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Variations in the Facial Prominence of a
Hollywood Action Heroine:
The Case of Katniss in the Hunger Games

An honors thesis presented to the
Department of Communication,
University at Albany, State University of New York
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for graduation with Honors in Communication & Rhetoric
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Abstract

Numerous studies have found that in a variety of media, men are depicted with a greater degree of facial prominence than women. This tendency has earned the name, “the face-ism phenomenon.” It is argued to promote sexist notions that enable the objectification of women while simultaneously reinforcing stereotypical gender roles. Greater focus on the face is said to give off stronger impressions of intelligence, dominance, and the personality of an individual. This study measures the face-ism of the character Katniss Everdeen over the course of film, *The Hunger Games*. The results found that compared to other women in previous studies, Katniss was on average shown with a relatively high degree of facial prominence. However, there were also some instances where she was shown with low degree of facial prominence. Implications of and suggested explanations for the observed variations are discussed.

Keywords: facial prominence, face-ism, body-ism

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Introduction

With all the media content that is being consumed on a daily basis, it is important to reflect on the ways in which it may be affecting the population at large. Media content and those who provide it have the ability to shape perceptions, sometimes without people even realizing it. The degree of facial prominence displayed in visual media may seem like a trivial aspect to examine, but numerous studies have found that its pattern of variation between genders has some powerful social implications with respect to reinforcing gender stereotypes, and promoting sexual objectification. Males tend to be depicted with greater emphasis on their faces, while women are conversely shown with more of their bodies. This well-documented tendency has permeated media across cultures for many years, and has earned the title, “the face-ism phenomenon.” The present study focuses on the variations in facial prominence of Katniss Everdeen throughout the motion picture, *The Hunger Games*. By measuring the varying degrees of facial prominence she displays, one can examine the conditions under which Katniss, a strong female character, coincides or contradicts with the face-ism phenomenon.

Literature Review

Dane Archer, Bonita Iritani, Debra Kimes, and Michael Barrios first coined the word “face-ism” in a 1983 study on relative facial prominence in illustrations of men and women. It is defined as, “The relative prominence of the face in a photograph, drawing, or other depiction of a person” (Archer, Iritani, Kimes, & Barrios, 1983, p. 726). A measure called a “face-ism index” was devised to help gauge this facial distinction. Calculating this index consists of dividing the distance between the top of the head and the bottom of the chin, by the distance between the top of the head and the lowest part of the person’s body. This original study claims that men typically have a higher face-ism index than women in media (Archer et al., 1983, p. 726).

Archer and his associates concluded that the face-ism phenomenon has actually been established across the globe for centuries (1983, p. 734). Since media representations possess an uncanny ability to infiltrate the general notions of the public at large, they undoubtedly provide us with a means for interpreting the character, essence, personality, individuality, and identity of the subject depicted. Being that the cranium houses all these cognitive traits, this could imply that the mind is associated with being the quintessential embodiment of man, while conversely suggesting that for women, it is predominantly their bodies (Archer et al., 1983, p. 725-726).

Christine Iijima Hall and Matthew Crum (1994) use the term “body-ism” as a counterpart to face-ism. Body-ism refers to the tendency for women’s bodies to be shown more often than men’s in pictures. With respect to the overarching

phenomenon, face-isms are to males as body-isms are to females. Both are measured using the same index, they just refer to the different degree of facial prominence that each gender is typically characterized by. Hall and Crum (1994) performed a study in which they measured body-isms in televised beer commercials to prove that socialization to stereotypical gender roles and sexist messages continue to persist into adulthood. Their focus was on the common advertising practice of using body shots to portray women as sexual objects (Hall & Crum, 1994, p. 329). They argue that doing so propagates a “non-human” image of women, stripping them of their identities and reducing them to part of the merchandise (Hall & Crum, 1994, p. 330). Emphasizing body-isms more often for women than for men contributes to the stereotypical notion that, “Women are ‘bodies’ rather than ‘somebodies’” (Hall & Crum, 1994, p. 335).

In addition to enforcing gender roles and stereotypes, high face-ism is also believed to imply dominance and intelligence. A study by Miron Zuckerman and Suzanne Kieffer examined these implications and found that while the former rang true, the evidence did not support the claims of the latter (Zuckerman & Kieffer, 1994, p. 86). There failed to be a correlation between degree of facial prominence and perceived intelligence of the subject depicted (Zuckerman & Kieffer, 1994, p. 91). Although photographs with higher face-ism were also rated higher in dominance, Zuckerman and Kieffer stipulate that the reason why such an impression is given off has yet to be determined. They do, however, point out that the word “face” itself carries an association with confrontation, like when one “faces

someone,” or two go “face to face” against each other (Zuckerman & Kieffer, 1994, p. 92).

