Symbolic dermatologic depictions are prevalent in film and pervade virtually all genres. Although abnormal skin can also be presented realistically, sympathetically, or independent of character roles, perhaps its most prominent use in film is to illustrate underlying immoral depravity. Dichotomous dermatologic depictions between heroes and villains date back to the silent film age and have been used to visually illustrate the contrasting morality between these character types. Classic dermatologic features of villainous characters include facial scars, alopecia, deep rhytides, periorbital hyperpigmentation, rhinophyma, verruca vulgaris, extensive tattoos, large facial nevi, poliosis, and albinism or gray-hued complexions. These visual cues evoke in the audience apprehension or fear of the unfamiliar and provide a perceptible parallel to the villainous character’s inward corruption. They can foreshadow the future and can efficiently denote a troubled past in a motion picture limited in character development by production constraints.

Because dermatologic disease does not equate to moral degeneracy in reality, the frequent negative portrayal of certain dermatologic conditions in film has sparked controversy. These portrayals have ignited the formation of advocacy groups aimed at diminishing the perpetuation of existing discrimination by discouraging the use of degrading stereotypes in film. Notably, the National Organization for Albinism and Hypopigmentation (NOAH) has protested the portrayal of people with albinism as villains, although with limited success. While backlash in Hollywood from advocacy groups continues, certain dermatologic traits reoccur as ingredients in the recipe for memorable film villains.

To better understand the use and impact of pervasive skin characteristics of film villains, a closer dermatologic evaluation of representative film villains is warranted. The objective of this research is to evaluate the hero-villain skin dichotomy in film by (1) identifying dermatologic findings of the all-time top 10 American film villains, (2) comparing these dermatologic findings to the all-time top 10 American film heroes quantitatively and qualitatively, and (3) analyzing dermatologic portrayals of film villains in depth.

OBJECTIVE To evaluate the hero-villain skin dichotomy in film by (1) identifying dermatologic findings of the all-time top 10 American film villains, (2) comparing these dermatologic findings to the all-time top 10 American film heroes quantitatively and qualitatively, and (3) analyzing dermatologic portrayals of film villains in depth.

DESIGN, SETTING, AND PARTICIPANTS In this cross-sectional study, dermatologic findings for film heroes and villains in mainstream media were identified and compared quantitatively using a χ² test with α < .05, as well as qualitatively. The all-time top 10 American film villains and heroes were obtained from the American Film Institute 100 Greatest Heroes and Villains List.

MAIN OUTCOMES AND MEASURES Primary outcomes include identification and frequencies of dermatologic findings of the top 10 film villains and of the top 10 film heroes.

RESULTS Six (60%) of the all-time top 10 American film villains have dermatologic findings, including cosmically significant alopecia (30%), periorbital hyperpigmentation (30%), deep rhytides on the face (20%), multiple facial scars (20%), verruca vulgaris on the face (20%), and rhinophyma (10%). The top 10 villains have a higher incidence of significant dermatologic findings than the top 10 heroes (60% vs 0%; P = .03).

CONCLUSIONS AND RELEVANCE Dermatologic findings of the all-time top 10 American villains are used in film to highlight the dichotomy of good and evil, which may foster a tendency toward prejudice in our society directed at those with skin disease.
all-time top 10 American film villains, (2) comparing these dermatologic findings to the all-time top 10 American film heroes both quantitatively and qualitatively, and (3) analyzing dermatologic depictions of film villains in depth.

Methods

The all-time top 10 American film heroes and villains were obtained from the American Film Institute (AFI) 100 Greatest Heroes and Villains List, compiled in 2003 by an expert panel. Heroes were defined as “a character who prevails in extreme circumstances and dramatizes a sense of morality, courage, and purpose. Although they may be ambiguous or flawed, they often sacrifice themselves to show humanity at its best.” Villains were defined as “a character whose wickedness of mind, selfishness of character and will to power are sometimes masked by beauty and nobility, while others may rage unmasked. They can be horribly evil or grandiosely funny, but are ultimately tragic.” Selection criteria used by the AFI for inclusion of a character on this list were categorization in an American feature-length fiction film, demonstration of cultural impact on American society in terms of style and substance, and evidence of legacy by “enriching America’s film heritage while continuing to inspire contemporary artists and audiences.”

