



During the era of flapper girls, strict diets became the norm to achieve the 'skinny' look. The 'bathroom scale' became a common staple in households, and women turned to laxative-laced weight loss gums, slimming girdles, and cigarettes [20]. This resulted in one of the biggest ad campaigns in the 1920s. We can see one of the cigarette ads from the time to the left, where it's using the beauty standards at the time to promote the sale of more cigarettes. Lillian Gish, the portrait on the right, is an example of the figure that women during this time were trying to achieve.



It's not quite clear where these standards fully come from, but representation in the media at the time largely influences what others find attractive during that time. Dr. Antonio Fuente del Campo, editor of the Aesthetic Surgery Journal, writes, "The history of beauty in Western culture is only one part of a much larger story. What about the concepts of beauty among Asians, Indians, Laplanders, Mongols, or Mayas? All of these cultures have their own concepts of beauty, each with their own history and evolution. In fact, we could say that each person has his or her own concept of beauty, established by both culture and tradition... So, then, given all this, who sets the standards for facial beauty? ... Through their films, TV, magazines, and other mass media, the developed countries have spread their prototypes of beauty globally, influencing the original concepts held by other cultures and ethnic groups." [36].

We can see how the development and rise of social media can immensely shape how beauty standards would change in modern times. The next section looks at the role of social media in the distribution of these beauty norms.

RISE OF SOCIAL MEDIA

Early in the 21st century, social media surfaced. It started with a few smaller platforms, like Six Degrees and Friendster. When MySpace launched in 2003, it became the most visited website in the world [23]. Facebook launched in 2004, and by 2008, it had surpassed MySpace with the number of users on it. Reddit, Twitter, and Instagram all followed in the years after, each amassing millions to billions of users each. These websites allowed for users to connect to other users around the world to share updates and post photos.



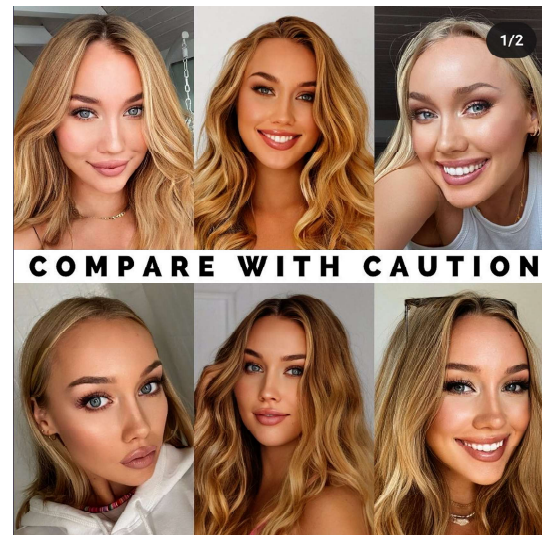
And for years, that's how social media was mainly used. People connecting and sharing snippets of their lives with one another through the ease of social media. Photo editing was still prevalent, but similar to the editing in advertisements around this time, the editing means were not subtle. Instagram filters were very obvious, because Instagram

wanted the pictures on their platform to look like they had been edited [24]. This was an easy way to differentiate photos from 'Instagram' photos. The photo on the left depicts some of the original filters you could apply to an Instagram photo. As you can see, the filtering is obvious and applies itself over the whole photo.

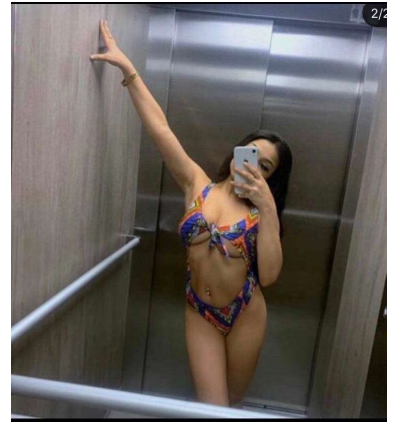
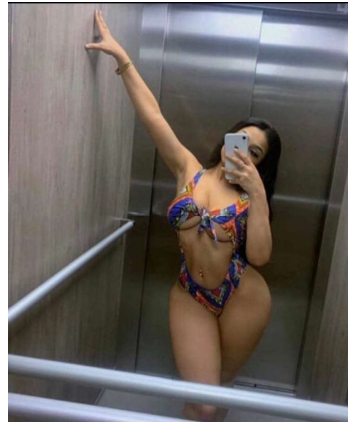


As social media became more of a staple into people's lives, social media changed to fit the way people wanted to use them. This included more nuanced photo editing means within the app as well as various filters that users could apply to themselves when going to take a photo. Editing became a lot more subtle and harder to distinguish when filters were being used or not.

