

From the Pyramids to the Present: The Relationship Between the Enhancement of Facial Features by Cosmetics and a Woman's Increased "Halo Effect" and Perceived Reproductive Status

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Abstract

Female makeup in the ancient Egyptian time period versus cosmetic use in Modern America was studied to determine whether cosmetics alter a woman's perceived reproductive status in order to help the reader understand whether society seems to equate a woman's facial beauty with her fertility. To answer this question, journal articles that explored the types of cosmetics used by the ancient Egyptians, the cosmetics used by modern-day Americans, the relationship between the use of cosmetics in ancient Egypt and in modern-day America, the correlation between beauty and the beautiful individual's "halo-effect" in society, and how individuals tend to perceive women as more fertile (and valuable) due to their physical attractiveness were examined. A study was conducted at Virginia Commonwealth University (VCU) in which photographs of five Caucasian women wearing no makeup, modern-day makeup (applied in accordance to researchers Nancy Etcoff, Lauren Haley, David House, Angela McKeegan, Richard Russell, Ian Stephen, Shannon Stock, and Sarah Vickery), and ancient Egyptian style makeup (applied in accordance to individuals' cosmetics portrayed by ancient Egyptian works of art), were shown to 11 VCU students (6 female, 5 male). The results were quite similar to those found by the aforementioned researchers, who found that attractive individuals are perceived as more socially competent and likeable, and receive better societal opportunities. Men, since the Neolithic time period, have sought to expand their bloodline, and tend to prefer beautiful women as the birth-givers, as men perceive beautiful women as more valuable and fertile than average-looking women¹²; therefore, because cosmetics increase a woman's perceived beauty, cosmetics can therefore increase a woman's perceived fertility as well. Women who wear cosmetics tend to reap the societal benefits of feminine beauty (collectively known as the "Halo Effect"), which is relevant because it demonstrates the idea that women no longer have to be naturally beautiful in order to receive societal benefits.

Keywords: Cosmetics, Halo-Effect, Perceived Fertility

1. Introduction

The "Halo Effect" signifies the tendency of human beings to assume that a person (usually a stranger) possesses positive traits due to one of their positive external features (usually physical attractiveness), which can alter the human's expectations about the perceived person⁷. The "Halo Effect" has been a recurring concept throughout history (from ancient Egypt to the present day) in various parts of the world; the more physically attractive a person tends to be, the more they are expected to do well in various aspects of their life:

Past studies have shown that attractive people are expected to do better on the job, in school, and in life – and are treated that way – by being agreed with, deferred to, helped, and granted larger personal space. In a recent experimental study using a task for which physical attractiveness did not improve productivity, researchers demonstrated conclusively that employers expect physically attractive workers to perform better at their jobs and be more competent⁴.

The “Halo Effect” is usually limited to those who are naturally attractive, which poses a problem for the vast majority of the population, as the average person is not exceedingly attractive. A solution, however, is an individual’s use of cosmetics. Cosmetics are known to increase an individual’s perceived level of attractiveness, but the influence of cosmetics on an individual’s “Halo Effect” is not as commonly known. In addition to the influence of cosmetics on a woman’s “Halo Effect,” the influence of cosmetics on a woman’s perceived reproductive status is also not commonly known.

Cosmetics in itself is highly varied; since beauty standards have consistently changed over the course of human history, the types (and functions) of cosmetics have also changed. The beauty standards during the ancient Egyptian time period and those today have many differences; therefore, comparing the influence of different styles of cosmetics (those that conform to the current beauty standards versus those that do not conform to modern beauty standards) on the “Halo Effect” and on a woman’s perceived reproductive status is important.

There is a correlation between a woman’s facial beauty enhanced by cosmetics, her “halo effect,” and her perceived reproductive status. The greater the luminance difference between the relatively-darker eyes and mouth and the relatively-lighter rest of the face, the more the woman is perceived as attractive; the primary function of female cosmetics (in ancient Egypt as well as in modern-day America) is to darken a woman’s eyes and mouth relative to the rest of her face, thereby increasing her perception of attractiveness. Because attractive individuals have a “Halo Effect” making them appear more likeable and competent, they are expected to do better overall in life (including their job); this “Halo Effect” extends into other aspects of life, including perceived fertility. The “Halo Effect” that attractive individuals (specifically females) have increases society’s perceptions of these individuals’ fertility.