For each of the 20 characters on the AFI list, dermatologic characteristics were evaluated directly from the color film or colorized versions of the original black-and-white film when available. If no colorized movie version was available, the color theatrical release poster was used. Characteristics evaluated were significant dermatologic findings, anatomic location of skin findings, and persistence of dermatologic findings. In addition, complexion and hair color were evaluated, although not considered “dermatologic findings” in statistical analyses. Dermatologic characteristics between villains and heroes were compared quantitatively using a \( \chi^2 \) test with \( \alpha < .05 \), as well as qualitatively. Institutional board review approval was not obtained because human subjects were not included in the study.

Results

Six of the all-time top 10 American film villains (60%) have dermatologic findings, all of which are located on the face and scalp and are persistent in presentation (Table 1). Dermatologic findings include cosmetically significant (Norwood-Hamilton stage ≥3) alopecia (30%), periorbital hyperpigmentation (30%), deep rhytides on the face (20%), multiple scars on the face (20%), verruca vulgaris on the face (20%), and rhinophyma (10%) (Figure). Three of the villains (30%) have gray-hued complexions or unnatural skin color. Excluding cosmetically insignificant androgenic alopecia (Norwood-Hamilton stage ≤2), single facial scars, and transient lacerations or ecchymoses, none of the all-time top 10 American film heroes have significant dermatologic findings (Table 2). All heroes have natural, non-gray-hued complexions. The top 10 villains have

a higher incidence of significant dermatologic findings than the top 10 heroes (60% vs 0%; \( P = .03 \)). Two villains (20%) and 2 heroes (20%) have red hair.

Discussion of Dermatologic Disease in Classic Film Characters

Dermatologic Findings in Film Villains

Filmmakers have used dermatologic disease to indicate dissolute character since the silent film era. In a time during which immoral character could not be conveyed through spoken word, filmmakers relied heavily on using dermatologic conditions to convey wickedness visually. The face and scalp, which receive disproportionately more camera time than the remainder of the body, constituted prime real estate for dermatologic disease. Furthermore, it was not uncommon to include several dermatologic conditions in 1 villainous character for dramatic effect. Deeply rooted in silent film, these early dermatologic portrayals in the movies persist today and constitute an underlying thread tying past to present cinema.

Alopecia

Alopecia in Film

Present in 3 AFI top 10 villains (Dr Hannibal Lecter in The Silence of the Lambs (1991), Mr Potter in It’s a Wonderful Life (1947), and Darth Vader in Star Wars Episode V: The Empire Strikes Back (1980), hair loss as a signal of evil dates back to silent film. Max Schreck in the 1921 silent film Nosferatu makes a particularly ominous villain, as indicated by his pallid facial features and hairless scalp. Typically, alopecia in villainous characters presents as cosmetically significant androgenic alopecia, defined herein as stage 3 or greater on the Norwood-Hamilton Scale. Albinism is observed in especially high frequency in conjunction with cosmetically significant alopecia to magnify the dramatic visual effect.

Dr Hannibal Lecter

The psychopathic villain Hannibal Lecter perpetuates the American cinematic tradition of villainous alopecia in the 64th Academy Awards Best Picture winner, The Silence of the Lambs.
In a famous scene, Lecter’s villainous prowess is on full display when Senator Ruth Martin meets with him about her daughter’s abduction by Buffalo Bill. Dr Lecter’s stage 3 androgenic alopecia is accentuated by the strap of a mask that pulls back his hair and distorts the appearance of his face. This visual deviation from the familiar parallels his detached demeanor, stone-cold stare, and vocal monotone during his exchange with the senator.

Mr Potter

Although a starkly different stock villain than Dr Lecter, the greedy businessman Mr Potter also displays cosmetically significant androgenic alopecia in the 1947 Academy Award Best Picture nominee, *It’s a Wonderful Life*. Mr Potter is often filmed with his glaring alopecic scalp, clenched fist, and Scrooge-like scowl behind a grand wooden desk. In a representative scene, George Bailey (incidentally, No. 9 on the AFI all-time hero list) pleads with Mr. Potter for money, albeit to no avail. Arched over Bailey, Potter arrogantly remarks that his life insurance policy makes him worth more dead than alive. A white-collar villain, Mr Potter’s androgenic alopecia gives him an air of moral corruption.

Darth Vader

The unmasked Darth Vader epitomizes the use of facial dermatologic findings in combination to project evil. With his bald scalp, unnatural fair gray skin, periorbital hyperpigmentation, facial scars, and deep rhytides, Vader manifests sheer evil and incites apprehension and fear of the unfamiliar. *Star Wars* filmmakers use this dermatologic trope in another character, Darth Sidious (the Emperor). Like Vader, Darth Sidious has pale skin, periorbital hyperpigmentation, and deep rhytides.