One thing worth noting about these filters is that they tend to highlight Eurocentric beauty features. This includes lighter eyes, a smaller nose, flushed cheeks, smoothed pores, an enhanced size of lips, and larger eyes [25][26].



With how realistic these filters and editing tools now are, it's nearly impossible to tell what has been edited or not. And it's so easy for anyone to change how they look. The next few images being shown are examples of photos that people have posted to their own social media account with the original next to them.



IMPACT

The desire to conform to the beauty standards now being presented by social media has caused a lot of problems. Especially considering these beauty standards are no longer realistic. Photoshop, and other photo editing software, has made society believe that it is normal to be flawless and have perfect proportions. Numerous surveys have been conducted looking at people's views on body image, especially when compared to what they see in the media. Fifteen percent of 18 to 24 year olds that were surveyed in a UK survey were convinced that the images of models and celebrities in advertisements accurately depicted what those women looked like in real life [27]. In this same survey, over 30% of those surveyed reported that they were unconfident or extremely unconfident in their bodies [27]. Another poll showed that 33% of women felt that the body they aspired towards was not possible for them to achieve [27]. These suggest a few things. The first is that there is a solid number of people out there that believe that the images they are looking at are reality, and that the bodies being shown are attainable. The second is that even when people know what they are looking at is fake, it still sets the idea that these are the ideal beauty standards, thus making the bodies women desire unattainable.

This dissatisfaction presents itself in numerous ways. One cosmetic surgeon, Dr. Tijion Esho, noticed that in past times, patients would bring in pictures of others with the desired features they were hoping to achieve. In recent times, however, patients have started to bring in faceted images of themselves and ask to look like that [28]. The phenomenon of people requesting procedures to resemble their digital signatures has been referred to as "snapchat dysmorphia" [28].

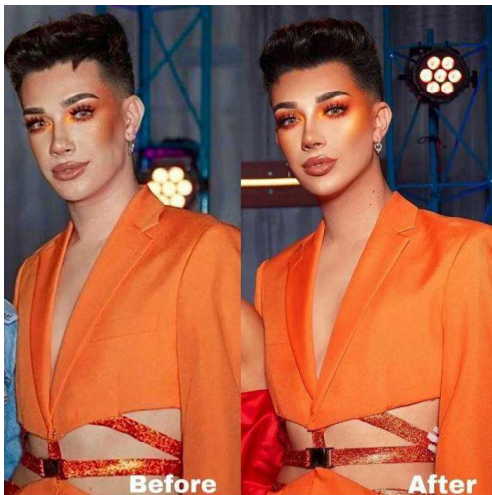


Studies have found that there is a strong link between heavy social media use and an increased risk of depression, anxiety, loneliness, self-harm, and suicidal thoughts [29]. One of the factors they believe might contribute to this is feelings of inadequacy, especially when comparing it to the altered photos being posted.

Other studies have shown that eating disorders, especially among young girls aged 15 to 19, have become more prevalent [30]. While it's not possible to understand completely what this is linked to, it has been hypothesized that media plays a central role in creating and intensifying the phenomenon of body dissatisfaction, which could attribute to an increase in eating disorders. This study states, "Social media has had a major impact on the perceptual, affective, cognitive and behavioral aspects of body image by encouraging lean body patterns and delivering anti-obesity messages. Eating disorders determine a distorted relationship between the individual, their eating behavior and body shape. Adolescence being a crucial age for

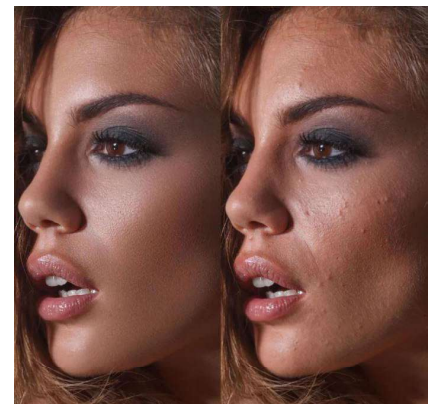


positive and negative development of body image, the self-esteem and body dissatisfaction adolescents feel are known predictors of eating disorders" [30].