2. Methods

In order to determine the influence of cosmetics on a woman’s “Halo Effect” and her perceived reproductive status, a study at Virginia Commonwealth University (VCU) was conducted in which photographs of five students wearing three cosmetic styles (Figure 1): no makeup, modern-day makeup, and ancient Egyptian style makeup (Figure 5), were shown to 11 VCU students (6 female, 5 male), who rated the models wearing each makeup style on an attractiveness scale of 1-10 (with 1 being not attractive and 10 being extremely attractive). The test subjects were then asked to answer “yes” or “no” when asked whether or not the model wearing each makeup style could be a mother. The final question for the test subjects was what career they thought the models wearing each makeup style would have; three

choices were given: CEO/Doctor/Lawyer (high status), Teacher/Secretary/Nurse (medium status), and Housewife/Unemployed (low status).

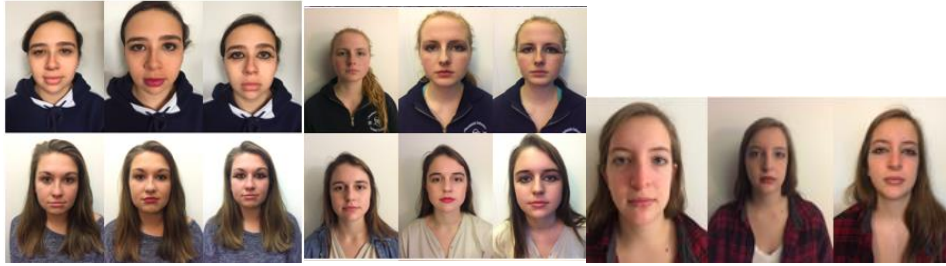


Figure 1. The five models/test subjects in this study

3. Results

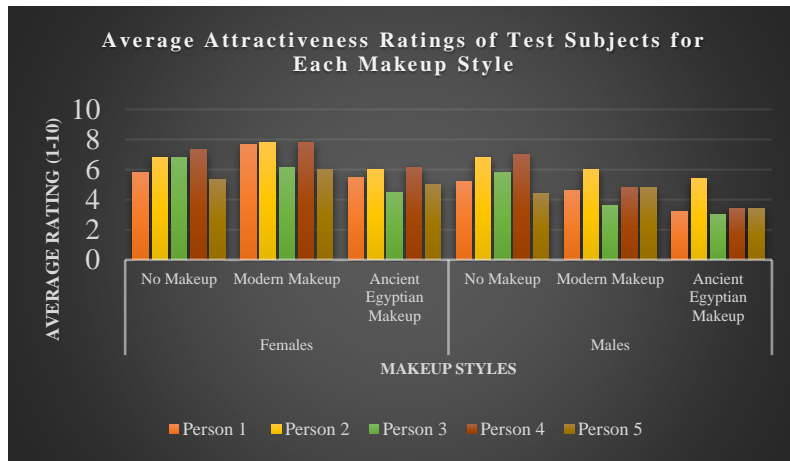


Figure 2. The effect of makeup style on the perception of a woman's attractiveness

The graph shows the ratings of attractiveness given by each of the 11 test subjects (females versus males) to the five models wearing no makeup, modern makeup, and ancient Egyptian makeup (Figure 2). The average attractiveness ratings of all of the models for each makeup style (from left to right) were 6.43, 7.1, 5.43, 5.84, 4.76, 3.68.

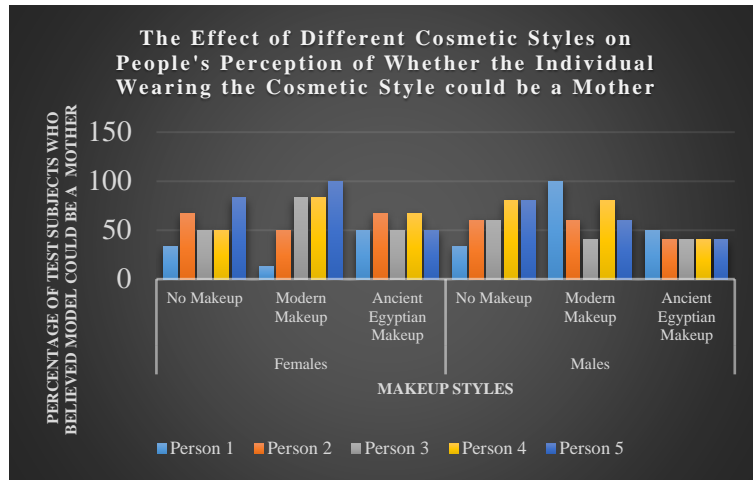


Figure 3. The effect of makeup style on the perception of a woman’s likeliness to become a mother

