

Skin Lightening in an Age of Enlightenment: An Exploration of the History, Risks, and
Pedagogical Implications of a Beauty Trend

By

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Abstract

Historical and contemporary data demonstrates that people with darker skin have often participated in skin lightening practices (by blending home remedies, using skin care products designed to lighten or brighten skin, and undergoing cosmetic medical treatments) in order to alter their appearance to fit Eurocentric beauty ideals.

This major research project explores the practice of lightening or brightening skin, the marketing strategies that perpetuate this trend, and the risks to consumers and practitioners. It also seeks to point to ways the research may be used to improve the teaching and learning environment for the next generation of spa and cosmetic professionals.

Keywords: skin lightening, hydroquinone, medical spa, medical esthetician, esthetic education standardization

Skin Lightening in an Age of Enlightenment: An Exploration of the History, Risks, and Pedagogical Implications of a Beauty Trend.

As the manager of an Esthetician / Spa and Cosmetics management diploma program at one of Ontario's largest post-secondary institutions, the topic of skin lightening greatly concerns my curriculum planning and teaching of advanced skin therapies. In the past few years there has been an increase in the number of clients requesting skin lightening products and services within the teaching spa facility located on campus.

There is both historical and contemporary evidence that demonstrates that people with dark skin, worldwide, engage in skin lightening practices (Desmedt, et al., 2014; Gupta, Gover, Nouri, & Taylor, 2006; Hunter, 2011; Lartey, et al., 2016; Leong, 2006; Mendoza, 2014; U.S. Department of Health and Human Services, 2016). Today, even in the face of research that demonstrates the harmful effects of skin lightening, people continue to use skin care products and services that promise to lighten or brighten their skin. In addition to historical methods of lightening skin—such as consuming crushed pearl, massaging turmeric into the skin, and rubbing lye onto the face—there are now also a number of contemporary skin brightening products and services readily available in drug or department stores, spas, and dermatologists' offices (Glenn, 2008; Hunter, 2011; Leong, 2006; Mendoza, 2014; Mire, 2001; Naidoo, Dlova, & Nokubonga, 2016). Examples of some of these retail products include: Pond's Flawless White; White Beauty by Unilever; White Lucent by Shiseido; and White Perfect by L'Oréal Paris. Each of these products promises to enhance one's skin to achieve an instantly fair and "perfect" complexion; an idea of perfection based on Eurocentric ideals.

The current demand for skin lightening services has, therefore, motivated the following investigation. While there is an abundance of research on the topic of skin lightening

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worldwide, including its history, the physical harm it can cause, and how products are marketed, this major research project (MRP) extends the research to consider issues related to esthetic practitioner education within the post-secondary setting. The research investigates the ways in which educators can use this knowledge to ameliorate the problems that occur from these treatments, and how the teaching and learning environment can be the catalyst for such change in the next generation of spa and cosmetic professionals. Through an exploration of the teaching and learning resources available, the following paper investigates the following research questions: How can knowledge of skin lightening products and treatments improve skin care training? How can Ontario colleges ensure faculty and lab technicians remain current in their knowledge of skin care products and equipment? Finally, how can they safely and effectively provide invasive services to guests who express interest in skin lightening treatments?

The MPR paper is divided in three sections. In Part One, the paper details research terminology and strategies employed in the study, Part Two outlines the contexts for the research (e.g. the history and practice of skin lightening; its risks and implications) and the skin lightening cosmetic data and analysis employed in this study, Part Three speaks to ways the research can be utilized by teachers and practitioners in the field to improve their awareness.

Part One: Research Terminology and Research Design

To aid those unfamiliar with the skin care industry, the following section will explain terms that will appear throughout this major research project. The terms are skin lightening, bleaching, Fitzpatrick scale, and hyperpigmentation.

Definition of Terms

Skin lightening; Skin brightening; Bleaching. The terms *skin lightener*, *skin brightener*, and *bleaching* differ slightly, however all of them are used to describe the reduction of melanin in the skin. Skin lightening products and services have traditionally been used to treat hyperpigmentation, such as melasma, chloasma, age spots, and acne scarring (Hu, 2009; Glenn, 2008). In a spa, the traditional approach when determining appropriate treatment, is to conduct an in depth consultation and skin analysis performed by a skin care professional. According to Wojak (2014), these skin lightening and cosmetic medical treatments are designed to stimulate the skin to create inflammatory reactions that promote melanin production (p. 71). Generally, the inflammation caused by cosmetic medical treatments subsides within days and the pigment reverts back to a normal state (Pugliese, 2001, p. 55). However, as Wojak points out, this is not always the case for clients with darker skin (2014, p. 71). Skin lightening products and services can successfully brighten skin and improve skin texture for those with Fitzpatrick skin types IV to VI. However, he suggests skin care practitioners err on the side of caution to prevent further pigmentation. While these treatments may be an effective method of reducing skin discolouration and smoothing skin texture, it is recommended that skin care professionals be cautious when treating Fitzpatrick Scale type IV to VI because they have an increased risk of developing discolouration of the skin or scarring (pg. 71).

The Fitzpatrick Scale. Typically, skin care professionals identify skin lightness or darkness using the Fitzpatrick Scale (Fitzpatrick Skin Type, 2008; Terri A. Wojak, 2014 p 71). This

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classification method was designed by dermatologist Thomas Fitzpatrick in 1975 (Fitzpatrick Skin Type, 2008), to measure the reaction to sun exposure for different skin tones. Wojak (2014) explains that the Fitzpatrick scale consists of six complexions ranging from white to black. It takes into consideration a patient's genetic disposition, reaction to sun exposure, and tanning habits. He describes the physical characteristics of someone with Fitzpatrick Skin Type I as one with pale skin, blonde or red hair, and green eyes. They are generally Irish or Scottish descent and burn easily. Similarly, those with Fitzpatrick Skin Type II have a pale complexion with blond hair and green or blue eyes and burn frequently. Those with Fitzpatrick Skin Type III have light skin, blond or brown hair, and blue or brown eyes. They are generally Western European or Asian descent and their skin burns on occasion. Individuals with Fitzpatrick Skin Type IV have an Olive complexion with brown hair and brown eyes. They are usually of Hispanic or Middle Eastern descent and tend to tan easily. Persons with Fitzpatrick Skin Type V rarely burn when exposed to the sun. They have a brown complexion with brown eyes and brown or black hair. Finally, those with Fitzpatrick Skin Type VI have black skin. They rarely burn and have black hair and brown or black eyes. He adds that once the patient's Fitzpatrick Scale skin type is established, the information is used by skin care professional to develop a treatment plan for the client or patient. Treatments may include the application of skin care products, as well as chemical or manual exfoliation through Alpha Hydroxy Acid Peels (AHA), Beta Hydroxy Acid Peels, Trichloroacetic Acid Peels (TCA), microdermabrasion, and photo facials.

Hyperpigmentation. Hyperpigmentation is the result of increased melanin production in the skin (Pugliese, 2001, p. 54). Irregular pigmentation can result from environmental

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influences or genetics (Vashi & Kundu, 2016). Examples of hyperpigmentation include melasma, which is common in women with a Fitzpatrick skin type IV to VI, and is triggered by one's exposure to ultraviolet light and hormonal changes (Wojak, 2014). These changes stimulate a dark brown pigment in the skin called melanin, causing the skin to appear darker in the cheek area. This skin condition may also affect those of Native American, Russian, German, and Jewish descent. Similar to melasma, chloasma commonly called pregnancy mask is the consequence of the over active production of melanin which is triggered by one's exposure to sun, hormonal changes, and inflammation (Gerson, 2013; Wojak, 2014).