Unlike Zuckerman and Kieffer (1994), a study by Norbert Schwarz and Eva Kurz did find a correlation between perceived intelligence and high facial prominence (Schwarz & Kurz, 1989, p. 311). The research required the subjects to rate stimulus persons in various photographs according to two different scales. One scale reflected a competence factor, using words like intelligent, ambitious, assertive, and makes decisions easily. The other suggested a factor of likeability and emotional expressiveness, using adjectives like sensitive, warm, and likeable. The purpose of creating these two scales was to distinguish between traits that are prototypically attributed to males and females, respectively. The results found that photos with higher degrees of face-ism were associated more often with characteristics of the former scale, regardless of the sex of the subject or the stimulus (Schwarz & Kurz, 1989, p. 313). Interestingly, only the female subjects ranked stimuli depicted with greater facial prominence higher on the latter scale as well (Schwarz & Kurz, 1989, p. 314). In their conclusion, Schwarz and Kurz (1989) noted, “the finding that a high degree of facial prominence elicits more positive rather than more sex-typed attributions does not imply that the media’s face-ism bias in depictions of men were not a sexist issue” (p. 315).

In addition to gender, Glenn Sparks and Christine Fehlner (1986) suggest that occupation is also related to facial prominence. Their analysis included photographs from the 1984 presidential campaign, in which female candidate Geraldine Ferraro was running for the vice presidency. Sparks and Fehlner (1986)

found that for official government roles, women received an equal facial prominence as men. However, in occupations depicted as being predominantly female, such as actresses, a much lower face-ism ratio was measured (p. 70). Similarly, in a study by Matthews (2007) on hidden sexism in the workplace, men were also depicted with higher face-ism ratios than women in the same intellectually focused occupations (i.e. executive/businesspersons, politicians, scientists/educators) (p. 523). In general, however, the results showed no significant differences of facial prominence between genders. This was an unanticipated finding, considering the extensive amount of data that has been compiled indicating existence of the face-ism phenomenon throughout time and across cultures. Matthews (2007) suggested that this discrepancy could be due to his choice of media, or perhaps since this is one of the more recent studies on the subject, gender differences in face-ism have managed to diminish over time (p. 522). Gary A Copeland (1989) pointed out the value of examining findings that seem to contradict with the face-ism effect, such as those found by Matthews (2007). Copeland (1989) went on to say that doing so “should help provide a better understanding of gender differences in framing presentation” (p. 213).

David K. Dodd, Veronica Harcar, Barbara J. Foerch, and Heather T. Anderson (1989) claimed that social roles are an important variable to take into account when examining the face-ism effect. They suggest, for example, that politicians are typically linked with being savvy and intelligent, which are traits that arise from the facial area. Entertainers, on the other hand, are better known for their body-oriented traits like physical attractiveness. Dodd et al. (1989) specified that if their

hypothesis was supported, it would imply that the findings of Archer et al. (1983) “may be at least partly due to roles that men and women differentially fill in society rather than to a universal view of men and women” (Dodd et al., 1989, p. 326). Dodd et al. (1989) conducted two studies, the first of which aimed to address the significance of this confounding variable. It was found the magazine photos do reinforce sex role stereotypes, but the face-ism effect was more due to the social role (i.e. entertainers, mothers, lovers, caretakers) women were depicted as playing than to their gender alone. Depicting women in these stereotypical female social roles reinforces the face-ism phenomenon and encourages showing females with more body-isms. In their second study, Dodd et al. (1989) also established that women are pictured with their mouths open more often than men. They argue that regularly portraying women with less serious expressions fosters the stereotype that women are more superficial than men, who are contemplative and serious (p. 330).

Face-ism became an extremely popular topic of research in the 1980’s. Over twenty years after the findings of Archer et al. (1983) were published, Ursula Szillis and Dagmar Stahlberg (2007) sought to explore whether the phenomenon still managed to thrive (p. 3). They were particularly concerned about its presence in newer forums of media such as the Internet, which has the ability to simultaneously reach billions of people all over the world. The occupational and social status of women has progressively been getting closer to that of men. It was believed this historical change would be reflected by gender roles shifting to become more equalized, and therefore render the face-ism effect less pronounced overall in media

(p. 4). To investigate this theory, Szillis and Stahlberg (2007) computed the face-ism ratios of male and female professors on university Web pages. The webpage for the German parliament was also examined for sex differences in facial prominence. These websites were chosen because male and female subjects depicted on them were presumed to be of equal status (p. 5).

Szillis and Stahlberg (2007) found that the face-ism phenomenon prevailed. The face-ism index for male parliament members was .71 on average, while their female counterparts were portrayed with an average face-ism index of .67. The sex difference in facial prominence was even more apparent in the images of professors, and resulted in a mean index of .66 for males, but only .59 for females in the same profession (p. 6). This clashes with the results found by Dodd et al. (1989) as well as Sparks and Fehlner (1986), who did not find there to be substantial differences between men and women when they shared similar status. By maintaining consistent social roles for males and females in their experiment, Szillis and Stahlberg demonstrated that gender still plays a critical role in face-ism (p. 8). Age was also taken into account, and it was found that older female politicians were portrayed at higher face-ism levels than younger ones. However, when it came to the facial prominence of male politicians, face-ism was higher in general, regardless of age (p. 3).

