Safety and Elegance: Self-Esteem and Knowledge on the Risks on the Use of Lipstick among Flight Attendants John Christian Espinola, Lyn Capistrano, Anthony John Dellova, Janelle Tapiculin, Czantella Aguas, Kurtney Espinosa, Kaitlin De Leon, Avril Baetiong, Michael Tauber, Stella Miranda, Madeline Chan, Gieson Bacnutan 0000-0003-1771-9110- Lyceum of the Philippines University, Manila christian.espinola@lpu.edu.ph

Abstract - Cosmetic use has been prevalent in the world of beauty standards and is being patronized by many. It gives women an avenue to live up to their desired image, as it boosts their confidence and self-esteem while using it. Flight attendants, as consumers of cosmetics due to the standards of airline companies, were assessed to determine their knowledge of the risks of the use of cosmetics, specifically lipstick, and their level of self-esteem with and without it. Using quota sampling, 130 flight attendants of a local airline answered the survey adapted from Rosenberg, M., (1965) and Oller, L. (2007). Results revealed that 57.7% have a "High Level" of self-esteem when they are wearing lipstick, stating that they feel that they have several good qualities while doing so $(\bar{x}=4.02)$. It also shows that 42.3% have a "very good" level of knowledge on the risk of using lipsticks, particularly being sure that a product has been tested for safety and has passed those tests when seeing the phrase "Dermatologist-Tested" (x=4.20). Using the widely popular choices from the data, the researchers randomly purchased six samples from high-end, local, and drugstore lipstick brands. These were tested using the XOS HD Mobile XRF Analyzer and it was found that two have a significant presence of Lead (Pb). This implies that it is not completely safe, considering small commutative amounts are still harmful, being an extremely strong poison and a highly deadly metal. Lead poisoning is dangerous and may occasionally cause deadly illness (Murrel, D., 2018). Putting the lead-containing items in their mouths causes people to absorb lead into their bodies. Iconic image branding plays an important role, especially in the tourism and hospitality industries; therefore, it is recommended that airline companies include in their trainings, aside from their creative and appealing applications, the compositions and effects of a variety of cosmetic products on the health and well-being; and that beyond the superficial aspects, it is the way they extend their heartfelt service to the passengers.

Keywords - Flight Attendants, Self-Esteem, Lipstick Lead Content, Effects of Lipstick to Self-Esteem

Introduction

Cosmetics play a crucial role in promoting physical and emotional health, as they protect skin from external stress and maintain personal hygiene. The United Nations' Sustainable Development Goals aim to ensure health and well-being for all, focusing on reproductive, maternal, and child health, communicable and non-communicable diseases, universal health coverage, and access to safe, effective, and affordable medications and vaccines. The study advocates for improved health finance, more research, and stronger capabilities for managing and reducing health risks.

The paper discusses the relationship between cosmetics and the United Nations' Sustainable Development Goals, highlighting their importance in health and well-being. Cosmetics prevent harm, address skin issues, reduce environmental impact, promote mental and emotional well-being, educate users on responsible usage, and establish regulatory standards for product safety. They also contribute to self-worth, confidence, self-care, stress reduction, and emotional well-being. The study emphasizes the importance of choosing safe brands and understanding potential risks, especially with affordable options, to protect our health.

Ambisyon Natin 2040 aims to address Filipino health concerns related to cosmetic products containing heavy metals, which can pose serious health risks. A national survey revealed that 30.3% of respondents desire a healthy and happy life for the next 25 years, with quality healthcare services accessible to everyone. The paper identifies six contributing factors to this concern: confidence in family good health, ability to pay for medical expenses, access to hospitals, and satisfaction with health offices in the community.

Consumer confidence in their health is expected to increase in the coming years, and transportation means are unlikely to be a problem. Cosmetic products containing heavy metals, particularly lipstick, are alarming, and the paper can contribute to raising awareness about responsible use of makeup products. The study also presents an opportunity for make-up brands to improve production.

The Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 aims to control and prevent hazardous and nuclear wastes, while the Philippine National Standards for Cosmetics set fundamental standards for Halal cosmetics and personal care products. The Food and Drug Administration (FDA) regulates cosmetics and their chemicals, and all cosmetic product firms must obtain a License to Operate (LTO) in the Philippines. This law will guide researchers in determining the accepted amount of heavy metals in lipstick samples and promoting a healthier and safer environment for everyone, especially women who use these products.

Lip products are the most popular cosmetics among women worldwide, with lipstick being the main focal point. However, people often focus on the shade rather than researching the ingredients and components of makeup products, leading to limited awareness. Researchers are interested in understanding the specific amount of harmful chemicals in lipstick production and their impact on daily usage. This study is relevant to professionals in their respective fields, such as tourism bachelors, who use cosmetics daily to adhere to global standards and safety standards. Understanding the potential risks and health factors associated with cosmetics is crucial for the safety of tourist individuals.

The study intends to investigate the presence of heavy metal content, particularly lead, in lipsticks that flight attendants in Air Asia frequently use in order to inform them about the potential health risks related to frequent cosmetic usage with the possible presence of lead in each product. It emphasizes the significance of understanding the ingredients in cosmetics and the importance of making sensible choices. Mercury content evaluation is not included in the study because of its restricted availability. The study uses the Rosenberg Self-Esteem Scale and a tailored Oller (2007) survey to evaluate participants' self-perceptions and consumer judgments of product safety. Data collection will be conducted through Google Forms and hand-out printed surveys, which ensures confidentiality and privacy.

Materials and Methods

Research Design

The study utilizes an experimental descriptive research design, by conducting laboratory activity that would measure the presence of lead in high-end, local, and drug-store lipsticks. According to Jansen (2023), Experimental research design determines the casual relationship between two or more variables. With this, the researchers manipulate the independent variable, the quantity of lipstick samples as whether high-end, local, or drugstore, while having the dependent variable, the lead content. The descriptive research design determines the existing and current characteristics without manipulating any variable (Jansen, 2023). The researchers would gather data among flight attendants with regards to their self-esteem while wearing lipstick on. This would accurately provide a description of their situation, providing relevant insights in exploring the risks of the use of lipstick among flight attendants.

Research Locale

The researchers chose AirAsia as their research locale, considering their standing as low-cost airline and reach when it comes to services, it serves a standing as 3-star airlines when it comes to budget airlines (Skytrax Ratings). Airasia is known for their beauty standards imposed on their flight attendants, thus requiring beauty cosmetics to be used whenever they're on duty.

Sampling Design

The sampling technique used is quota sampling due to the availability of the chosen population to answer the survey instrument. Cabin crews reached via different channels of social media like Facebook and Tiktok, from different locations and assigned flights can answer the instrument and obtain data. Since the researchers surveyed a large group of flight attendants, 130 responses were analyzed due to a timeframe that was followed by the researchers, as well as it being the max reached of the survey instrument for the whole duration of data gathering. Lipstick samples categorized as high-end, local, and drugstore were randomized as well to ensure an unbiased representation of the data.

Instrumentation

The researchers used two adapted research instruments with revisions made to meet the objectives of the study. One is from Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press. It discusses the general feelings about yourself as an adolescent in society. The other adapted survey is from Oller, L. O. (2007, July 7). Perceptions Of Product Safety as Influenced by Product Labels For Cosmetics. Shareok.org. It discusses the knowledge in cosmetics safety in terms of product label. Both research instruments were utilized by the researchers to identify the associated risk of lead content in lipstick with the self-esteem that flight attendants have. Along with the demographic profile provided, the researchers included three relevant backgrounds information's such as gender assigned at birth, age, and years of service as a flight attendant. Questions about their lipstick consumption as well were asked to explore the lipstick buying behavior of flight attendants. This involves the number of times they re-apply lipstick in one shift, the specific high-end, local, and drug-store lipstick brand in which they purchase from, and the allotted budget from these specific brands. All questionnaires are arranged in a structured format to properly collect data and generate a comprehensive analysis.