Literature Review

The purpose of the literature review was to examine the narrative on skin lightening practices. Four main themes were prominent in the background research. They were history, culture, scientific evidence and risks, and pedagogical implications. This research paper references contemporary resources, including peer reviewed journal articles, academic resources related to the esthetics industry (such as textbooks and faculty support materials), and industry associations publications including those from Health Canada and the World Health Organization. Research concerning the subject of skin lightening was focused around four areas, including the history and culture of skin lightening practices, scientific evidence of their risks, and to locate pedagogical resources to be used in a training spa.

The history of skin lightening. In recent work, Nazia Hussein (2010), a researcher of gender, race, ethnicity, and religious identity at the London School of Economics and Political Science, has explored social and cultural ideologies connected with skin lightening practices (p. 405). Hussein asserts that the desire to engage in skin lightening practices was a consequence

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of colonialism, in which whiteness, or fairness of skin, was held to be the beauty ideal in countries that had been colonized. Hussein further suggests that in cultures where skin lightening is popular, those with lighter skin are still considered to be more successful, both personally and professionally. In his article, “Who’s the Fairest of the All? Television ads for skin-whitening cosmetics in Hong Kong” Solomon Leong (2006) similarly addresses longstanding myths and attitudes toward skin lightening that date back to the seventeenth century. Leong highlights the social and cultural significance of light skin, which has become correlated with wealth and luxury. Leong conducted primary research to expose attitudes toward skin lightening television advertisements that continue to perpetuate colonial ideals in the present day. Through focus group research, Leong was able to determine that attitudes toward whiteness are unchanged in Hong Kong.

The culture of skin lightening. The notion of racial capital was introduced by Margaret L. Hunter (2011) to describe the role that lightness plays in social and economic status. Hunter’s article, “Buying Racial Capital” is important to this body of research because it acknowledges the integration of colonial beliefs into cosmetic medical surgery practices. Hunter acknowledges the trends of skin lightening in Africa, Asia, and Latin America, and suggests that this yearning for light skin comes from a desire to have the lifestyle that is often associated with whiteness—one characterized by wealth, power, and beauty. She goes on to suggest that Western culture encourages the buying of racial capital, suggesting that anyone can achieve the benefits of “whiteness” by purchasing skin lightening products, or undergoing cosmetic surgeries such as rhinoplasty and eye lifts to look Anglicized.

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In her work, Evelyn Nagano Glenn (2008) also suggests that the yearning for light skin is cultural, and recognizes how economic forces perpetuate the trend of skin lightening. Her research focuses on the marketing of many multi-national brands that manufacture and distribute different product lines to appeal to various target markets.

Scientific evidence and risks. There is a plethora of research that discusses scientific evidence of the risks associated with skin lightening practices. For example, some researchers such as Lartey et al. (2017) highlight the dangers of using skin lightening products which contain ingredients such as hydroquinone, mercury, and corticosteroids to lighten skin. These products have been known to cause tightness of the chest, nausea, vomiting, and irritability (Mire, 2001 p.5). This research, according to Lartey et al. is significant because it demonstrates the rate of reported complications among participants. Additionally, research conducted by Mistry, Shapero, Roopal, and Shapero (2011) focused on the toxic effects of skin lightening products on Canadian immigrants. While Canada restricts or bans the use of toxic chemicals in skin lightening products, this article illustrates how difficult it can be to regulate. For instance, in the two case studies conducted of Canadian immigrants, the participants were able to acquire products from outside Canada. The World Health Organization (2011) weighs in on this issue, specifically emphasizing the risks associated with the use, production, availability, health effects, and regulations surrounding the use of mercury in cosmetics and skin care products. Adding to this knowledge, Roger Lee Mendoza (2014) offers a business perspective, pointing out that government intervention may impede innovation in the industry and ultimately raise the cost of cosmetics.

Academic resources for practitioners. *The Milady's Skin Care and Cosmetic Ingredients Dictionary* (Michalun & Dinardo, 2015) is widely used as a teaching resource for skin care and cosmetics and provides lists of cosmetic product ingredients along with their function. This can be a helpful tool for students and faculty in the academic environment who wish to learn more about the ingredients that go into manufacturing cosmetics. Unfortunately, due to the rate at which cosmetics are being produced, it is difficult to keep up with every ingredient that goes into cosmetic and skin care products. *The Milady's Standard; Fundamental Esthetics* by Joel Gerson (2013) includes important information on skin sciences, traditional esthetic treatment protocols, and business skills. Unfortunately, of the seven hundred, fifty-five pages in this volume, only one chapter is dedicated to advanced topic and treatments, and only 12 pages of that chapter are dedicated to medical esthetic treatments. This textbook is missing important information, such as contraindications of various medical esthetic services, protocols, and limitations of the service, and the content is not always in alignment with other academic resources or regulatory bodies. For instance, skin types in *The Milady's Standard* are identified as dry, normal, combination, oily and skin conditions that include sensitive skin while other academic resources such as *Aesthetic Exposed* (Wojak, 2014) include sensitive as a skin type and not a skin condition (p. 69).

A further complication is that the regulatory data is not consistent with Canadian laws as the textbooks are produced in the US. The information regarding sanitation and disinfection requirements, government regulations, and practitioner credentials is, therefore not relevant to the Canadian cosmetics market (Michalun & Dinardo, 2015). For example, while the Milady textbooks suggest medical estheticians who provide invasive treatments such as laser or

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intense pulse light must be supervised by a medical practitioner, this is not the case in Ontario, Canada. Currently, practicing estheticians in Ontario do not require a license outside of the greater Toronto area (GTA). Since July 2015, owners and operators of spa-type businesses in the GTA have been required to obtain a personal service setting license, to ensure that Infection Prevention and Control Best Practices for Personal Service Settings are being met. Unfortunately, this lack of Canadian regulatory content in esthetic textbooks may be confusing for students and faculty.

As an alternative teaching tool, *Aesthetics Exposed* (Wojak, 2014) is a relatively new text book dedicated to medical esthetic treatment components including: consultation, skin concerns and treatments, laser and light therapy, complementing medical procedures with skin care, and new treatments. However again, as with *The Milady's Standard Esthetics*, the chapter on safety regulations is not consistent with Canadian laws. These textbooks offer valuable information regarding the practice of esthetics to students and faculty. However, the lack of Canadian content, and the inconsistent information complicate the teaching and learning experience.

Though research suggests that those in Eastern culture lighten their skin to gain social and economic status, there is little research that discusses the cultural reasons in Western society for choosing to take part in this practice. While this major research project focuses on the pedagogical implications of skin lightening, it is worth noting the gaps in the historical and cultural literature because it may influence future research concerning the motivations to lighten skin. The practice of using skin lightening products or partaking in cosmetic medical treatments does not come without health risk to consumers and practitioners. Acknowledging

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these health risks is essential to this research because it highlights the likelihood of exposing faculty and students to harm. Also helpful in the delivery of esthetic training would be the modernization of resources such as academic textbooks and esthetic program standards, to include more advanced treatments such as microdermabrasion, chemical peels, and intense pulse light.

Having established the resources found to be most useful to the research, I turn now to outline the methodology for my research plan.

Methodology

I return to the research questions here, as context for the discussion of the research methodology:

- a. How can knowledge of skin lightening products and treatments improve skin care training?
- b. How can Ontario colleges ensure faculty and lab technicians remain current in their knowledge of skin care products and equipment?
- c. How can practitioners safely and effectively provide invasive services to clients who express an interest in skin lightening treatments?