Zuckerman (1986) sought to determine which conditions enabled or inhibited the face-ism phenomenon (p. 217), and what the degree of facial prominence implies in regard to perceived dominance, submission and overall positivity (p. 219). When indices were measured across various kinds of

publications, the results showed that the face-ism phenomenon was not as pronounced in publications considered as more feminist. A relationship between high face-ism, high dominance ratings, and low positivity ratings was also indicated based on the responses of both men and women. This observation led Zuckerman to conclude that, “body cues provide more information about dominance whereas facial cues provide more information about positivity” (p. 226). As previously mentioned, Schwarz and Kurz (1989) later declared that this latter tendency seemed to only hold true when the observers were female (p. 314).

Copeland (1989) utilized the same face-ism index method as Archer et al. (1983) and took it beyond what was originally intended by applying it to prime time network programming (p. 210). The study selected eight programs from ABC, two from CBS, one from Fox, and three from NBC. Single shots within a ten-minute span were then examined for each of the fourteen programs. Copeland (1989) defined a shot as, “a continuous piece of video from one transition to another” (p. 211). Only the shots containing a single person were coded, making for a total of 579 shots. The characters depicted in the shots were then categorized according to gender and age group (p. 211). The results coincided with the findings of the original face-ism study. Women received a mean face-to-body ratio (MFBR) of .41, and men had a MFBR of .47 (p. 212). Copeland (1989) also predicted that the face-ism phenomenon would be more intensely distinguished in single camera shows than those using multiple cameras. Although the data failed to support this second hypothesis, the phenomenon still proved to be just as prevalent in the mobile

images of television as it was in the stationary images that were previously examined (Copeland, 1989, p. 213).

Television has an undeniable influence on society, especially when it comes to reinforcing stereotypical gender roles. The minds of children are particularly susceptible to this, and they become more and more accepting of these positions as they are repeatedly exposed to them on television. Seven studies published over the course of twelve years all concluded that women are cast in dependent roles more often than men in television advertisements (Furnham & Paltzer, 2011, p. 3). Women are also more likely than men to be depicted in advertisements selling body products (Furnham & Paltzer, 2011, p. 4). Being conditioned so early on to the idea that bodies play a more imperative role when evaluating women than men could be a reason that the face-ism phenomenon is so widespread and deeply rooted in society (Copeland, 1989, p. 210).

With all the theoretical implications that the face-ism phenomenon could possibly indicate, it is important to keep in mind that the degree of face-ism displayed in an image is a reflection of its creator's values and intentions. It is difficult to say whether or not providers of media content are aware of the broader messages they may be communicating to society-members. It could be that the values and beliefs of content providers inevitably leak through onto their work unbeknownst to them. Content providers could also be aware of particular cultural and social values of their intended audience, and therefore plan the degree of facial prominence accordingly (Zuckerman & Kieffer, 1994, p. 86, 91).

Methods

An abundance of studies have been conducted to investigate the differences in relative facial prominence between genders. Copeland (1989) took this concept beyond studies of still photographs by applying it to primetime network programming. None, however, have attempted to examine facial prominence in a motion picture. The present study utilizes the face-ism index developed by Archer et al. (1983), and applies it to *The Hunger Games* film to measure the facial prominence of the main character, Katniss Everdeen. This particular movie was selected due to the fact that it was released relatively recently and it showcases a strong female character as the lead role.

The numerator of the face-ism ratio is the distance between the top of the head and the lowest part of the chin, and the denominator measures the distance between the former and the lowest visible part of the body. As stipulated by Archer et al. (1983), should the top of the head or the chin be concealed by hairstyles, hats, hands, and the like, the head's boundaries should be estimated to the best of one's ability. The two numbers are divided to calculate the face-ism index. The face-ism index can vary from zero to one. An index of one indicates that only the face is shown, none of the body. Conversely, an index of zero means that body parts are shown, but none of the face. Since this index was originally created for photographs and drawings, there is relatively little scholarship demonstrating exactly how to measure the moving images of motion pictures. When unprecedented issues inevitably arose, rules for coding were developed by the author.

Facial prominence was assessed on a shot-by-shot basis. Copeland's (1989) definition of a shot as being, "a continuous piece of video from one transition to another" (p. 211) was adopted. The first four shots of the film were intended to set up the plot for the audience, and consisted solely of words on a black screen; these shots were discounted. For the purpose of this study, shots were sequentially numbered, beginning with the first glimpse of an actual image. Only the 2,166 shots of the film that contained Katniss were coded. These shots were measured for facial prominence. They were coded for the face-ism index of Katniss, and characters co-present.