The figure shows the percentage of test subjects (females versus males) who believed that the model wearing a particular makeup style (no makeup, modern makeup, ancient Egyptian makeup) could be a mother (Figure 3). The average percentages for each model from left to right is 55.66, 65.92, 56.68, 62, 66, 68, and 42.

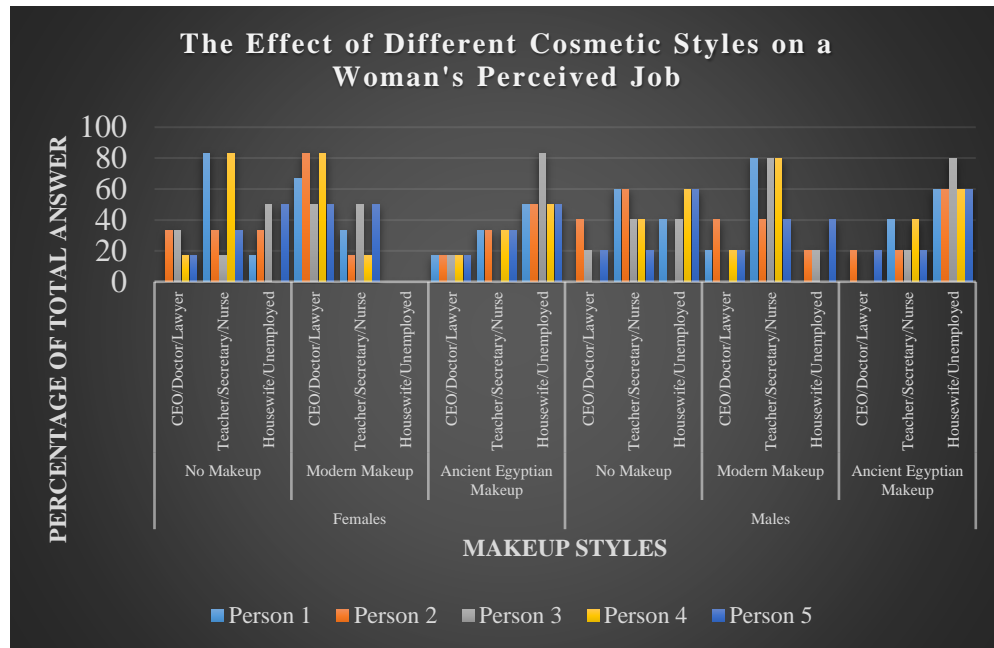


Figure 4. The effect of the style of makeup on one’s perception of a woman’s occupation.

The graph shows the percentage distributions of test subjects' (females versus males) opinions of the models (wearing no makeup, modern makeup, or ancient Egyptian makeup) job (choices: CEO/Doctor/Lawyer, Teacher/Secretary/Nurse, Housewife/Unemployed). The average percentages for each model’s perceived job in each makeup style are (from left to right) 20, 49.98, 30, 66.66, 33.34, 0, 16.7, 26.64, 56.66, 16, 44, 40, 20, 64, 16, 8, 28, and 64 (Figure 4).

Females perceived the models wearing modern makeup as the most attractive and the models wearing ancient Egyptian makeup as the least attractive, while males perceived the models wearing no makeup as the most attractive and the models wearing ancient Egyptian makeup as the least attractive (Figure 2).

Females also perceived the models wearing the modern makeup as the most likely to be mothers, and the models wearing no makeup as least likely to be mothers; males also perceived the models wearing modern makeup as the most likely to be mothers, with the models wearing ancient Egyptian makeup as least likely to be mothers (Figure 3).