In order to address these questions, I organized the research into three steps. In Step One, I undertook a review and analysis of the literature to contextualize the research.

Step 1. Literature review and analysis. I primarily utilized the Ryerson Library resources, using these search terms to gather and collate research materials:

- Skin lightening AND history
- skin lightening AND culture

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- Skin lightening AND risks
- Skin bleaching
- Skin lightening AND education
- Skin lightening AND esthetics
- Skin lightening AND dermatology

Due to the fact that I am a professional working within the skin care and cosmetic industry, I made sure to include resources from regulatory bodies such as Health Canada, the World Health Organization and industry text books:

- Infection Prevention and Control Best Practices for Personal Services Settings
- Health Canada Personal Setting Guidelines
- Health Canada – Labelling laws
- World Health Organization
- Milady's textbooks Esthetics Standard / Esthetics exposed

I reviewed journal abstracts to find articles that discussed skin lightening or bleaching, and coded the articles using the four most common themes identified:

- History
- Scientific evidence of risks
- Culture
- Pedagogy

Following the literature review, I summarized the four key themes to produce a review and analysis of: the history and practice of skin lightening; the various methods of lightening or

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brightening skin available; the inherent risks to consumers and practitioners who undertake the lightening process; and the marketing strategies that perpetuate this process. I used this information to support a content analysis of products in Step 2, which was meant to highlight some of the issues discussed.

Step 2. Skin Lightening Product Analysis. I used the following criteria to select three products for the content analysis: All products must include terms which insinuate lightening or brightening on the label; the product must be regulated as a drug; it must include an active ingredient list; it must have a DIN number; it must have an expiry date. More specific details are as follows:

Product 1 (Table 1): L’Oreal Revitalift Bright Reveal. This product must be sold at a drug store: This sample was purchased at Shoppers Drug Mart (Toronto, Ontario), a vendor that is easy for consumers to access. Because, as Glenn (2008) suggests, cosmetic companies sell different brands in different markets, I chose the L’Oreal brand because they are one example of a multi-national brand that distributes different product lines to appeal to various target markets.

Product 2 (Table 2): Fade HQ from RejudiCare. This product was chosen because it can be easily purchased at a medical esthetic spa, or location that has a medical practitioner on staff. It is considered to be a professional product.

Product 3 (Table 3): Prescription. This product was prescribed by a medical practitioner, and purchased from a drug store pharmacy. It was difficult to attain both the prescription itself, and ingredient information, because initially I could not find a doctor who would prescribe the

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drug to me. When I approached various pharmacists for an ingredient list they were not willing to divulge the non- medicinal ingredients.

To facilitate the content analysis, I organized the information into a table format to make it easier to identify details and compare the three products. The decision to include the purpose of each ingredient was made when trying to decide how best to educate the students in the esthetics field. I chose to leave the ingredients that were not listed in the skin care and cosmetics dictionary blank, so that the reader would visually understand the challenge of educating esthetics students about ingredients and their benefits when the content cannot be found in academic resources.

Part II: Context for the Research

Step 1. Literature Analysis

The history of skin lightening. According to researchers, individuals who possess a fair skin complexion have been considered to be more physically and professionally desirable in Western and Eastern societies (Leong, 2006; Hunter, 2011; Sheridan, 1999; Hussein, 2010). The lightness of one's skin is often associated with prestige and a higher social and economic status. Theorists suggested that Africa and the African diaspora and the India diaspora regarded the British with great admiration during colonization (Arnold, 2004; Hunter, 2011; Glenn, 2008). Arnold (as cited in Glen, p.289) states:

they viewed the English as representing the highest culture and embodying the optimum physical type; they made invidious comparisons between lighter-skinned groups, whose men they viewed as more intelligent and marital and whose women they

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considered more attractive, and darker-skinned groups, whose men they viewed as lacking intelligence and masculinity, and whose women they considered to be lacking in beauty (as cited in Glen, p. 289).

It is believed that some still covet lighter skin; evident through the growing number of skin lightening products that are available to consumers today. Products that promise to whiten, illuminate, bleach, and brighten can be found on the shelves in beauty boutiques or purchased on line (Shiseido, 2015; Glenn, 2008; Hunter, 2011). During the 17th and 18th century, the wealthy protected their skin from the sun's rays in order to distinguish themselves from the laborers. This trend was traced back to the British Empire and colonization when Caucasians was thought to be powerful and superior (Hunter, 2011; Leong, 2006). Recently Mendoza (2014) determined that 50% of Philippine women use skin lightening products. The global skin lightening business is a multi-billion dollar industry (Phoenix, 2014). The three top manufacturers and retailers of skin lightening products are currently L'Oreal, Shiseido, and Unilever (Glenn, 2008) According to a L'Oréal 2013 financial report, 29% of their revenues generated come from the skin care market which equate to 22.99 billion euros per year in sales (L'Oreal, 2013). As a company they have predicted growth in five markets worldwide, of the five listed, three are within Asia. The research conducted by Leong (2006) helps us understand why such growth is predicted in the Asian Market. Leong's (2006) study investigated two focus groups of Asian participants in Hong Kong and the United Kingdom to determine their attitudes regarding light skin complexions and their relationship to social class, gender, and race. In this work, Leong also analyzed how the Shiseido UV whitening softener television commercials expresses identity through consumption. While his article is helpful in making us aware of the

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attitudes towards fair skin in Asia, a larger sample size would have been more effective than the 10 interviews he conducted with groups of highly educated individuals. We likely would have a more accurate representation of the Hong Kong population if the research included more people of varying ages and social and economic classes.

In 2014, The Advertising Standard Council of India (ASCI) issued a press release informing the industry that they had updated their guidelines surrounding the advertising of skin lightening products. Companies are no longer able to market their products in a manner that depicts those with darker skin as inferior or less desirable than those with fair skin (Advertising Standard Council of India, 2014). The ASCI aim to eliminate advertising that reinforces gender, class, and racial stereotypes by depicting those with darker skin as depressed, of lower socioeconomic status, etc.

Marketing. With promises to brighten, even out, and improve skin tone, skin lightening creams have been marketed in such a way that implies the need to enhance or alter ones physical appearance. In the following analysis of the literature, I examine the demand for skin lightening products, cosmetic labelling guidelines, appropriate designations for purveyors of skin lightening treatments, and contemporary examples of skin lightening advertisements. This information will demonstrate how verbal and written communication can be misleading for consumers.

Consumerism theory. In 2008, the American Marketing Association updated the definition of marketing to “the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (American Marketing Association, 2008, p.1). The most

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significant difference from their previous definition is that the wording no longer focuses on the organization and its stakeholders; rather the emphasis is on the consumer, industry partners, and society. This definition implies that consumers have the freedom to purchase products or services as desired. However, Passini (2013) challenges the notion of freedom of choice in consumer culture because he believes the culture we live in is one which encourages consumption. He compares consumerism theory to psychopathological bingeing behaviors, suggesting that our perpetual need for happiness is influenced by repetitive behaviors and the environment we live in (p. 375). Passini places responsibility for this cultural shift on unsolicited media and advertising methods, asserting that persuasive methods that perpetuate contemporary consumerist behavior make it easy to normalize addictive behaviors and promote a classism culture (p. 376). The notion of classism culture is relevant to this research because it supports the growing cosmetic and skin care products and services being market. Cosmetic brands also practice persuasive methods by encouraging consumers to purchase superfluous and unnecessary items, such as: skin care kits that contain products one had not intended to purchase; colour cosmetic palettes with ten different shades when a customer was only looking for one; and suggesting consumers need three different bottles of sun tan lotion for their next vacation to suit different parts of the body, and/ or for different age groups.