In fast-moving action sequences it was sometimes difficult to settle on a single face-ism score. On numerous occasions, the face-ism index would change several times throughout the course of a single shot. This could happen, for example, when the camera panned up and down Katniss or zoomed in and out. Whenever this kind of situation arose, the shot was sub-divided alphabetically. Sub-divisions were singled out at points in which the camera lingered extensively, and where the maximum amount of face or body for that shot was shown. Shots were also sub-divided in instances where multiple images of Katniss were displayed at once, like when she was positioned next to a picture of herself on a screen.

Many scenes consisted of shots that were taken from behind Katniss' head, as if the camera was seeing from her point of view. This effect was especially prevalent in scenes where Katniss was communicating with one or two co-present people. The camera would film her from behind when somebody was speaking to her or reacting to something she said. It would display her from a frontal view when

responding to a co-present character, and then fluctuate between the two angles as the conversation continued. Use of this cinematic technique led there to be an abundance of shots labeled as having a face-ism index of zero (i.e. because the back of the head shots did not show her face), which caused a dramatic decrease in the face-ism averages of individual scenes and the film in general. This factor posed a problem when attempting to draw meaningful conclusions regarding the prevalence of the face-ism phenomenon in *The Hunger Games*. Shots exhibiting face-ism indices of zero were excluded from the data to alleviate this issue for analytic purposes, leaving 1,578 shots to be taken under consideration as opposed to the original 2,166. The coder divided the film into 45 scenes, based upon changes in setting and the activities being portrayed.

Results

The high volume of face-ism measures of a single character appearing in a single film allows for multiple options in the organization of the data. Table 1 below shows the relative frequency of face-ism measures that fall within ranges of equal length. It indicates that in 19.07% of the shots Katniss appeared in, she scored an index within the range of .9 to 1, making for a frequency of 301 shots. In the .8 to .899 range the percentage was 12.42%, with a frequency of 196 shots. Two hundred eighty-seven shots fell within the range of .7 to .799, making for a total of 18.19%. Indices within this range seemed to be the tipping point on the face-ism scale, at which an observer seems to capture more of Katniss' face and more of her

as a person. The relative frequencies of shots per interval tend to decline after this point.

The cumulative percentage of the top three ranges is 49.68%, just under 50%. Reciprocally, the bottom three ranges are 12.8% for accumulated percentage. Within what might be termed the middle ranges of .3 to .699, the cumulative percentage is 37.52%. These numbers indicate a greater emphasis in the direction of presenting the character of Katniss in a facially prominent way. This tilt toward higher facial prominence is also indicated by the trend in the smaller frequencies.

Table 1:
Face-ism Ranges by Tenths

Range	Shot Frequency	Percentage
.9-1	301	19.07%
.8-.899	196	12.42%
.7-.799	287	18.19%
.6-.699	192	12.17%
.5-.599	148	9.38%
.4-.499	134	8.49%
.3-.399	118	7.48%
.2-.299	89	5.64%
.1-.199	110	6.97%
0-.999	3	0.19%

Table 2 shows the average face-ism index as calculated for each of the 45 scenes (short scene titles have been devised by the author). Katniss was not present in the first scene, which is why scene two was the starting point. Looked at from a chronological perspective, the table shows that the transitions in facial prominence from scene to scene do not indicate a flat, uniform pattern. This is demonstrated even more clearly by the graphical rendering of the data in Graph 1, which