Other Notable Alopecic Villains

Many other modern films employ the alopecic villain, including Lord Voldemort in the *Harry Potter* films, Abomination in *The Incredible Hulk* (2008), and Kurtz in *Apocalypse Now* (1979). Villain Dr Evil in *Austin Powers in Goldmember* (2002) also flaunts a hairless scalp, but it his son Scott Evil who especially exemplifies hair loss as a sign of evil in the cinema. As Scott demonstrates increasingly wicked behavior to please his nefarious father, Scott’s hair volume diminishes from stage 3 to stage 7 androgenic alopecia. His hair loss culminates in the final scene. Promising to fulfill his revenge plot, Scott laughs maniacally and reveals a completely hairless scalp, the visual manifestation of his malevolence.

Albinism and Hypopigmentation

Fair Skin in Film

The “evil albino” trope likely precedes film and may have multiple cultural sources, dating back to Neolithic Eastern European culture, in which death is depicted in art as a fair woman
with light hair. European folklore, rich with vampires and palidal undead creatures, may have also influenced the stereotype, as well as African attitudes toward people with albinism as being cursed or magical. The albinism bias was adopted early in film history and pervades modern cinema. The 1960s saw an explosive increase in film villains with albinism. During this period, tanned skin was considered healthy and glamorous. What better way to identify an abnormal character than one who can't tan at all? From 1960 to 2006, there were a total of 68 films featuring the “evil albino” stereotype. Typical depictions include characters with albinism that act as assassins, are scary, have silly nicknames, dress entirely in white, and/or have health problems beyond their albinism. Several advocacy groups for people with albinism have responded to depictions of albinism in film with protest. Notably, NOAH works to counter negative and frequently inaccurate depictions of albinism in film. Although albinism is not present among the AFI top 10 villains, gray-hued complexions and other abnormal skin colors are prominent, as seen in both Darth Vader in The Empire Strikes Back and Regan MacNeil in The Exorcist.

Regan MacNeil


Scars

Facial Scars In Film

“Over the years, your body becomes a kind of historical document, in which certain dramatic moments are memorialized in scar tissue” according to David Owen in the New Yorker. At a glance, film facial scars efficiently illustrate a stormy past filled with violence. Dating back to the silent film era, facial scars have become a stock trait of classic villains and represent the most prevalent skin condition observed in film. It follows that facial scars are prominent in AFI top 10 villains, as seen in Darth Vader in The Empire Strikes Back and Regan MacNeil in The Exorcist.

Darth Vader

Darth Vader’s facial scars reflect the violent life of a warrior seduced by the dark side of the force and of a commander of the Galactic Empire. The stark juxtaposition of protagonist Luke Skywalker’s flawless skin and hair visually accentuates the hero-villain dichotomy.

Regan MacNeil

Scars have been used as sinister symbols in supernatural villains as well, as observed in Regan MacNeil in The Exorcist. The sharply demarcated scars and lacerations on her face harshly contrast with her pale, demonic skin. Present only after possessed by the demon, Regan's scars dramatize her villainous nature.

Other Notable Villains With Facial Scars

Filmmakers routinely use scars to denote film villains. Many of the characters have names reflecting their dermatologic condition, including Scar in The Lion King (1994), Al Pacino’s Scarface (1983), and Craterface in Grease (1983).

Deep Rhytides

Aging Skin in Film

The face of evil often takes the form of an old woman in film—the nags, witches, and evil stepmothers. Harvard mythology professor Maria Tartar holds that women as villains are entrenched in the idea that the most powerful person in a child’s life is the mother. Children have the ability to split maternal characteristics into contrasting archetypes.