Financial reports for the cosmetic giants L'Oréal and Estee Lauder highlight the financial benefits of consumer culture for companies. In 2016, L'Oréal reported nearly 26 billion US dollars in annual sales, up nearly 5% from the previous year; and of the 26 billion dollars, over 28% was from the sale of skin care products such as Revitalift and Age Perfect. (L'Oreal , 2016) Estee Lauder, a leader in prestige beauty brands, reported over 11 billion dollars in net sales

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last year (2016, p. 12). The company attributed this increase to augmented retail sites including specialty shops such as Sephora, freestanding stores like MAC cosmetics, and online sales.

The sales figures from cosmetic companies L'Oréal and Estee Lauder demonstrates how the cosmetic and skin care industry has grown. This growth may be attributed to the consumerism culture which has been described by Passini (2013) as one which encourages consumption.

Cosmetic labelling. It is important to include a brief discussion of cosmetic labelling as context for this research because labelling analysis can reveal the subtleties in language used when promoting beauty products and services, and suggests how easily consumers can be misled by advertising. In Canada, cosmetic labelling is overseen by three different government branches; the Food and Drug Act, the Consumer Packaging and Labelling Act, and the Hazardous Products act. These standards were established as a means of ensuring consumer safety. For instance; the Food and Drug act and the cosmetic regulations prohibit individuals and businesses from selling cosmetic product that contain ingredients which may harm the consumer. As well, they ensure that the cosmetic products being sold in Canada have been produced and packaged in a facility which meets sanitary standards. The Food and Drug act requires all cosmetic products sold within Canada to include the product classification, ingredient list, intended use, net quantity, prescribed cautions, as well as the name of manufacturer and their contact information. The consumer packaging and labelling act is responsible for ensuring that product identification, quantity, and identity of the dealer is present on the package. Finally the hazardous product act ensures that cosmetics do not contain any materials that may be harmful to the consumer when used.

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However vigilant these governing bodies may be, consumer knowledge still may be limited because, for example, consumers may not be familiar with the terms used to describe cosmetic and skin care products. As stated by the Cosmetic Division of Health Canada (2014, July 31) and Advertising Standards of Canada (2006), a cosmetic is a product that is designed for cleansing or improving ones appearance yet does not alter the function of the body, while a drug is an item which is intended to treat or prevent a disease or disorder, therefore altering the function of the body (p 6). An indication that a product is being regulated as a drug would be the presence of a drug identification number (DIN) or natural health product number (NHP) along with an expiry date and an active ingredient list (Health Canada, 2011, p. 3) For instance, if a skin care product claims to lighten skin but does not have the above mentioned drug identifiers, it should not be capable of physically altering the skin. Furthermore, if an active ingredient list is visible on the package it would imply that the ingredients listed satisfy the function of the product claims. However, this may not always be the case. Additionally, cosmetic claims that use terms such as *cosmeceuticals* and *dermatologist tested* may be misleading for consumers. The terms have no significance according to the Food and Drug Administration (FDA), who identify the term *cosmeceutical* as a marketing term used to *imply* a product has medical benefits (U.S. Food and Drug Administration, 2016). Whereas the term *hypoallergenic* implies that the products ingredients may be less likely to cause an allergic reaction. Unfortunately, the cosmetic manufacturers need not provide any documentation to the governing body to prove that this is true. The FDA recognizes that this term is often used as a marketing ploy to attract consumers. Including product ingredients and outlining the appropriate cosmetic labels can be helpful for consumers to identify the features and benefits

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of cosmetic products. This can also be overwhelming for those who do not have the knowledge base to see past the marketing which brands use to sell their products.

Risks associated with skin lightening. Skin lightening products and cosmetic medical treatments can be an effective way to reduce melanin production in the skin. However, these methods of skin lightening may also be connected to a number of health and safety risks for consumers and practitioners of skin lightening treatments. In this section the risks of certain chemical compounds will be explored.

Risk of harmful ingredients. Skin lightening products come at a cost. Individuals who suffer from pigmentation changes often reach for skin lightening products in an attempt to resolve these changes, or perceived changes, to their skin. Common skin whitening ingredients include Kojic Acid, Salicylic Acid, Nicotinamid, Arbutin, Mercury, Hydroquinone, and Corticosteroids (Mire, 2001 p.6 & 85; see also Desmedt, et al., 2014). Those ingredients known to cause the most damage to the skin and body are hydroquinone, mercury, corticosteroids, and tretinoin. For instance; the use of hydroquinone is known to cause photosensitivity, hyperpigmentation, ochronosis, and in extreme cases kidney and liver disease (Bhattar, et al., 2015; Desmedt, et al., 2014; Michalun & Dinardo, 2015).

Hydroquinone. Researchers suggest that prolonged use of skin lightening agents containing hydroquinone, in higher than recommended doses, combined with extreme weather conditions such as extreme heat, can trigger localized hyperpigmentation called exogenous ochronosis (EO). EO manifests itself as bluish-black or grey-brown macules on the skin (Bhattar, et al., 2015, p. 539; see also Wojak, 2014, p. 126). Normally EO is present in areas of the body which are exposed to ultraviolet light like the face, neck, and décolleté area. Since the 1950's,

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hydroquinone and its derivatives have been added to skin lightening products causing debate within the medical community and regulatory bodies (Hu, 2009). The use of hydroquinone in cosmetic products has been banned or restricted in Europe and North America (Desmedt, et al., 2014; Health Canada, 2014). Although Health Canada has restricted the usage of this ingredient in cosmetics within Canada, it may be used in small quantities for hair colour systems, synthetic nail systems, and adhesives. Cosmetic packaging, on the other hand, must contain cautionary statements which are clearly visible to consumers. On the other hand, dermatologists and other medical practitioners can prescribe hydroquinone to their patients to help reduce hyperpigmentation caused by a variety of skin disorders, including melasma (Gupta, Gover, Nouri, & Taylor, 2006 p. 1048). Recently, Health Canada (2017) posted a notice inviting the public to comment on the proposal to add this ingredient to the prescription drug list (PDL) when being sold in topical skin care products measuring more than two percent.

Mercury. The use of mercury in topical ointments, such as those used in skin lightening products, have been known to cause a plethora of health related problems including a “tight feeling of the chest, chills, diarrhea, metallic taste, nausea, vomiting, emotional instability, irritability, depression, forgetfulness, insomnia, muscular weakness, renal failure, and loss of teeth” (Mire, 2001 p. 5). Although mercury and its related compounds have been prohibited in skin lightening products within North America, trace amounts of this ingredient can be found in colour cosmetics, foods, and drinking water (Health Canada, 2016). Although Health Canada has taken the necessary steps to mitigate the harm to consumers by limiting the amount of toxic ingredients found in cosmetics, the same cannot be said for other countries. According to the World Health Organization, harmful ingredients such as mercury continue to be found in

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skin lightening products and colour cosmetics such as eye shadow and mascara worldwide (2011, p.3).