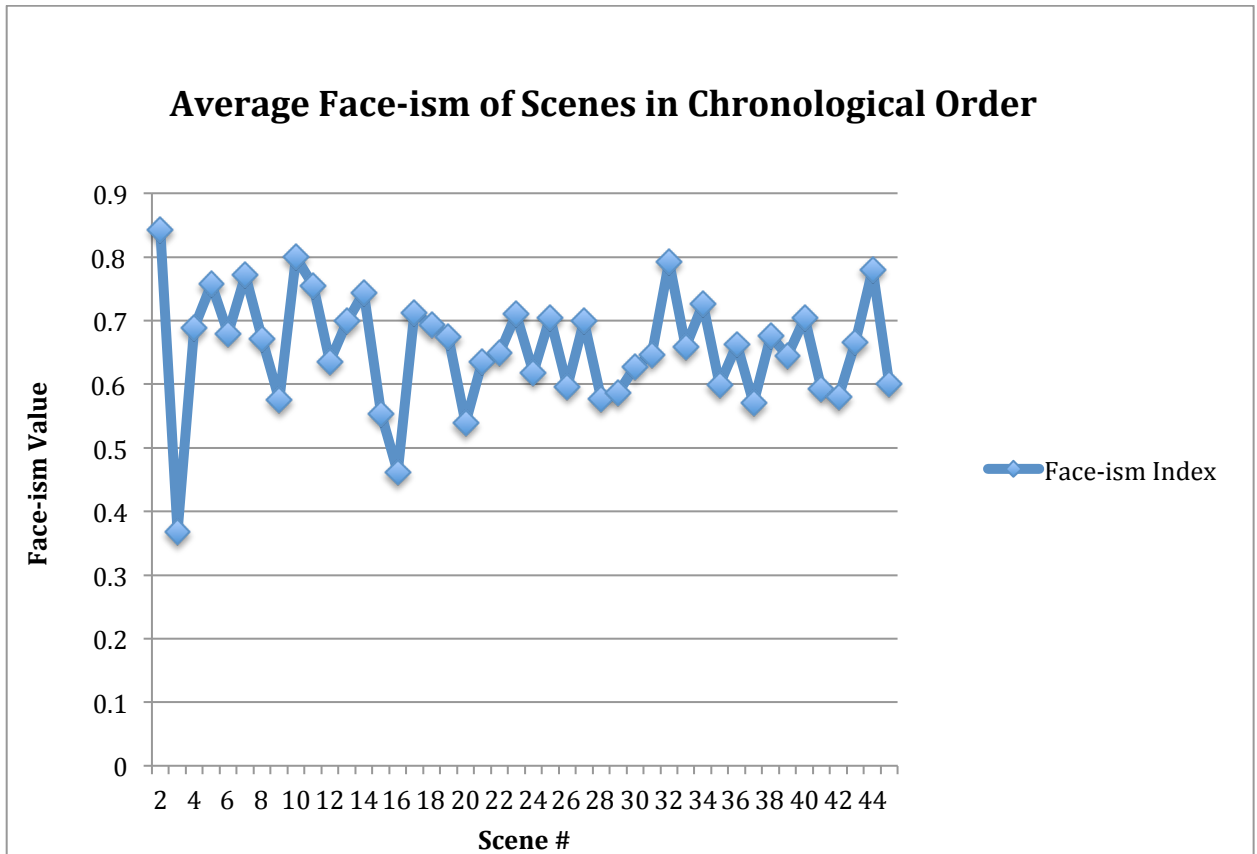
illustrates the chronological variations in facial prominence by scene. Although the changes in average indices were not dramatic, they did subtly shift from scene to scene. The chart also displays that the variability of facial prominence was greatest during the first half of the film, and to a lesser degree during the second half.

Table 2:
Average Face-ism of Scenes in Chronological Order

Scene #	Scene Name	Face-ism Index
2	Comforting Prim	0.843459459
3	Running District 12	0.367902971
4	On the Hunt	0.6888732
5	Dread the Reap	0.757854425
6	The Seam	0.67953668
7	Little Duck & Mockingjay	0.771353963
8	The Reaping	0.671826652
9	Tributes	0.575512454
10	Goodbyes	0.799639107
11	Bad Advice	0.755511159
12	Feeling Alone	0.635192994
13	Not off to a Good Start	0.699507865
14	The Capitol	0.744149308
15	Tribute Parade	0.554546516
16	Home Sweet Hotel	0.461986696
17	Training	0.711839584
18	Career Paths	0.693367322
19	Making Impressions	0.674554144
20	Private Show	0.538571956
21	Separate Spheres	0.635886867
22	Interviews	0.648769202
23	Star-crossed Lovers	0.71037184
24	Roof Insomnia	0.618789211
25	Pre-games	0.704746412
26	Bloodbath	0.596224265
27	Surviving the Fallen	0.699144131
28	Fireball	0.577364237
29	Kat in a Tree	0.585941903
30	Burn Victim	0.627582252
31	TrackerJackers	0.646841753

32	Hallucinating	0.792274354
33	Alliance	0.658513439
34	Explosion	0.726475407
35	Saving Rue	0.599866932
36	Rue in Peace	0.662716789
37	Something to Root For	0.569902534
38	Nursing Peeta	0.676187501
39	The Feast	0.645111648
40	Healing Wounds	0.703812508
41	Teamwork	0.593170176
42	The Grand Finale	0.580481674
43	Berry Good	0.665614406
44	Served	0.78099226
45	Winning	0.600413151

Graph 1:



Another way to organize the data is in terms of the relationship between measures of the degree of facial prominence (listed in ascending order) and what the scenes are about. Table 3 shows that when the scene indices were placed in ascending order, the mean face-to-body ratio (MFBR) ranged from .368 to .843. Scenes 3, 16, and 20 scored the lowest indices of .368, .462, and .539, respectively. Scenes 2, 10, and 32 were those with the highest MFBR's, scoring indices of .843, .799, and .792, respectively. Interpretation of this data relates to the nature of what is taking place within the scenes, and has therefore been reserved for the discussion section.