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Table 2. American Film Institute All-Time Top 10 American Film Heroes and Associated Dermatologic Findings

<table>
<thead>
<tr>
<th>Rank</th>
<th>AFI Top Heroes in Film</th>
<th>Dermatologic Findings</th>
<th>Face Involvement</th>
<th>Dermatologic Finding Persistent</th>
<th>Gray-Hued Skin, Fitzpatrick I or Unnatural</th>
<th>Red Hair</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Atticus Finch (To Kill a Mockingbird, 1963)</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Indiana Jones (Raiders of the Lost Ark, 1981)</td>
<td>Chin scar</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>James Bond (Dr No, 1963)</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Rick Blaine (Casablanca, 1943)</td>
<td>Lip scar</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Will Kane (High Noon, 1952)</td>
<td>Transient lacerations of face</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Clarice Starling (The Silence of the Lambs, 1991)</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Rocky Balboa (Rocky, 1976)</td>
<td>Transient lacerations and ecchymoses of face</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>8</td>
<td>Ellen Ripley (Aliens, 1986)</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>George Bailey (It’s a Wonderful Life, 1947)</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>T. E. Lawrence (Lawrence of Arabia, 1962)</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Abbreviation: AFI, American Film Institute.
The evil mother creates restrictive rules and becomes enraged. The good mother is the benevolent nurturer. The combination of power and evil make the old woman villain an enduring motif that transcends time, cultures, and storytelling mediums. Two of the top 10 AFI villains fulfill the old woman villain stereotype, accompanied by supporting dermatologic findings.

The Queen
The Queen in *Snow White and the Seven Dwarfs* (1937) embodies the old hag villain stereotype. Her periorbital swelling and hyperpigmentation, verruca vulgaris on the nose, rhinophyma, deep rhytides, poor dentition, and permanent scorn paint an intimidating picture before any words are spoken. Consistent with this stereotype, the Queen possesses the mystical ability to concoct a poisonous apple in a caldron.

The Wicked Witch of the West
While the Wicked Witch of the West in the 1939 *The Wizard of Oz*, does not possess deep rhytides, she has green skin. Like the Queen of *Snow White and the Seven Dwarfs*, the Wicked Witch of the West exhibits a facial verruca. Although subtle, together with her witch’s wardrobe, they represent visual cues that her character will almost certainly effect suffering and misfortune.

Red Hair
Red Hair in Film History
While the art and culture of the Elizabethan era portrayed red hair as a desirable symbol of high fashion inspired by Queen Elizabeth I of England’s red locks, red hair has been the subject of fear and ridicule in culture and art throughout history. Red hair has also been claimed to connote weakness, particularly among men. In the medieval era, red hair was thought to be a mark of libertinism and moral corruptness. Judas, one of the most infamous real-life villains in history, is memorably portrayed as having red hair in the painting *The Last Supper* by Leonardo da Vinci. As may be surmised, red hair in art and film has carried a dichotomous meaning in men and women throughout time. For men, red hair typically denotes villains, rustics, clowns, weaklings, and savage barbarians. The red hair of women fairs a less negative although more sexualized connotation, with red locks portraying fiery tempresses, passionate vixens, and fun-loving comics. Two redheaded villains are included in the AFI all-time top 10 villain list, Phyllis Dietrichson in *Double Indemnity* (1949) theatrical release poster and Regan MacNeil in *The Exorcist*. Interestingly, 2 redheaded heroes also claim spots on the AFI all-time top 10 hero list. While red hair does not distinguish between heroes and villains, it does create memorable film characters, since the estimated prevalence of red hair in the general population is only about 4%.

Phyllis Dietrichson
Although the 17th Academy Awards Best Motion Picture nominee *Double Indemnity* (1944) is in black and white, the stunning villainess is portrayed with red hair in the theatrical release poster for this movie. The theatrical poster depicts passion, lust, and wicked intent, as Phyllis looks deep into the eyes of the man to whom she will assign the task of killing her husband. The picture of a fiery temptress is impeccably painted with the help of dermatologic symbolism.

Regan MacNeil
Regan MacNeil’s red hair symbolizes a different stock villain than Dietrichson’s, that of a demonically possessed villainess. Regan’s red hair symbolizes absolute evil and mischief. It compliments her other dermatologic findings (fair skin, scars on face) to create a frighteningly memorable depiction of evil.

Dermatologic Findings in Film Heroes
While 6 film villains demonstrate dermatologic skin findings localized to their face, only 2 film heroes do as well. Both Harrison Ford as Indiana Jones in *Raiders of the Lost Ark* (1981) and Humphrey Bogart as Rick Blaine in *Casablanca* (1943) sport facial scars. However, the facial scars of heroes and villains are associated with several notable differences. The facial scars of the heroes are much subtler and shorter in length than those of the villains. Unlike the scars of the villains, those of the heroes are neither created with prosthetic makeup nor commented on during the narrative. In addition, villains each have multiple facial scars whereas heroes each have a single facial scar.