While the European Union and African Nations have banned mercury altogether, unfortunately the United States Food and Drug Administration, Health Canada, and the Philippines Food and Drug administration continue to allow small amounts in beauty products formulated for the face and body. Most countries in Asia maintain regulations consistent to countries like Canada, which restricts or bans cosmetic ingredients which have been proven to cause physical harm. The Association of Southeast Asian Nations (ASEAN) articulates the regulation process among its 10 members (Asan Cosmetic Directive, 2003; General information Booklet on ASEAN harmonized cosmetic regulatory scheme, n.d.). However, countries such as Hong Kong provide regulation equivalent to those in other developed countries: As long as the product complies with the manufacturing and importation regulations of another country it may be distributed. This means that harmful ingredients are allowed to enter the country. In a recent study, researchers tested over one hundred and sixty skin lightening products obtained by inspectors at high risk locations, such as airports (Desmedt, et al., 2014). Each product was tested for toxicity. It was found that nearly sixty percent of the products collected tested positive for containing ingredients which were restricted or banned in the European Union, Canada, and the USA. Of the one hundred sixty products tested, nearly twelve percent of the products testing positive for containing hydroquinone, and almost fifty percent contained amounts exceeding the legal parameters in most countries. This demonstrates that even with legislation these products are still managing to get into the hands of consumers and expose them to potential harm. Skin care ingredients are particularly important for those practicing

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esthetics because they will be in a position to recommend a products and services to clients within the professional spa environment. As such, they must be familiar with harmful ingredients and their effect on the skin.

The inconsistency of educational requirements. There has been a significant increase—400 % within a four year span (Hibler & Rossi, 2005, p. 64)—in the number of cosmetic medical services being provided in non-medical facilities, such as microdermabrasion, chemical peels, laser hair removal, photo facials, and injectables (Hibler & Rossi, 2015, p. 63; see also Warfield, 2001, p. 251). As a result of this growth, medical practitioners have increasingly relied on medical assistants such as nurses, nurse practitioners, and estheticians to perform these services within their facilities. In some cases, however, a medical practitioner may not be present to consult with the patient, supervise the practitioner performing the service, or recommend a treatment plan. Though it makes practical sense to complement cosmetic medical treatments with medical assistants such as nurses and estheticians, clients may be uneasy about the level of education required by these practitioners. For instance, the duration of an esthetics diploma at a private institution may be six months compared to an esthetics diploma at a public institution which is typically two academic years in length (Gallagher, 2015 p. 7). Although a diploma in the field of esthetics implies a level of skill in the industry, it is not required to practice esthetics in Ontario Canada. Therefore, an individual without knowledge of skin physiology, skin care products, treatment protocols, contraindications, and post care, can technically perform cosmetic medical treatments without consequence. The executive director for the National Coalition of Estheticians, Manufacturers/Distributors & Associations advocates for industry experts to use terminology which reflects the service and the skill level of the

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provider (Warfield, 2001). For instance, Warfield suggests a chemical peel be called an exfoliation or resurfacing treatment when provided by an esthetician to set realistic expectations and avoid miscommunication for clients or patients. Moreover, they recommend medical spa owners and medical estheticians reconsider using the term *medical* to describe esthetic services because it implies both a higher level of education and it insinuates patients will meet with a medical practitioner during their visit. This research confirms the popularity of skin lightening treatments such as microdermabrasion and chemical peels. As well, it highlights the complexity of training service providers within the esthetic field because of the inconsistency in educational requirements and the potential harm these treatments can cause.

The role of regulatory bodies. There are currently only two regulatory bodies for estheticians in Ontario, Canada: Infection Prevention and Control Best Practices for Personal Services Settings and Body Safe. Their mandate is to ensure the safety of the practitioner and clients by enforcing a number of best practices such as the proper way to sanitize surfaces, sterilize equipment, and keep records when blood is exposed (Government of Ontario:Ministry of Health and Long-Term Care, 2009; Toronto Public Health, n.d.). In 2015, Toronto Public Health implemented regulatory changes which required spa related establishments to obtain a service setting (PSS) license. This includes establishments that offer services such as tattooing, micropigmentation, hair styling, and traditional esthetic services (Government of Ontario: Ministry of Health and Long-Term Care, 2009; Toronto Public Health, n.d.). Similar to the Dine Safe program aimed at protecting consumers in eateries, the Body Safe program was implemented to protect consumers, practitioners, and business owners in a personal service setting. The aim of the program is to protect consumers and practitioners from infectious

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diseases such as Hepatitis B, human immunodeficiency virus (HIV), fungal infections, and bacterial infections (Toronto Public Health, n.d.). Related businesses are inspected annually to ensure compliance with the PSS guidelines set forth by the Ministry of Health. In the event that an establishment does not meet the standards, they will earn a conditional pass and are offered an opportunity to rectify the issues. In extreme cases the establishment will be required to close down. Inspection results are posted where the public is able to view the results and make informed decisions about frequenting the facility. While this is a positive development, laws that require practicing esthetics to demonstrate theoretical and practical knowledge would certainly be beneficial for consumers' safety, ensuring that estheticians possess the knowledge required to perform a thorough consultation, review health history and medications, discuss contraindications and client expectations, perform services to a level of expertise, and recommend aftercare. In a position statement by the American Academy of Dermatology (2012), the organization advocates for licensing non-physician personnel in medical spas to ensure the safety of the consumers:

The optimal quality of medical aesthetic care is delivered when a qualified and licensed physician provides direct, on-site supervision to all qualified and licensed non-physician personnel. On-site supervision means a supervising physician that is both present at the site and is able to respond immediately, in-person, during a delegated or assigned medical aesthetic procedure. Each medical spa facility should maintain up-to-date written procedures regarding appropriate delegation and supervision protocols for all medical aesthetic procedures performed within the facility. (p.3)

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The esthetics program standards for public institutions within Ontario highlight the vocational standards for diploma level programs (Ministry of Training, Colleges and Universities, 2007 p.4). These learning outcomes include assessing client needs, creating treatment plans, and ensuring client and equipment safety. This document, which was created ten years ago, does not include any medical esthetic treatments. Until additional regulations are put in place for this relatively new industry, post-secondary institutions will continue to refer to the current legislation to design courses and programs which meet industry demands.

Teaching materials. According to the Ministry of Advanced Education and Skills Development (2010) (previously called the Ministry of Training Colleges and Universities), and the private career colleges of Ontario, academic institutions offering esthetic programming must comply with provincial and national laws when offering medical spa treatments (Government of Ontario, 2010; Government of Ontario: Ministry of Training, Colleges and Universities, 2007). Although technically there is no formal education required to practice esthetics in Ontario, the infection prevention and control unit of the public health division requires business owners to ensure all personal service workers (PSW) are educated on the sanitation and disinfection practices outlined within the seventy four page document (Government of Ontario: Ministry of Health and Long-Term Care, 2009). According to this requirement, those estheticians working in the greater Toronto area must obtain a license to practice in a personal service setting. Regrettably, the Body Safe program does not extend to post-secondary institutions.

Unfortunately, many of the textbooks for this industry are published in the United States where licensing, infection prevention and control, and skin care and cosmetic regulations

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differ. This can be problematic due to conflicting information such as legislation, making parts of the textbooks incorrect or insignificant. For instance, the textbook *Milady Standard; Fundamentals Esthetics* suggests those interested in pursuing a career in cosmetic medical treatments in the US, such as microdermabrasion and laser hair removal familiarize themselves with state rules and licensing (Gerson, 2013, p. 10). However, Canada does not require a license to operate the equipment used to perform skin brightening treatments such as microdermabrasion and intense pulse light. As a result of this lack of control, faculty teaching in spas and their students will be required to use a number of supplementary online resources including: Infection Prevention and Control Best Practices for Personal Services Settings; the cosmetic ingredient hotlist; and industry association websites. This could create confusion in comparing and contrasting teaching materials.