Table 3:
Face-ism of Scenes in Ascending Order with Descriptions

Scene #	Scene Name: Description	Face-ism Index
3	Running District 12: Running through District 12 towards the off-limits woods.	0.367902971
16	Home Sweet Hotel: their lush penthouse suite amazes them. Katniss longs for her old life back.	0.461986696
20	Private Show: The tributes are individually scored on their abilities. Katniss shocks the judges.	0.538571956
15	Tribute Parade: Katniss and Peeta show off their fiery costumes to the world.	0.554546516
37	Something to Root For: After it is announced that there can be two winners if they are from the same district, Katniss sets off in search of Peeta and finds him wounded.	0.569902534
9	Tributes: Prim is chosen as tribute but Katniss volunteers to take her place. Peeta is selected as male tribute.	0.575512454
28	Fireball: The Gamemaker intervenes by using fireballs to lure Katniss unknowingly towards the other tributes.	0.577364237

42	The Grand Finale: Killer dogs chase Peeta and Katniss to where Cato is. They managed to beat Cato, and assume that they have won the games.	0.580481674
29	Kat in a Tree: The alliance of tributes chases Katniss up a tree and wait at the bottom for their chance to kill her.	0.585941903
41	Teamwork: Katniss gets paranoid that Peeta has eaten poisonous berries, only to find that it was actually another tribute that had ate them.	0.593170176
26	Bloodbath: The first and most brutal battle of the games takes place. Katniss manages to get away.	0.596224265
35	Saving Rue: Katniss hears Rue screaming and finds her caught in a trap. She cuts Rue loose.	0.599866932
45	Winning: The winners are interviewed as a couple. Katniss has a conversation with President Snow as he crowns her.	0.600413151
24	Roof Insomnia: Katniss and Peeta have a heart to heart on the roof the night before the games.	0.618789211
30	Burn Victim: Katniss nurses her burn while in the tree.	0.627582252
12	Feeling Alone: Katniss has a sleepless night after Reaping Day.	0.635192994
21	Separate Spheres: Katniss is told that Peeta has opted to continue his training solo.	0.635886867
39	The Feast: Katniss risks going into battle to get Peeta medicine. Just as she was about to be killed by a career, she was saved by the male tribute from Rue's district.	0.645111648
31	TrackerJackers: Katniss drops a hive of TrackerJackers onto the group of sleeping tributes below her.	0.646841753
22	Interviews: The tributes are interviewed on television. Katniss tries to get them to like her.	0.648769202
33	Alliance: Katniss awakens from her hallucinations to find that Rue has healed her and the two form an alliance.	0.658513439

36	Rue in Peace: The two are caught off guard by another tribute and Rue is shot. Katniss kills the tribute, and then sings to Rue as she dies. She surrounds her body with flowers.	0.662716789
43	Berry Good: After being told that only one of them can win, Katniss and Peeta decide to both eat poisonous berries at the same so there would be no winner. The Gamemaker revokes the rule just before they eat the poisonous berries, and they are both declared winners of the Hunger Games.	0.665614406
8	The Reaping: All 12-18 year olds are gathered and one of each gender is randomly selected as tribute.	0.671826652
19	Making Impressions: Katniss encourages Peeta to go against Haymitch's orders and show the others his strength.	0.674554144
38	Nursing Peeta: Katniss and Peeta have an intimate moment while she tries to nurse him back to health.	0.676187501
6	The Seam: Black market of D12 where Katniss gets the iconic Mockingjay pin.	0.67953668
4	On the Hunt: Hunting a deer until interrupted by Gale.	0.6888732
18	Career Paths: Teens are bred for the Hunger Games in districts 1&2, earning them the nickname "careers." The D12 team discusses the threat these tributes pose.	0.693367322
27	Surviving the Fallen: Katniss listens to the announcements of who was killed on the first day of the games.	0.699144131
13	Not off to a Good Start: Katniss and Peeta demand Haymitch be a better mentor. Peeta smiles and waves to the fans of the Capitol through the train's window.	0.699507865
40	Healing Wounds: Katniss and Peeta apply the medicine onto each other's wounds and have an intimate moment.	0.703812508
25	Pre-games: Tributes are transported to the arena for the games. Katniss says her goodbyes to Cinna.	0.704746412

23	Star-crossed Lovers: Peeta publicly claiming to have feelings for her angers Katniss.	0.71037184
17	Training: All the tributes train together and show off some of their skills.	0.711839584
34	Explosion: Katniss successfully blows up the tributes' supplies, and runs away to return to Rue.	0.726475407
14	The Capitol: They arrive at the Capitol. Katniss is groomed and meets her stylist Cinna.	0.744149308
11	Bad Advice: The Tributes are amazed by the grandiosity of the train. They realize their mentor Haymitch is an alcoholic.	0.755511159
5	Dread the Reap: Katniss and Gale muse about escaping with their families into the forest, and the realistic chances of Gale being tribute.	0.757854425
7	Little Duck & Mockingjay: Katniss and Prim get dressed up for Reaping Day.	0.771353963
44	Served: Haymitch informs Katniss about the rebellion she sparked and warns her to be careful. President Snow arranges the Gamemaker's death.	0.78099226
32	Hallucinating: The Trackerjacker venom causes Katniss to have hallucinations about her father's death and the pain it brought her mother.	0.792274354
10	Goodbyes: Katniss gets a few minutes with her mother, Prim, and Gale before leaving for the Capitol.	0.799639107
2	Comforting Prim: Katniss consoles Prim, who had a nightmare about the impending Reaping Day.	0.843459459