The models wearing no makeup were perceived by females as being most likely to be teachers, secretaries, or nurses, and being least likely to be CEOs, Doctors, or Lawyers. Females perceived the models wearing modern makeup as being most likely to be CEOs, Doctors, or Lawyers, and being least likely to be housewives or unemployed (Figure 4). The models wearing ancient Egyptian makeup were mostly perceived by females to be housewives or unemployed, and least perceived to be CEOs, Doctors, or Lawyers (Figure 4). The models wearing no makeup were perceived by males as being most likely to be teachers, secretaries, or nurses, and being least likely to be CEOs, Doctors, or Lawyers (Figure 4). Males perceived the models wearing modern makeup as being most likely to be Teachers, Secretaries, or Nurses, and being least likely to be housewives or unemployed (Figure 4). The models wearing ancient Egyptian makeup were mostly perceived by males to be housewives or unemployed, and least perceived to be CEOs, Doctors, or Lawyers (Figure 4).

4. Discussion

The perceptions of women wearing modern-day makeup were, overall, better than those of women wearing the ancient Egyptian makeup: the models wearing modern-day makeup were rated by both females and males as more attractive than those wearing ancient Egyptian makeup. Both males and females claimed that women wearing modern-day cosmetics have higher likelihoods of becoming mothers than women wearing ancient Egyptian makeup. Women wearing modern-day cosmetics were also perceived as having higher status jobs (CEO/Doctor/Lawyer or Teacher/Secretary/Nurse) than women wearing ancient Egyptian cosmetics.

Because the models wearing ancient Egyptian makeup were rated as being less attractive and having a lower reproductive and job status in comparison to models wearing modern makeup, one may assume that the ancient Egyptian eye cosmetics were useless, as they failed to enhance the attractiveness of the models. Ancient Egyptian eye cosmetics do, however, possess the ability to beautify individuals (at least theoretically), as they increase the luminance difference between the darker eyes and the relatively lighter surrounding face. Richard Russell, the Associate Professor of Psychology at Gettysburg College, explores the correlation between a natural or induced facial luminance difference and perceived attractiveness, as outlined in his study "Sex, Beauty, and the Relative Luminance of Facial Features." Russell states that a natural luminance difference exists between the darker regions of the face, including the eyes and the mouth, and the lighter regions that surround it. Russell claims that people (most commonly, women) use cosmetics to accentuate this luminance difference, usually to darken the eyes and the mouth relative to the surrounding skin, in order to increase their level of attractiveness¹³. This luminance difference results in a unique facial pattern in people, which can affect the perceived attractiveness of these faces; therefore, because the face pattern of the ancient Egyptian style of makeup was less preferred than that of the modern day makeup, the models wearing ancient Egyptian makeup were perceived as less attractive.

To test the theory that the face pattern can affect perceived attractiveness, Russell organized four different experiments, of which the first two were the most critical. In each of Russell's experiments, 90 images of mostly Caucasian adult faces (45 male, 45 female) were digitally altered through the use of Photoshop, and then evaluated on an attractiveness scale of one to seven, with one being highly unattractive and seven being highly attractive. Russell's first two experiments involved the alteration of the relative luminance of these faces; the first experiment involved the lightening and darkening of the eyes and the mouth relative to the rest of the face (the rest of the face was left untouched) while the second experiment involved the lightening and darkening of the rest of the face relative to the eyes and mouth (the eyes and mouth were left untouched). Russell attempted, through these first two experiments, to support the idea that a relative luminance difference between the eyes and mouth and the rest of the face can alter the perceived attractiveness of the face. Russell's third and fourth experiments acted as controls to the first two experiments: the third experiment was essentially the same as the first, except that the images showed the entire head (including hair) and neck, which were excluded from the first experiment. Russell's fourth and final experiment was similar to his second experiment, except that the entire face was either darkened, lightened, or left unchanged; in other words, the eyes, mouth, and the surrounding skin were all altered in the same way. The purpose of Russell's fourth experiment was to indicate whether the relative luminance differences in faces really does affect the perceived attractiveness of the faces. Russell's four experiments, overall, emphasized that a luminance difference (especially between the darker eyes and mouth and the relatively lighter surrounding skin) increases the perceived attractiveness of female faces. Russell's study supports the idea that although unintentional, ancient Egyptian women were perceived as more attractive to other ancient Egyptians when they wore the "protective" eye paint, as the eye paint increased their facial luminance difference.