The ministry of advanced education and skills development outlines vocational standards, essential employability skills, and general education requirements and although these documents state that the services mentioned are by no means all inclusive, there is no mention of any cosmetic medical treatment or services such as chemical peels, microdermabrasion, intense pulse light, or micro needling. The esthetics program standards focus on traditional esthetic services such as waxing, sugaring, manicures, pedicures, body treatments, and facials. In a review of the Ontario colleges who offer esthetic programming, it appears that many offer medical esthetic treatments within their curriculum.

Supplementary teaching resources. Although peer reviewed journal articles are available via academic libraries, some resources focused on the skin care and cosmetic industry are not readily available and in some cases the cost for educational institutions can be

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prohibitive. For instance, the International Spa Association (ISPA) requires students and faculty to purchase individual membership to gain access to research (International Spa Association, 2015). The cost of the membership is \$93 per year for students, and \$132 for faculty members. The personal care product council created a web-based cosmetic dictionary listing over 72,000 product ingredients and trade names from nearly 5,000 suppliers in 148 countries (The Personal Care Products Council, 2017). The cost for access to their ingredient dictionary is \$525 per member per year and \$1,250 for non-members. Also, the Global Wellness Institute asks those who have downloaded academic research from their website to make donation so that they may continue to offer complimentary resources to industry professionals (Global Wellness Institute, 2016). While these resources can be rather expensive for faculty and students, they are necessary to keep current in the esthetic industry. They can offer important information regarding industry trends and standards.

Faculty credentials. Nearly twenty years ago, Ontario colleges were granted the opportunity to deliver undergraduate degrees (Government of Ontario, 2015). Since then, degree-granting colleges have had to adjust their hiring practices to align with the Post-Secondary Quality Assessment Board (PEQAB) requirement (Tesa, 2013, p. 66). PEQAB requires faculty teaching in degree programs to hold, at a minimum, a masters level degree or PhD, a fact which has challenged hiring practices within the post-secondary environment, Tesa argues. This information is critical to this research paper because faculty teaching in esthetics program have not had the opportunity to obtain higher level education within the discipline—there are currently no undergraduate programs focused on esthetics within Canada.

Part III: Content Analysis

Step 2. Skin Lightening Product Analysis – Discussion

The purpose of the content analysis in this research is to demonstrate how the history, marketing, health risks, and pedagogical practices concerning skin brightening inform the production and use of cosmetics. The content analysis was conducted on three samples of skin brightening products. For organizational purposes, the data is presented in a chart format: Each chart includes the brand, product name, claims, recommended dosage and directions of usage, active ingredients, non-medicinal ingredients, expiry dates, DIN number, size, and cost of the product. This information may be useful to consumers and industry professionals so that they are able to learn about the products they are using. The list of ingredients, and their purpose were obtained from the *Milady's Skin Care and Cosmetic Ingredient Dictionary*, a supplementary textbook for estheticians (Michalun & Dinardo, 2015). All ingredients not found in the textbook are highlighted in pink on the respective charts. Each of the products were obtained from a different type of vendor: a drug store, a medical spa, and a prescription from a doctor. The first product is a consumer product by L'Oréal called Revitalift Bright Reveal Day Moisturizer (Table 1). This product was purchased from a drug store in the greater Toronto area. The second product is a client product by RejudiCare called Fade HQ (Table 2), which was purchased at a medical spa, and the third product named, HQ 5% / AA 0.83%, Stieva-A 0.05% CR / Desonide was prescribed to a patient by a medical practitioner (Table 3).

The term consumer, client, and patient are codes used here to describe the intended audience for each product. For instance, the consumer product is readily available to all. It does not require a recommendation from a skin care professional or a medical practitioner.

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The client product can be purchased at a medical spa or facility which has an affiliation with a medical practitioner. It does not require a prescription but it is generally recommended by a skin care professional. The third product is one which is prescribed to a patient by a medical practitioner with the intention to treat a skin condition.

According to Health Canada (2011), all cosmetic manufacturers are required to list cosmetic ingredients on the package so that consumers are informed when making purchasing decisions. Each ingredient must be listed using international nomenclature for cosmetic ingredients (INCI) as they are recognized worldwide. However, when comparing L'Oréal's Revitalift Bright Reveal Day Moisturizer and RejudiCare Fade HQ, both list water as a main ingredient. It is a problem when water may be listed as aqua or eau, because this terminology cannot be found in the skin care and cosmetic dictionary. Because more than 20% of the ingredients listed in these two products were not listed in the skin care and cosmetic dictionary, it is difficult for students and faculty to research product ingredients and product function using this resource. Although the example above may appear simplistic, one can imagine how difficult it would be for the layperson to understand the function of the product by looking at some of the ingredients found on the back of a skin lightening product.

When comparing the claims from the three skin care products it is worth noting that the consumer product contains the most information on the package and the patient's prescription product has the least. One might question whether there is an implied sense of trust when we are recommended a skin care product from an esthetician or prescribed an ointment from a medical practitioner. Cosmetic claims may complicate things further for consumers because it may be difficult for them to decipher what information is important. In the example of the

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consumer product, Revitalift Bright Reveal (Table 1), it highlights the fact that the product contains an ingredient called Glycol which is generally used as a chemical exfoliant. While it is true that the product contains glycolic acid, it is not listed as an active ingredient. All ingredients listed as active satisfy the function of a sunscreen and not a chemical exfoliant. Moreover, consumer product from L'Oréal promises to "visibly brighten," and makes "skin look brighter and more radiant," and the RejudiCare product (Table 2) promises "to gradually lighten hyper pigmented skin". One might think by looking at the product claims that the function of the products are similar, however, the first example suggests the skin may *look* radiant but not actually lighten the skin. This may be due to the colouring / shimmering agents which have been added to the formulation which gives the illusion of brighter looking skin, whereas the Rejudicare Fade HQ (Table 2) claims to physically lighten hyperpigmentation. Since the lightening agent is listed as an active ingredient we can determine that the product will actually satisfy the function of the product claim, which is to lighten hyperpigmentation on the skin.

Skin care products regulated as drugs or natural health products must include identifying features such as active ingredients, expiry date, and drug identification number (DIN) or natural health product number (NHP), (Health Canada, 2011). In the case of these three, all products include an active ingredient list, expiry date, and DIN or equivalent. The purpose for each ingredient becomes helpful in this process of comparing the products' function. Upon inspection, the L'Oréal Revitalift (Table 1) active ingredients are meant to protect the skin from the sun rather than physically lightening or brightening skin, whereas the active ingredients in RejudiCare Fade HQ (Table 2) and the prescription drug (Table 3) contain skin lightening ingredients. Additionally, L'Oréal Revitalift claims that it has been tested under

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dermatological control. While this may be true, it is not clear what the product was tested for or what the results of the tests were. However, merely stating this on the package may imply to the consumers that this product is in some way endorsed by a physician.

Finally, the cost of the consumer and patient product is almost half the cost of the client product making it more economical to attain. For those with medical insurance coverage, the cost of the prescription skin lightening product may be even less if they qualify for coverage. Ultimately the accessibility of the product, the disproportionate cost of the client products, and the marketing claims made by consumer brands may be responsible for the increasing sales of skin lightening products available to the public, as discussed earlier.