Discussion

The face-ism phenomenon has been subjected to much research and debate. Researchers typically find that men are often pictured with a higher degree of facial prominence than women, and argue that this promotes a sexist attitude that objectifies women and reinforces stereotypical gender roles. The logic behind this notion is that the brain, which lies in the cranial area, houses the intelligence, personality, character, and overall essence of an individual. Therefore, making someone's face more prominent can be interpreted as communicating more of whom that person is. When greater emphasis is placed on the bodies of women, it implies that their physique is of greater importance when evaluating them than for men, who should be judged by the characteristics previously stated.

As a female, Katniss might be expected to display a relatively low degree of facial prominence, in accordance with the face-ism phenomenon. However, results revealed the average face-ism index of Katniss to be .648, with the actual MFBR ranging from .054 to 1. While the latter range does indicate frequency of lower degrees of facial prominence (i.e. more body-isms), the overall means, in conjunction with the relative frequencies reported in Table 1, suggest that Katniss Everdeen's facial prominence is higher than one might expect given prior research.

How might Katniss' varying levels of facial prominence be understood? By way of answering this question it might be useful to explore in more depth some of the data described in Table 1. The upper face range in this table is .9-1, and this range comprises 19.07% of the shots in which Katniss appears. Though not reported in the table, further analysis reveals that there were 205 shots with an

index of one, the highest value possible, comprising 12.99% of face-ism measures for Katniss. Of these 205 shots, in 201 Katniss was either alone or had one to two people co-present with her. Only one of the outliers with an index of one had a crowd of miscellaneous characters in the shot. For the other three shots, the maximum number of people shown with Katniss did not exceed four.

This trend could be viewed as an attempt by the filmmakers to communicate a certain message to the audience. Showing only Katniss' face emphasizes that the emotion conveyed by her facial expressions at that point in time is especially important. Since high face-ism typically indicates a closer up shot, depicting Katniss at an index of one makes it more likely that observers will take notice of the emotion being portrayed. When others were co-present in shots that had an index of one, it was usually the case that those characters were bringing out a strong feeling in Katniss. For example, fear when Cato was trying to kill her (in scene 42), compassion when caring for Peeta (in scenes 38 and 39), sadness when Rue died (in scene 36), and a kind of defiant confidence when facing President Snow in the final scene.

The shot that depicted an index of one and a crowd of people in the 9th scene titled "Tributes", can also be explained with this interpretation. In this scene Katniss volunteered as tribute in order to prevent her sister from competing in the hunger games, and Peeta was selected as the male tribute. As far as Katniss was concerned, she had just been sentenced to death and was never going to see her loved ones again. The juxtaposition of her face against the crowd during this point emphasized these feelings. It also foreshadowed how tributes fighting for their lives in the arena

are put on display for the entertainment of others. This implies that shots displaying the highest degree of face-ism were all dramatically shaped by both the situation and the social context of the shot.

The foregoing speculation gains support from Table 3, which provides more detailed information about the meaning of the scenes listed in Table 2. Table 3 indicates that scenes 3, 16, and 20 had the lowest average face-ism measures (.368, .462, and .539, respectively), and all shared a common attribute. Within the 88 shots the three scenes comprised of collectively, Katniss was by herself in 69 of them. However, there did not seem to be a reoccurring theme regarding the activities that were taking place during these scenes. As shown by the descriptions in Table 3, Katniss was doing very different things and displaying different emotions in those three scenes. The only common element of these three scenes is that she was predominantly alone in them, suggesting that lower levels of facial dominance in scenes are shaped more by social context than they are situationally defined by the events taking place.

Consider next the data reported in Table 3. This table indicates that the 12 scenes with the highest and lowest face-ism indices exhibited a trend. Ten of the scenes with the lowest scores took place outdoors, and eight of the highest scoring scenes took place indoors. Given these facts, it could be argued that the variations in facial prominence of *The Hunger Games* are more related to setting than to gender differences. Being inside signifies a more confined space, which may call for closer shots and allow for more intimate social interactions to occur. Conversely, external environments give characters extra space to move, and more body-isms might be

shown in order to utilize this space. The characters need more of their bodies to perform outdoor activities, so low face-ism might not always be indicative of sexual objectification.

Scenes 2, 10, and 32 were those with the highest MFBR's and scored indices of .843, .799, and .792, respectively. Out of the 34 shots in scene 32, Katniss was alone in 31 of them, and with one other co-present in the others. Scenes 2 and 10 combined were comprised of 54 shots, 34 of which depicted Katniss with one other character co-present, the other 20 showed her either alone or co-present with two others. There seemed to be a pattern in these high face-ism scenes related to what was happening within them. Scene 2 had the highest face-ism index, and introduced Katniss to the audience for the first time. In this scene Katniss' little sister Prim was frightened about partaking in Reaping Day for the first time. Katniss was attempting to comfort her by reassuring that the chances of her being selected as tribute were very slim.