Although Russell claims that an increase in facial luminance difference (which the ancient Egyptian cosmetics certainly increased) increases perceived attractiveness, the attractiveness ratings of models wearing the ancient Egyptian makeup style were low. An explanation for this could be that the makeup styles of modern-day and ancient Egyptian makeup vary to a great degree; possibly due to the constantly changing beauty standards. Oumeish contends that beauty standards constantly change due to social and other cultural factors, but people (especially women) have always searched for ways to appear physically attractive¹².

Ancient Egyptian beauty standards involved the application of eye cosmetics that not only increased an individual's attractiveness but also increased their social acceptance and respect, as the eye paint represented the ancient Egyptian sun god. Those who wore the eye paint were protected from evil and were therefore socially accepted while those who did not wear the eye paint were not protected and therefore not socially accepted. Oumeish Youssef Oumeish, visiting professor of Tulane University who studies Dermatology-related concepts, explores ancient Egyptian beauty standards in his article "The Cultural and Philosophical Concepts of Cosmetics in Beauty and Art through the Medical History of Mankind." Oumeish contends that ancient Egyptian women bathed in goat's milk (due to its lactic acid) to soften and lighten their skin, and used other "cosmetics" to heal minor injuries¹². According to Judith Illes, author of the article "Ancient Egyptian Eye Makeup," however, the most predominantly used ancient Egyptian cosmetic was eye paint⁸. Both males and females in ancient Egyptian society, according to Illes, wore eye cosmetics. Illes asserts that eye cosmetics, for the ancient Egyptians, served a far more important role than simply beautification: they believed that eye cosmetics possessed medicinal, magical, and spiritual characteristics.

The ancient Egyptians, for example, believed that outlining the eyes with a pigment to create an almond shape would protect them from the Evil Eye, according to Illes. Analysis of the Ancient Art exhibition at the Virginia Museum of Fine Arts revealed a very commonly recurring element in ancient Egyptian mummy art that was, in fact, the painted (protective) eye. One piece on display, titled "Inner Coffin of the Charioteer Atef-amon," is an ancient Egyptian coffin that has a painting of an individual, presumably a man, named Atef-amon⁹. The painting portrays Atef-amon wearing eye cosmetics. The eye cosmetics include black eye paint, which could have been composed of either green malachite (Udju) or galena (Mesdemet), as these two materials were the primary components of ancient Egyptian eye paint⁸; lines are drawn (from both eyes) extending horizontally from the outer corner of the eye to about one inch away from the ear; the line is perpendicular to the ear. Another piece called "Mummy Mask" depicts an individual wearing the same design of eye paint (with the extended lines) on the mask of a coffin. The only difference between the cosmetics of this piece and the last is that this figure's eye-lines are relatively thinner. A third piece called "Funerary Figurine of Hapi" depicts an individual, presumably a woman, wearing the same type of eye paint as displayed in the aforementioned pieces, but this time the extended-lines are not present; the eye paint is simply used to outline the eye, making the look appear less dramatic⁶. Several other ancient Egyptian works of art depict individuals as wearing the same eye cosmetics; both males and females wear the extended eye-line design. In paintings of various ancient Egyptian gods, the extended eye-line design is present. Overall, the most common element of ancient Egyptian cosmetics (as portrayed by ancient Egyptian art) was, in fact, the recurring "eye."

According to the online Symbol Dictionary, this recurring eye is called the "Eye of Horus," which is an ancient Egyptian symbol that symbolizes the right eye of the ancient Egyptian Falcon God Horus⁵. The right eye represented the sun (Sun God Ra), while the left eye represented the moon (Moon God Tehuti); the eyes, collectively, represented the universe. Ancient Egyptians believed that this eye had healing and protective powers. Perhaps this could be why several ancient Egyptian works of art depicted individuals as having such eyes; to protect and, perhaps, heal them. Ancient Egyptian beauty standards, overall, involved heavy usage of eye cosmetics, specifically the eye paint portrayed in ancient Egyptian artwork. This eye makeup not only increased the luminance difference in the ancient Egyptians' faces (and therefore their level of attractiveness to fellow ancient Egyptians), but most likely increased their perceived status in ancient Egyptian society as well, as the eye paint represented the ancient Egyptian gods; those who adorned the symbol of god were subconsciously given more respect in ancient Egyptian society.

