape self-perceptions, but in a heterogeneous way. While the experimental study of Taylor and Armes showed clear cause-and-effect pattern (upward comparison mainly affects self-esteem by lowering it, while downward comparison has a positive, though only temporary effect on both self esteem and body esteem) [6], the meta-analysis of McComb et al. showed the same pattern on a larger scale Across many different studies, upward comparison reliably affected self-evaluations and emotions: contrast effects were far more common than assimilation [7]. The survey study of Le Blanc-Brillon et al.

showed the same pattern in daily life. It is linked to lower self-esteem and more depressive symptoms, when done often [8]. Supporting studies extend this finding. R  ther et al. showed that also influencer posts can sometimes raise overall self-esteem through rare assimilation [9]. Ozimek et al. showed that ability-related comparison was more harmful than opinion-related comparison [10].

In conclusion, these studies complement each other in showing either causal or real-world patterns, while future research should include cross-cultural studies. Yet, they also have some limitations: small sample sizes and rather artificial settings in the experiments, meta-analyses depend on the past studied quality, data are in some way subjective, and surveys cannot prove causation either. Future research should include a mix of these two, add some biological factors to test objectively and use bigger samples to see when and how social media comparisons harm or help self-esteem.

4. Social comparison and anxiety

4.1. Upward social comparison and social anxiety

Xu and Li investigated how comparing oneself to people who appear better on social media is associated with social anxiety in Chinese college students [11]. They developed and tested a model to determine whether this association works in two steps. First, students feel relatively deprived; then, they ruminate on those feelings, which may lead to social anxiety.

They surveyed 463 Chinese undergraduate students, 80% of whom were women and 20% were men. They represented a mix of freshmen, sophomores, juniors, and seniors, so they showed a fairly large range of ages and years of attendance at school. All of them filled out self-report questionnaires measuring upward social comparison, relative deprivation, rumination, and social anxiety.

Their path analysis found that upward comparison influenced social anxiety in two ways: it predicted it directly, and it also predicted it indirectly through rumination, as well as through a chain of relative deprivation -> rumination -> social anxiety. Overall, relative deprivation didn't predict social anxiety directly.

Students who frequently compared themselves to more successful people were more likely to feel deprived, think about that, and then feel more anxious in social situations.

This research helps explain some of the cognitive processes involved in social anxiety. It shows that upward comparison doesn't only lead to negative feelings in the short term, but it can also start a chain reaction that keeps anxiety going over the longer term. The results demonstrate how often upward comparison can put college students at risk of social anxiety.

4.2. Upward appearance comparison and appearance anxiety

Another important type of anxiety related to social comparison is appearance anxiety. Since many social media websites are image-based, the impact of upward comparison is especially noticeable in this area. Tian et al. studied how upward comparison of appearances on social media influence young people's feelings about their appearance [12]. The authors of the study based their work on several psychological theories, such as the Stress-Vulnerability Model, the Stress and Coping Model, Objectification Theory, and Self-Compassion Theory. They surveyed 397 Chinese college students who use social media a lot and asked them about their habits of comparing appearances and their level of self-objectification and self-compassion as well as their appearance anxiety.

The results of the study revealed that upward appearance comparison clearly predicted appearance anxiety. When compared their looks to more attractive people of others online frequently, people were more likely to treat their bodies as objects that need to be evaluated. This self-objectification subsequently led to more feelings of worry, insecurity, and dissatisfaction about their appearances.

The results of the study revealed that self-objectification played a partial mediator role between comparison and anxiety, that is, it explained part of the reason why comparison leads to anxiety.

They also found that self-compassion played a protecting role. When people were kind and understanding to themselves, they were less likely to be affected by upward comparisons. Self-compassion weakened the association between comparison and self-objectification, which explained the potential of using it as an intervention strategy to reduce the anxiety about appearance. That is, self-compassion could buffer the impact of social media comparison on young people's mental health when they used image-based media, such as Instagram.

4.3. Upward comparison and employment anxiety

Besides, social media use may also impact future-oriented anxiety, such as job anxiety. Jin et al. explored how social media use affects Chinese youths' job anxiety [13]. They found that social media use intensity increased job anxiety indirectly through the following two pathways: upward social comparison and online social support.