Another study looked at the influence that social media had on cosmetic surgery and found that viewing cosmetic surgery-related material on social media, spending longer hours on social media platforms, and having negative self-views when viewing social media are associated with an increased likelihood of considering undergoing cosmetic procedures in the future [31].

Beauty filters and apps encourage women to see themselves through a "lens of defects." Over 72% of millennials that buy cosmetic products are influenced majorly by social media [32]. One of the selling points of makeup is that it can highlight the parts you like, and hide the parts you don't. But, if the photos of makeup products on social media are edited, then the people buying these products obtain false expectations for what the makeup can and will do, further leading to dissatisfaction in body image.



Modifying ourselves and our images is not a new development, but wide availability of edited photos to the world is. With social media, the introduction of hyperrealistic filters and photoshop to edit out "problem areas" only serves to reinforce the unrealistic beauty standards that are presented for the world to see.

This dissatisfaction is equally present in people of color, especially since all the beauty standards are aimed at highlighting Eurocentric features. One key example of this that is very prevalent is the practice of black women straightening their naturally curly hair. There are a few factors that contribute to a black woman's decision to straighten her hair, not all bad, which include, "slavery and internalization of white standards of beauty, media and advertisements, assimilation and economic security, the easiness of maintenance, diversity in styles, and personal choice, and hair alteration as a cultural script" [33].

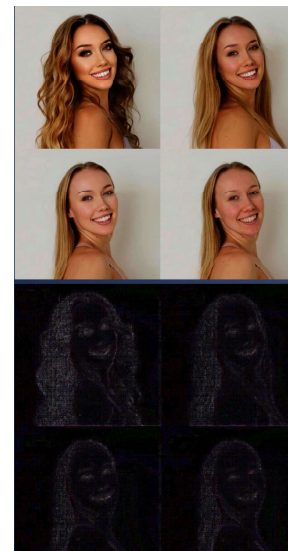
A study was done that asked numerous black women questions about body image concerns. It was found that hair, skin color, and body type were all sources of dissatisfaction for these young women, especially being influenced by a largely white environment [34]. The following quote from one of the participants in the study demonstrates the difference in body type standards across cultures and how being in a predominantly white influenced environment can shift those standards and induce negative beauty standards: "Black people are growing up in most like Black communities and it's really like pushed to be thicker. I mean I don't know what it was like at everybody else's community but I always wanted to have like a big butt and I was like 'man, what can I do?'... And then, it's funny 'cause I used to visit my cousins and they went to this predominantly White high school and when they saw me they were just like 'eww she's so disgusting she needs to lose some weight!'" [34].

Beauty standards impact everyone negatively, but it can be seen how much greater these negative impacts can be to people of color when the standards are characteristics of European women.

WHAT CAN WE DO ABOUT IT

There has been development of some softwares to try and determine whether or not a photo has been photoshopped. FotoForensics, developed by Hacker Factor, is one of the softwares that tries to analyze and determine where a photo has been edited [35]. It works by analyzing a few things, such as Error Level Analysis (ELA), clone detection, noise analysis, and Primary Component Analysis (PCA). These work to find copied parts of a picture, airbrushed or warped parts, and error levels on pictures.

The picture on the left shows the example they use on their website. The more color, the more editing the photo had. I tried to replicate their results with a few photos, as seen on the right, but the results were not as promising. Since I used a screenshot of the photos, this suggests that it might work better with original photos. Or it might just go to show how good filter apps / editing tools are at changing images to be undetected by software.



Aside from detecting filters with software, there are a few things we can do at the individual level to help prevent against the social impacts of these beauty standards. The first is to understand that beauty trends are just that, trends. As we saw in the section about beauty trends over time, standards change so quickly. Trying to change oneself for all these goals as they go in and out of style, especially as unrealistic as they are now, is not how the body works. The next is to offer better education, especially aimed towards young women, to explain that what they see in the media is not an accurate portrayal of what people actually look like, and those photos are most likely edited. There can also be more transparency with edited photos to note that the photos we are seeing are edited. Limiting time on social media is another means to help prevent the negative impacts of these beauty trends, although it doesn't address the problem itself. Finally, we can look into the further development of software that can better detect edited photos.

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