Modern day beauty standards, by contrast, involve cosmetics that mainly increase the individual's facial luminance difference, and therefore their level of attractiveness; modern beauty standards do not require representation of godly figures. A popular makeup tutorial found on YouTube with over one million views, titled "Romantic Matte Smokey Eye" by Beauty "Vlogger" Carli Bybel, was analyzed. Bybel begins her makeup look by applying an eye primer¹. She then applies eye shadow: white shadow in the tear duct of her eye, black shadow in the outer corner of her eye for contrast, light grey shadow in the crease of her eye, black eyeshadow to create the "wing," and a light amount of the same eyeshadow underneath her the water line of her eye. Bybel uses liquid eyeliner to create a wing, mascara to make her eyelashes appear elongated, darkening her eyes; liquid concealer underneath her eyes to conceal dark circles, and bronzer to make her face appear less pale. She contours her face by drawing dark lines (dark relative to her skin color) to accentuate the darker areas of her face, and applying powder (lighter than her skin color) to accentuate the rest of her face. After blending the dark lines and light powder, Bybel's face appears to have a natural contrast look.

She then applies blush on her cheekbones to slightly redden the color of her cheeks. Bybel finally applies dark magenta-colored liquid lipstick, topped with a reddish lip liner, to her lips.

Bybel's cosmetic products contribute, overall, to her increased level of attractiveness because they collectively increase the luminance difference in her face: the eyeliner, mascara, and various eyeshadows darken the eyes while the foundation and concealer lighten her surrounding skin; the contour also increased, to a large degree, the intricate contrasts of her face. Bybel's dark magenta lips also increased her overall level of attractiveness, as according to researchers Ian D. Stephen and Angela M. McKeegan in their study "Lip Colour Affects Perceived Sex Typicality and Attractiveness of Human Faces," lip luminance and the luminance contrast of a face can increase the attractiveness and sex typicality (masculinity or femininity) of that face¹⁵. Stephen and McKeegan postulate that increased lip redness enhances femininity and attractiveness of female faces. Stephen and McKeegan, to test their hypothesis, organized a study involving 31 adult Caucasian participants aged 18-27, of which eleven were female and twenty were male, who were shown photographs of 48 Caucasian people (21 males and 27 females aged 18-22) without any skin makeup and with neutral facial expressions. In each of the photographs in Stephen and McKeegan's study, only the lip color was altered, using a tool called Matlab, in accordance with the CIE Lab values "a" (red-green), "b" (yellow-blue), and "L" (lightness-darkness); the skin, clothing, background, and hairstyle of the models was kept constant throughout all of the frames. A total of 288 different trials (frames) were present in Stephen and McKeegan's study, and each was shown to the 31 participants one at a time; the participants were instructed to select the frames that appeared the most attractive and the most feminine (for female faces). According to the results of Stephen and McKeegan's study, lip redness was increased in order to enhance the attractiveness and femininity of female faces. Overall, the contrast between lip color and skin color increases the perception of attractiveness and sex typicality in females. Bybel's varied beauty products thereby increased the overall contrast in her face and her lips; a seemingly simple alteration despite Bybel's incredible effort and precision.

The seemingly simple enhancement to Bybel's face with regard to her attractiveness is, in fact, one of the most prominent aspects of the modern day. Oumeish, in his article "The Cultural and Philosophical Concepts of Cosmetics in Beauty and Art through the Medical History of Mankind," asserts that although America is a technologically advanced society, people like Carli Bybel (and the millions who watch her videos) still seek beauty, due to the propagation of seemingly unobtainable beauty standards by the media¹². One problem, however, is that only a certain age group tends to be represented in the media; only youthful-appearing individuals are portrayed in popular culture. Cosmetics can easily enhance the natural beauty of such individuals, but women over a certain age would no longer appear as aesthetically pleasing as younger women with the cosmetics¹¹. A future study should be done to evaluate the differences in attractiveness ratings of older women with and without cosmetics and of younger women with and without cosmetics.