Previously it was mentioned that, the purpose of this analysis was to analyze these three skin lightening products and demonstrate how the history, marketing, health risks, and pedagogical practices concerning skin brightening inform the production of cosmetics. Though these products do not directly comment on the history and culture of skin lightening products, it is obvious that this cultural trend to lighten or brighten skin still exists because of the products, such as these, that are made available to consumers, clients, and patients. Through this analysis we were able to determine that academic resources were lacking important information such as product ingredient description and function. In this case, more than 20 percent of the ingredients were not found in the skin care and cosmetic dictionary. This is problematic because it creates a challenge for faculty and students who wish to learn about the functions, risks, and recommended usage. For instance, if a cosmetic product, like Fade HQ, is being recommended for reducing hyperpigmentation because of its ability to lighten skin, the skin care professional may wish to give further instruction regarding the use of this product

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because of the active ingredients. As well, we learned that cosmetic products must list important information on the package to allow consumers to make educated decisions about their purchases. In the case of the 3 products analyzed, we recognize that this information can be overwhelming for consumers who do not have the expertise to make a purchasing decision based on product ingredients and claims. Though subtleties in the verbiage used to market these products may be misleading, consumers would likely rely on these claims to make purchasing decisions. For instance; claims such as the *skin looks lighter* versus *gradually lighten hyperpigmented skin* may be thought to be the same though the product ingredients tell us otherwise. It is important to note that the product coded as consumer would not be a bad choice because it does not physically lighten the skin. The ingredients tell us that it can improve the skins texture, protect the skin from further sun damage, and give the appearance of brighter skin without the potential for harm. Since the use of skin lightening ingredients such as hydroquinone can be harmful it would not be suitable for all consumers to use these products without supervision. Finally, the client and patient products contain active ingredients which lighten or brighten skin. Given that medical practitioners are counting on mid-level providers in the medical esthetics environment to recommend products and perform cosmetic medical treatments, it seems reasonable that they would have a minimum level of expertise in the skin care field.

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Table 1. L’Oreal Revitalift Bright Reveal

L’Oreal	
<i>‘Revitalift Bright Reveal’</i>	
Product Claims	
Visibly brightens skin, evens tone and reduces the look of wrinkles / After application, skin looks brighter and more radiant / Skin feels silky soft, smooth and is hydrated all day / In 1 week, skin looks even, rough texture is smoothed / Wrinkles look visibly reduced / Tested under dermatological control / Suitable for all skin tones and types- even sensitive.” / Sunscreen / Glycolic	
Recommended Dose / Directions of Usage	
Every morning, smooth gently over cleansed skin. Use alone or under makeup. Smooth from neck to jawline, then upper chest until absorbed. Apply prior to sun exposure. For sun protection, reapply frequently.	
Active/Medicinal Ingredients	Purpose
Octocrylene 7%	Sunscreen UVB
Homosalate 5%	Sunscreen UVB absorber (Category 1-FDA)
Octisalate 5%	UVB Protector
Avobenzene 3%	Sunscreen UVA
Non-Medicinal Ingredients	Purpose
Aqua	<i>Not listed in the skin care and cosmetics dictionary</i>
Glycerin	Humectant
Dimethicone	(form of silica) Emollient - lubricity , slip and good feel
Silica	Emollient / Controls viscosity/ reduces formulation transparency
PEG-100 Stearate	Stabilizer, emulsifier (Polyethylene Glycol – PEG stand for this)
Glyceryl Stearate	Emulsifier/ stabilizer / humectant
Glycolic Acid	chemical exfoliant
Ammonium Polyacryloyldimethyl Taurate	Stabilizer and Thickener
Ascorbyl Glucoside	Time release version of vitamin C, skin lightening and anti-hyperpigmentation properties
Benzyl Alcohol	Preservative
Benzyl Salicylate	Fragrance
Caprylyl Glycol	Emollient / Stabilizer / Preservative
Citral	Fragrance (lemon)

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Dicaprylyl Carbonate	<i>Not listed in the skin care and cosmetics dictionary</i>
Dimethicone/Vinyl Dimethicone Crosspolymer	Skin lubricant / increases slip and spread ability / a form of silicon
Disodium EDTA	Preservative
Hexyl Cinnamal	Fragrance (jasmine like)
Limonene	Fragrance (citrus)
Linalool	Fragrance (lavender and coriander)
Mica	Texturizer and colouring agent / provides a glimmer or shimmer
Myristic Acid	Surfactant and cleansing agent/ provides abundant lather
Palmitic Acid	Fatty acid / texturizer
Pentaerythrityl Tetra-DI-T-Butyl Hydroxyhydrocinnamate	<i>Not listed in the skin care and cosmetics dictionary</i>
Phenoxyethanol	Preservative
Phenylethyl Resorcinol	<i>Not listed in the skin care and cosmetics dictionary</i>
Retinyl Palmitate	Skin conditioner
Sodium Hyaluronate	Humectant / emulsifier
Sodium Hydroxide	Adjust product pH level
Steareth-100	<i>Not listed in the skin care and cosmetics dictionary</i>
Stearic Acid	Emulsifier and thickening agent
T-Butyl Alcohol	<i>Not listed in the skin care and cosmetics dictionary</i>
Tin Oxide	<i>Not listed in the skin care and cosmetics dictionary</i>
CI 77891	<i>Not listed in the skin care and cosmetics dictionary</i>
Tocopherol	Anti-oxidant
Xanthan Gum	Texturizer / carrier agent / gelling agent
Parfum. F.I.L #C184445/3	<i>Not listed in the skin care and cosmetics dictionary</i>
Expiry Date (Yes / No)	
Yes	
DIN / NPN Number	
DIN Number 02454270	
Size of Product	
30 mL	
Cost of Product	
\$33.99	

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Table 2. Rejudicare Fade HQ

• RejudiCare	
<i>'Fade HQ'</i>	
Product Claims	
"Fade HQ Skin lightening cream is for the gradual lightening of hyperpigmented skin conditions such as age spots, liver spots, freckles or other areas of unwanted discoloration that may occur in pregnancy or from the use of oral contraceptives."	
Recommended Dose / Directions of Usage	
Adults: Apply a small amount of Fade HQ on the selected area twice a day or follow instructions from your physician.	
Active/Medicinal Ingredients	Purpose
Hydroquinone, 4% (w/w), USP.	Lightening agent
Non-Medicinal Ingredients	Purpose
Aqua / Water / Eau	Eliminate hardness / avoid product contamination
Ascorbic Acid	Skin lightening / antioxidant properties
Behenyl Behenate	<i>Not listed in the skin care and cosmetics dictionary</i>
BHT	Antioxidant / preservative / masking capabilities
Cetyl Alcohol	Emollient / emulsifier / thickener/ binder/ foam booster / emulsion stabilizer
Disodium EDTA	Preservative
Glycerin	Humectant (helps skin retain moisture / helps product spread)
Clyceryl Stearate	Emulsifier / stabilizer / humectant
Lactic Acid	Preservative / exfoliant (alpha hydroxyl acid) / moisturizer / adds acidity to a formulation / increases water tension
Potassium Sorbate	Preservative
PEG-100 Stearate	Stabilizer / emulsifier / cleansing agent
Quillaja Extract	<i>Not listed in the skin care and cosmetics dictionary</i>
Sodium Levulinate	<i>Not listed in the skin care and cosmetics dictionary</i>
Sodium Metabisulfite	Antioxidant
Tocopherol	Antioxidant
Expiry Date (Yes / No)	
Yes	
DIN / NPN Number	

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NPN Number 80048450
Size of Product
1.7 fl. Oz / 50 mL
Cost of Product
\$120.40 CAD

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Table 3. Prescription: HQ 5%/AA 0.83%/ 'Stieva-A 0.05% CR/Desonide CR (1:1)

Prescription by Doctor	
<i>HQ 5%/AA 0.83%/ 'Stieva-A 0.05% CR/Desonide CR (1:1)</i>	
Product Claims	
None	
Recommended Dose / Directions of Usage	
None	
Active/Medicinal Ingredients	Purpose
HQ (Hydroquinone, 5%)	Lightening agent
Stieva-A	<i>Not listed in the skin care and cosmetics dictionary</i>
CR/Desonide	<i>Not listed in the skin care and cosmetics dictionary</i>
Non-Medicinal Ingredients	Purpose
None listed	Not Applicable
Expiry Date (Yes / No)	
Yes	
DIN / NPN Number	
Yes	
Size of Product	
60 ml	
Cost of Product	
\$80	

Conclusion

The motivation for this Major Research Project which included a literature review and skin lightening product analysis was to investigate the ways in which educators can ameliorate the problems that occur from skin lightening products and treatments, and how the teaching and learning environment can be the catalyst for such change in the next generation of spa and cosmetic professionals. Upon analysis of the literature related to skin lightening products and services, four main themes were identified. They are history, culture, scientific evidence and risks, and pedagogical implications of this trend.