Youth who used social media more frequently tended to compare themselves with others who appeared to be more successful or more ready for their jobs. They felt they were behind or inferior to others, which increased their anxiety. At the same time, seeking or receiving online social support also increased job anxiety unexpectedly. It might be because it raised their awareness of competition from peers or made them feel pressure to catch up. However, the study also found that self-esteem could play a protective role. It could buffer the effects of upward social comparison and online social support. People with higher self-esteem were less affected.

This study broadens the scope of comparison-related anxiety from the present social context to the future employment context. It also shows that personal trait self-esteem can protect youth from the negative emotions caused by social media use.

4.4. Upward comparison and online social anxiety

Jia conducted an experiment to explore whether social media images can raise online social anxiety through comparison with others [14]. Almost five hundred participants were randomly divided into two groups. One group was exposed to portrait-based images that contained people. The other group was exposed to object-based images that contained non-human scenes.

The results of experiment showed that the people in portrait group did more upward social comparison than the control group that was exposed to object images. Then, it raised their online social anxiety. In other words, seeing ideal people on social media made participants compare with those people, feel less satisfied with themselves, and then feel more anxious. This shows that personal and appearance-based content can raise stronger feelings of being judged on the social media.

This study is innovative because it provides experimental evidence (not only self-report survey) that type of content alone can affect users' emotions. It also found that men scored higher on both upward social comparison and online social anxiety. It might reflect social culture that asks men to be more competitive, but it did not reflect that men scored higher on how the effect worked.

4.5. Synthesis and discussion

The results of these four studies show that upward social comparison on social media can trigger different kinds of anxiety, but they focus on different contexts separately.

Xu and Li connected social anxiety with upward comparison through the following cognitive chain. It increased relative deprivation feelings, which then enhanced rumination, so that anxiety stayed high [11]. Tian et al. studied appearance anxiety and found that comparison increased self-objectification, which made people more self-critical about their appearance; self-compassion could buffer the effect [12]. Jin et al. shifted the focus to future-oriented employment anxiety and found that heavy social media use increased comparison and made people more sensitive to their jobs; self-esteem could buffer the impact [13]. Jia provided experimental evidence that just viewing portrait based posts (versus object posts) can raise online social anxiety through comparison directly [14].

Although they focus on different anxiety types, the four studies consistently find upward comparison as the mechanism. The three differ in their respective mediators (ruminations, self-objectification, online support) and moderators (self-compassion, self-esteem, gender), as well as their methods (self-report survey with path models for three, experimental manipulation for Jia).

Altogether, the four studies indicate that social media comparison can impact mental health in very different ways. However, self-report designs constrain claims of causality, and being cross-sectional decreases clarity of timing. Future research should employ longitudinal panel designs or randomized controlled experiments to reveal social media comparison processes more clearly over time.

4.6. Overall conclusion

Recent studies indicate that social media comparison strongly impacts self-esteem and different types of anxiety. Upward comparison lowers self-esteem and body image by increasing negative emotions, while downward comparison can only provide short and unstable comfort. Experimental studies and meta-analyses have confirmed that exposing to idealized content makes people feel worse about themselves, and Surveys have shown that frequent upward comparison links to lower self-esteem and more depressive feelings and worse life satisfaction in daily life. Research on anxiety also shows clear impacts: upward comparison can increase social anxiety by rumination, increase appearance anxiety by self-objectification, increase employment anxiety by exerting competition pressure, and cause online social anxiety by showing portrait-based content. Self-compassion and self-esteem can mitigate these effects, but overall upward comparison still poses a great risk for young people's mental health on social media.

4.7. Suggestions and future research

Future studies should use longer-term and experimental designs to see how comparison affects people over time, instead of only using self-report surveys. It would also be helpful to include biological or neurological data, such as stress hormones or brain activity, to give more objective results. Researchers can test ways to protect young people, like teaching self-compassion, improving digital literacy, or designing platform features that reduce social comparison. More studies could also look at cultural differences, personal traits, and different types of content to find out who is most at risk. These steps may help build safer and healthier social media environments.

5. Conclusion

Social media has become a space where people constantly see how others live, look, and succeed. These constant comparisons can quietly shape how people see themselves and how they feel. When people often compare themselves to others who seem better, their self-esteem can drop, and this lower self-esteem can make them more sensitive to judgment and pressure, raising different kinds of anxiety. Downward comparison may give short comfort, but it does not build lasting confidence or protect mental health. Building healthier ways to use social media is important, such as learning to be more self-compassionate, focusing less on competition, and seeing online content more critically. Understanding how self-esteem and anxiety affect each other can help people stay more balanced while using social media.

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