Another problem with the media is that Photoshop and other digitally-altering tools make individuals appear far more attractive and glamorous than they would otherwise appear². Media models, for example, wear gaudy makeup in photographs; although in photographs the models appear physically beautiful, in person, such glamorous makeup is not preferred by others. A study called "Cosmetics as a Feature of the Extended Human Phenotype: Modulation of the Perception of Biologically Important Facial Signals" done by researchers Etcoff, Stock, Haley, Vickery, and House demonstrate the idea that individuals wearing an overly glamorous cosmetic style are perceived as less likeable, trustworthy, and competent in comparison to those wearing less gaudy makeup styles⁴. In this study, photographs of models with and without makeup were rated in terms of attractiveness, likeability, trustworthiness, and competence in order to determine whether the extended phenotype (cosmetics) plays any role in people's perceptions of the four aforementioned categories. Four makeup looks were given to the women in this study: no-makeup, natural makeup, professional makeup and glamorous makeup (more makeup was applied with each level). Makeup artists applied cosmetics to the models, which was then digitally corrected. The images in Etcoff, Stock, Haley, Vickery, and House's study were of 25 women (of different ethnicities, namely Hispanic, Caucasian, and African-American) aged from 25-50 years old. In this study, 149 adults of different ethnicities (61 male, 88 female) were shown the images of the women for only 250 ms, and were then asked to rate the models on a seven point scale ("not at all" to "extremely") in each of the four categories. Etcoff, Stock, Haley, Vickery, and House's then recruited 119 adults of different ethnicities (30 male, 89 female) to observe the images of the same women for an unlimited amount of time, and rate the models on the same seven point scale ("not at all" to "extremely") in each of the four categories. Based on the results of this study, ratings of perceived attractiveness and competence increased with cosmetics in both studies, suggesting that cosmetics influence people's perceptions with regard to these categories; however, too much makeup can reduce the positive effects of cosmetics, such as attractiveness.

The aforementioned study effectively analyzed the interaction between increasing levels of cosmetics and increased social perceptions. Although my study did not evaluate the manner by which increased levels of cosmetics altered people's perceptions of the models as precisely as did Etcoff, Stock, Haley, Vickery, and House in their study, the

ancient Egyptian style of makeup could, in some ways, be considered relatively excessive in comparison to the modern day makeup (especially with regard to eye makeup). With the assumption that ancient Egyptian makeup acts as the “glamorous” style of makeup in this study, the results of my study can be compared to those of Etoff, Stock, Haley, Vickery, and House’s study: the ancient Egyptian style of cosmetics in my study, akin to the glamorous style of makeup in the aforementioned study, resulted in decreased perceptions (with regard to attractiveness, likelihood of motherhood, and job status in my study, and likeability, competence, and trustworthiness in the aforementioned study). A reason for this could be that the ancient Egyptian and the glamorous styles of makeup appeared artificial to the test subjects observing images of the models wearing each respective style, causing bias in the test subjects’ judgments of the models. Nevertheless, the comparison of ancient Egyptian to modern makeup worked as well.

Attached below (Figures 5-6) are two photographs of ancient Egyptian cosmetics versus modern-day American cosmetics.



Figure 1. Ancient Egyptian-style Makeup¹⁰

The figure shows an ancient Egyptian sarcophagus with artwork demonstrating the ancient Egyptian style of makeup (long eyeliner starting from corners of the eyes) (Figure 5). Source: The Virginia Museum of Fine Arts

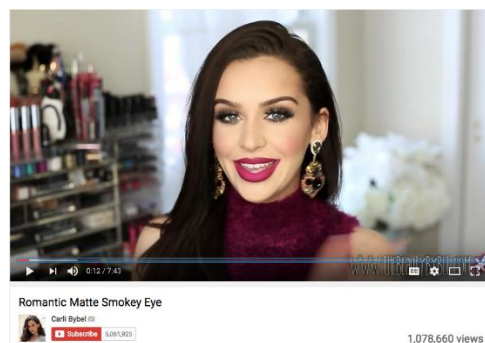


Figure 2. Modern-style Makeup¹

The figure shows the popular video-blogger named Carli Bybel who uploads several modern-style makeup tutorials. Bybel demonstrates that modern-day styles of makeup involve eye makeup that makes eyes darker, lipstick that makes lips darker, and foundation that makes the surrounding skin lighter (Figure 6). Web link: <https://www.youtube.com/watch?v=RLduGa3S6vQ>