While the focus of this major research project is on the pedagogical implications of this trend, it is worth mentioning that it is embedded in historical and cultural beliefs. Researchers suggest that the desire to partake in skin lightening practices is the consequence of colonialism (Hussein, 2010). Leong (2006) states that lighter skin individuals were considered more successful both personally and professionally. Through focus groups conducted in Hong Kong and the United Kingdom, it was established that these ideas of beauty continue to exist in contemporary society. Although it is unclear whether these same ideals of beauty exist in Western society, evidence from skin care and cosmetic brands suggests that the yearning for skin lightening products and treatments continues (Hunter, 2011; L'Oreal, 2016).

The researcher examined scientific evidence that demonstrates the risks involved with the use of harmful ingredients such as mercury and hydroquinone in cosmetic and skin care products (Health Canada, 2014; World Health Organization, 2011). To compound the risks associated with harmful ingredients is the potential for harm during cosmetic medical treatments such as microdermabrasion and chemical peels (Gallagher, 2015). Unfortunately,

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the lack of credentials required to practice medical esthetics treatments within Canada is cause for concern since medical practitioners are counting on mid-level providers to perform these invasive treatments (American Academy of Dermatology, 2012; Toronto Public Health). The lack of credentials required to practice esthetics is tied to the pedagogical implications for practice. It is challenging for administrators and academics to design programming for students studying esthetics because program standards within Canada require updating to include cosmetic medical treatments (Ministry of Training, Colleges and Universities, 2007).

Gaps in the research include the lack of Canadian regulatory content in popular esthetic textbooks like *Milady Standard Esthetics*, *Milady's Skin Care and Cosmetic Ingredient Dictionary*, and *Esthetics Exposed* (Gerson, 2013; Michalun & Dinardo, 2015; Wojak, 2014). The inconsistencies or lack of critical information within esthetic textbooks such as product ingredient descriptions and skin types add to the challenges of teaching and learning. Supplementary resources related to the cosmetic and skin care industry may be offered via library and industry websites. Industry associations such as International Spa Association have invested in industry research which require costly memberships, making it difficult for some to attain (International Spa Association, 2015).

There is limited research focused on the history and cultural implications of this beauty trend within Canada. The body of research that exists focuses primarily in Asia, Africa, and the Middle East (Glenn, 2008; Hunter, 2011; Hussein, 2010). The gap in the research makes it difficult for those in the cosmetic and skin care industry to understand the cultural implications of skin lightening.

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Part III of this major research project was the content analysis of 3 skin care and cosmetic products. Each product was designed for a different target market. The first, a consumer product which was purchased in a drug store within the greater Toronto area. The second, a client product purchased at a medical spa where a medical practitioner was present. The third, a patient product that was prescribed by a medical practitioner. Through this analysis we were able to determine that the three products were marketed as skin lightening products. Not surprising, the product which was intended for consumers included the least skin lightening properties and included the most marketing claims, whereas, the client and patient product contained the most effective skin lightening properties and had the least amount of information on the package. Although, one might conclude that the client and patient product were the most effective way to reduce pigment on the skin due to the active ingredients this may be misleading. Through the review of harmful ingredients in part II we learned that skin lightening ingredients can cause physical harm to ones skin if used in excess (Health Canada, 2016). Therefore, it makes sense that a consumer product would not contain aggressive skin lightening ingredients. Instead, this product would offer consumers improved skin texture and protection from the suns damaging rays. It is worth noting that the charts, which were created to assist with the analysis process, included the function of the product ingredients from the Milady's Skin Care and Cosmetic Dictionary. It was found that more than 20% of the ingredients were not found in this book.

I return to the guiding questions below when making recommendations for the improvement of training for Ontario esthetics programs.

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How can knowledge of skin lightening products and treatments improve skin care training?

How can Ontario colleges ensure faculty and lab technicians remain current in their knowledge of skin care products and equipment?

How can practitioners safely and effectively provide invasive services to clients who express an interest in skin lightening treatments?

Skin lightening products and services such as chemical peels, microdermabrasion, and micro needling are becoming more popular (American Academy of Dermatology, 2012). However, with that popularity comes a number of complex issues related to the marketing, health risks, and the pedagogy of skin lightening practices. While some people—generally populations with darker skin—may choose lightening to enhance their natural beauty, or to achieve marketing related images of beauty, many take part in skin lightening practices to treat skin conditions such as hyperpigmentation. Regardless of the purpose for undertaking skin lightening procedures, be they medical or cosmetic, more needs to be done to ensure practices are undertaken with caution. To this end, the conclusion of this paper offers the following recommendations to policy makers, esthetic program faculty, college administrators, and industry for consideration.

There appears to be little regulation in place to ensure estheticians have the knowledge to consult with a client, review their medical history, design and execute a treatment plan, and recommend skin lightening products for clients or patients in a medical esthetic environment. Unfortunately, this lack of regulation can expose consumers to a variety of health related problems including hyperpigmentation, burns, and scarring. It is essential that governing bodies consider mandating a credential which ensures that the practitioner not only follows sanitation

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and disinfection best practices, but also performs services safely. Following policy in the US, it may be beneficial to have a medical practitioner present when those without medical certification are performing invasive treatments in the event that support is needed.

Additionally, in view of the fact that the medical esthetics field is relatively new, it is recommended that the program standards for esthetics diplomas in Ontario be revised to incorporate any new qualifications or training required. For academic institutions offering cosmetic medical treatments such as chemical peels, microdermabrasion, and Intense Pulse Light therapies, it would be beneficial to update the programs' standards so that they can ensure both the academic learning outcomes and industry needs are in alignment.

Finally, the cosmetic manufacturers have a responsibility to ensure that consumers are aware of the products they are using on their skin. It is recommended that cosmetic and skin care brands do their part to educate consumers about the products they are using. For instance, by using nomenclature that is recognizable to consumers and including marketing claims that best represent the product in the package.

As technologies continue to improve and revolutionary new skin care products and treatments are presented, it is recommended that the academic institutions require faculty and students to attend workshops, conferences, and tradeshow so that they are able to remain current in their knowledge. For example, conferences may include the Global Spa Summit and the Esthetique International Trade Show. As well, faculty should be encouraged to use supplementary reading materials to highlight current issues related to medical esthetics; these may include Toronto Public Health notices, Personal Service Setting Guidelines set forth by

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Health Canada, and peer reviewed academic research discussing critical topics, such as the consultation to ban hydroquinone in Canada.

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