Dermatologic Findings in Other AFI Top Heroes and Villains
There are a multitude of other dermatologic findings in characters further down the AFI list of top villains, including Reverend Harry Powell’s tattoos in *The Night of the Hunter* (1955), Freddy Krueger’s severe scarring in *A Nightmare on Elm Street* (1984), Mrs Danvers’s large facial nevus in *Rebecca* (1940), and Cruella de Vil’s poliosis and deep rhytides in *101 Dalmatians* (1996). Far fewer remaining heroes on the AFI list display skin lesions, which include Mahatma Gandhi’s Norwood-Hamilton stage 7 alopecia in *Gandhi* (1982), Han Solo’s chin scar in *Star Wars: The Empire Strikes Back* (1980), and Andrew Beckett’s Kaposi sarcoma in *Philadelphia* (1993).

Implications of Skin Disease as a Depiction of Evil
The results of this study demonstrate Hollywood’s tendency to depict skin disease in an evil context, the implications of which extend beyond the theater. Specifically, unfairly targeting dermatologic minorities may contribute to a tendency toward prejudice in our culture and facilitate misunderstanding of particular disease entities among the general public. In some cases, filmmakers are tasked with addressing biased portrayals of dermatologic disease, as evidenced by the goals of advocacy groups.

Conclusions
Classic film villains display a statistically significant higher incidence of dermatologic findings than heroes. As demonstrated by the AFI all-time top 10 American film villains, prominent dermatologic findings in film villains include multiple facial scars, cosmetically significant alopecia, deep rhytides, periorbital hyperpigmentation, nasal skin disease, facial ver-

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ruca vulgaris, and gray-hued complexion or abnormal skin color. Rooted richly in culture, art, and early film history, these dermatologic findings are used primarily to elucidate the dichotomy of good and evil through visual representation and may foster a tendency toward prejudice in our society directed at those with skin disease.

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REFERENCES

The Old Bromides and Their 21st Century Refreshment
Thomas Cropley, MD; Zachary Theroux, BS

Bromine is a member of the halogen family of elements. As a group, halogens are highly reactive, and their volatility makes them both toxic and potentially useful in certain medical applications. For example, a bromine containing medication known as bromionide (Mirvaso) was recently approved for the treatment of rosacea. However, the medical relevance of this element dates back over a century.

During the American Civil War (1861-1865), US Army surgeons experimented with bromine vapors and topical drugs for the treatment of erysipelas and “hospital gangrene” (necrotizing fasciitis). Bromides, or bromine salts, were also used in the past as sedative hypnotics. This practice quite aptly spawned the slang term “bromide” referring to a boring, tedious person or an overused, hackneyed expression, as in “that old bromide.” The most famous of the bromides was Bromo Seltzer. Introduced in the late 19th century as an instant cure for headaches, it became widely popular, based in part on brilliant marketing. Its sleek blue bottle and distinct fizzing noise on adding the pill to water gave Bromo Seltzer a bold sound to match the claims of its advertisement campaign. The salesmen of this drug maintained its success despite several reported toxic effects, including a pustular skin eruption caused by one of its main ingredients, sodium bromide.1

Adverse reactions to bromine concerned dermatologists in the past, though these are now largely of historical interest. Bromoderma, an eruption of pustules and plaques frequently on the upper extremities, was the most important of these toxic effects. Carbonal, another bromide sedative previously used in hospitals and operating rooms, famously caused a pigmented purpuric eruption similar to Schamberg disease, and despite the drug’s absence from the medical arena for 50 years, this fact is still dutifully memorized by dermatology residents across the world. Because of such adverse reactions, the old bromides are living up to their name from the armchair of retirement since their ban from over-the-counter use in 1975.

Despite its removal from the local drugstore first aid aisle, bromine is still often consumed in the form of brominated vegetable oil (BVO) in certain soft drinks, including Mountain Dew and Squirt. BVO was previously banned by the US Food and Drug Administration (FDA) as a food additive in the 1970s but was later reintroduced when further study demonstrated safety with small quantities.2 Bromine intoxication has still managed to make headlines, though. In 2003, a man was diagnosed as having bromoderma after presenting with ulcerating nodules on his hands. He was a fan of Red Ruby Squirt, so much so that he drank 8 L per day for several months.3 Despite the hazard, the FDA still approves the use of BVO, giving the bromides a chance to generate some excitement after all.

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