A similar dramatic theme was presented in the scene 10, which had the second highest face-ism index. This took place when Katniss was saying her goodbyes to her mother, Prim, and then to her best friend Gale after being declared tribute. Both of these scenes were extremely emotional, with the characters revealing strong feelings of sadness and fear. Both scenes also involved characters consoling one another. The high scores of these scenes were both related to the dynamics of intimate social interaction that took place within them. The scenes and the individual shots that displayed the highest degrees of facial prominence were both characterized by the emotions being conveyed and the people surrounding

Katniss. Intense feelings were being portrayed by Katniss in each of these situations. Panic and grief, as well as the act of nurturing and comforting others were a common theme among them.

By way of expanding upon this meaning, one can look at the sequence of shots in scene 2. Prim had a nightmare that she was selected as tribute in the upcoming Reaping Day, and the scene begins with the sound of her screaming. Before Katniss is first introduced to the audience, the opening shot moves up her back as she embraces Prim. The camera then shows Katniss' face close up from various angles as she continues to try and soothe her sister. As she sings Prim back to sleep, the camera pans up her body back to a close up shot of her face. Katniss is portrayed as a nurturing, motherly type to her younger sister in this scene. This is emphasized by the physical closeness of the two characters; they are hugging for the majority of the scene. The close proximity between them allowed the camera to show Katniss more close up with a higher degree of facial prominence. As previously noted, scenes 10 and 32 scored the other highest face-ism indices. The descriptions in Table 3 reveal that all three scenes share a mutual theme of having to do with family relations. Katniss places great importance on her family, and this noticeably shapes who she is as a person. The many high face-ism shots that these scenes consist of help communicate the intimacy Katniss feels with her loved ones and the emotions they bring out in her.

By way of contrast with scene 2, which had a high average face-ism score, consider scene 20, which was at the low end of the face-ism range with an average score of .792. In scene 20 the tributes were being individually scored on their

abilities. Once Katniss is called into the stadium, the shot showed her walking directly toward a stationary camera. The facial prominence increased as she did so, and the audience is able to really see the nervous yet confident expression she displays at this point. Just before she leaves the room, Peeta tells her to “shoot straight,” and when she turns around to look at him her face seems to soften and relax a bit more. Once she enters the stadium, Katniss takes in the scene and seems a little intimidated. After she grabs the bow and arrow, she notices that the judges are preoccupied with entertaining themselves and are not really paying attention to her. She unsurely announces herself in attempt to focus their attention. She succeeds in doing so for a fleeting moment, until she misses the target due to her unfamiliarity with the new bow. Katniss is clearly surprised when she misses, as the audience can see due to the high face-ism in that shot.

On her second try, she hits the target dead on, and is visibly very pleased and relieved until she realizes that the judges did not even seem to notice. The face-ism score increased between these two emotions, showing her closer up when she becomes irritated by the judges’ dismissive attitude toward her. The next shot of her zooms out a little more as she watches the judges gather around the roasted pig that arrived. She is then shown very close up, displaying an expression of disbelief turning into disgust and anger. She then shoots her next arrow right through the apple in the pig’s mouth, which certainly gets their attention. When they stare at her in shock, she bows and has a satisfied, smug look on her face. Although this scene was one of the lowest-scoring ones, there were times when a high degree of

facial prominence was displayed in order to convey Katniss' particular emotions to the audience.

Conclusion

There has been a broad range of findings on how facial prominence is exhibited in media. In contrast with previous research that looks at differences of facial prominence between men and women, this study focused on a single female character that shows high and low levels of face-ism under different circumstances. As a task-oriented character, Katniss had to participate in various physical activities, which largely took place outdoors. These kinds of shots required the camera to film from farther away in order to capture all of the action taking place, causing more body-isms to be displayed. However, many shots were also close ups to emphasize her facial expressions and communicate how she was feeling at certain points. Katniss is a very strong, dominant, intelligent character. Since she is primarily categorized by traits that one might consider to be stereotypically male, it makes sense that her overall average face-ism index was higher than one might expect from a female based on previous research.

This study differed from those that have been done in the past. Rather than measure the face-ism of various people in different photographs, it measures the facial prominence of a single female character over the course of an entire film. As a strong female character, Katniss did not fit the profile of what her index should look like based on previous research. This paints a complicated picture of how facial prominence occurs within this domain, since she portrayed varying degrees of facial

prominence under different circumstances. *The Hunger Games* is just one film, but it leads one to contemplate what it might mean for men and women to be bombarded with images in other movies with female leads that contradict the mode of visual depiction in others.

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