Women used cosmetics in ancient Egypt not only for the purpose of beautification (due to the increased luminance difference between their eyes and face), but for protection from the Evil Eye and illnesses as well, as their painted eyes symbolized the Eye of Horus. According to Etcoff, Stock, Haley, Vickery, and House, the ancient Egyptians possessed color cosmetics still used by people in modern society, though ancient Egyptians only used color cosmetics on special occasions (most likely a formal event). The main difference between ancient Egyptian and modern day uses for cosmetics is that ancient Egyptians associated magic, medicine, and spirituality with eye cosmetics; the ancient Egyptians used cosmetics in order to protect and heal themselves, as they wore eye paint representing the eye of their sun god, Ra, while modern day makeup users simply do so for the purpose of increasing their level of attractiveness. A current problem with cosmetics that most likely did not exist in ancient Egypt was the propagation of unrealistic beauty standards through popular media, causing people to overuse cosmetics, decreasing the benefits one receives from cosmetics; specifically perceived attractiveness.

Society tends to reward individuals simply for the external feature of beauty; attractive individuals tend to have what is called the “Halo Effect,” which increases people’s positive perceptions of that individual. Because not every individual is naturally beautiful, people use cosmetics to enhance their beauty. The study “Cosmetics as a Feature of the Extended Human Phenotype: Modulation of the Perception of Biologically Important Facial Signals” conducted by researchers Etcoff, Stock, Haley, Vickery, and House supports the idea that cosmetics increases individuals’ perceived attractiveness as well as their perceived social competence⁴. According to Etcoff, Stock, Haley, Vickery, and House, people with facial beauty have been known to have several benefits in society, including having a better chance of getting a job and higher pay; those with facial beauty also tend to be more skilled and confident, and therefore more successful. Etcoff, Stock, Haley, Vickery, and House assert that beautiful people are expected to have more social competence, and are expected to do better in school and work as well. Etcoff, Stock, Haley, Vickery, and House note that people tend to believe that “what is beautiful is good.” This observation by Etcoff, Stock, Haley, Vickery, and House offers an explanation to my study, in which a correlation existed between attractiveness, high job status (CEO/Doctor/Lawyer), and potential for motherhood (Figures 2-4). An interesting aspect of this positive correlation is that increased attractiveness of the models seemed to correlate with increased perception of the models’ likelihood for motherhood (Figures 2-3).

The attractiveness of the models seemed to influence the perception of the model’s likelihood of becoming a mother. A woman’s perceived probability of being a mother is, in other words, a woman’s perceived fertility or reproductive status; therefore, according to the results of my study, an individual’s level of attractiveness has a positive correlation with an individual’s perceived fertility. According to the study “Facial Attractiveness and Fertility in Populations with Low Levels of Modern Birth Control” done by researchers Silva, Lummaa, Muller, Raymond, and Alvergne, “attractiveness” is defined as the ability to be favored in the process of mate selection; attractive characteristics are indicative of an individual’s reproductive status or value¹⁴. Silva, Lummaa, Muller, Raymond, and Alvergne claim that facial attractiveness reveals information about the individual, such as the individual’s sex typicality and health. In one study involving Women in the Ache of Paraguay, it was found that those with attractive faces had a 1.6 times higher fertility rate than women with comparably less attractive faces. By contrast, a study conducted in Poland could not find a clear correlation between female facial beauty and her number of offspring. Silva, Lummaa, Muller, Raymond, and Alvergne also note that a study conducted in the United States found that attractive individuals produced more offspring than unattractive individuals; attractive males produced 12% offspring than unattractive males, and attractive females produced 16% more offspring than unattractive females. According to Silva, Lummaa, Muller, Raymond, and Alvergne, the Ache of Paraguay study is the only research study that was conducted in a population with high fertility and polygyny.

5. Conclusion

The overall conclusions made from the aforementioned research studies collectively propose the theory that the application of cosmetics increases a woman’s “Halo Effect” and her perceived reproductive status. This correlation introduces the idea that those who choose not to conform to current beauty standards will receive relatively less social

benefits, a problem that affects the vast majority of the human population (as most humans are of near or below average attractiveness). Although in my research study a relationship between increased attractiveness, increased perceptions of job status, and increased perceived reproductive status was deduced from the minimal data collected, in the future, data would need to be collected from a larger test subject group (perhaps at least 200 observers with an equal distribution of males and females in this test subject group). An increased test subject group would increase the amount of data collected, which would create a stronger correlation between perceived reproductive status (fertility), enhanced attractiveness (due to cosmetics), and an increased "Halo Effect."

6. Acknowledgments

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