Data Gathering

The data gathering procedure started from reaching out to cabin crews known by the researchers, reaching out through social media platforms, and sending inquiries to the management of the Airlines and asking for assistance. The finalization of selected randomized lipstick samples as whether high-end, local, and drugstore were sent to a laboratory to know the presence of lead content in each. The timeline are as follows:

- Data Gathering for Survey Instrument: November 2023 January 2024
- Processing of Data Gathered: 2nd week of January to the 3rd week
- Testing of Lead Content: 4th week of January 2024 1st week February 2024

Statistical Treatment

The researchers utilized a pivot table as an interactive data summarizing tool. It can be used to compare brand sales across regions or to produce an insightful overview of a sizable dataset (Bose, 2022). Since MS Excel is a powerful tool, studying and analyzing survey data, especially to determine what proportion of a group uses lipstick the most, researchers can easily obtain important insights into lipstick usage preferences and trends by utilizing Excel's statistical methods and capabilities. In comparing the means of two groups, the researchers used the independent samples T-test. This test is usually applied to assess whether two population means are different. This approach is an inferential statistical hypothesis test, which means it uses samples to make inferences about populations. The independent samples T-test is also known as the two-sample t test (Frost, 2023). The researchers can improve the accuracy of their analysis by using a t-test for independent samples, guaranteeing that any detected differences in lipstick usage percentages are not coincidental but statistically significant. This method helped them in attaining a more accurate and evidence-based interpretation of survey results, providing for a better understanding of variations in lipstick preferences among demographic groups.

Results and Discussion

Demographic Profile

Age. The study concentrated on Flight Attendants working in AirAsia. Among the 130 respondents, 26 (20%) were ages 25, 18 (13.85%) were ages 24, 14 (10.77%) were ages 27, and 13 (10%) were ages 26 and 28.

Age	Frequency	Percent
21	1	0.77
22	6	4.62
23	10	7.69
24	18	13.85
25	26	20.00
26	13	10.00
27	14	10.77
28	13	10.00
29	7	5.38
30	11	8.46
31	2	1.54
32	6	4.62
35	2	1.54
37	1	0.77

Table 1: Demographic Profile of Respondents Based on Age

Years of Service as Flight Attendant. Among the 130 respondents, 49 (37.69%) served for 1-3 years, 38 (29.23%) served for 3-6 years, 26 (20%) served for less than 1 year, and 17 (13.08%) served for more than 6 years as flight attendant in AirAsia.

Years of Service as Flight Attendant	Frequency	Percent
Less than 1 year	26	20
1-3 years	49	37.69
3-6 years	38	29.23

Table 2: Demographic Profile of Respondents Based on Years of Service as Flight Attendant

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Number of times you re-apply lipstick on one shift. The number of times Flight Attendants re-apply lipstick on one shift is also part of the demographics of the study. 55 (42.31%) re-applies 2-3 times per shift, 50 (38.46%) re-applies 1-2 times per shift, and 25 (19.23%) re-applies more than 3 times per shift.

Number of times re-applying lipstick on one shift	Frequency	Percent
1-2 times per shift	50	38.46
2-3 times per shift	55	42.31
More than 3 times per shift	25	19.23

Table 3: Number of times re-applying lipstick on one shift

This research examined the preferred and most-used high-end lipstick brands of Flight Attendants. Out of the 130 respondents, 75 (57.69%) buy Brand P, 45 (34.62%) buy from Brand A, 26 (20%) buy from Brand R, 19 (14.62%) buy from Brand M and Brand O.

High-end Cosmetic Brands Bought	Frequency	Percent
High-end Brand A	45	34.62
High-end Brand B	3	2.31
High-end Brand C	0	0.00
High-end Brand D	4	3.08
High-end Brand E	7	5.38
High-end Brand F	5	3.85
High-end Brand G	9	6.92
High-end Brand H	0	0.00
High-end Brand I	13	10.00
High-end Brand J	1	0.77
High-end Brand K	2	1.54
High-end Brand L	4	3.08
High-end Brand M	19	14.62
High-end Brand N	10	7.69
High-end Brand O	19	14.62
High-end Brand P	75	57.69
High-end Brand Q	5	3.85
High-end Brand R	26	20.00

Table 4: High-end Cosmetic Brands Bought

This research examined the preferred and most-used local lipstick brands of Flight Attendants. Out of the 130 respondents, 67 (51.54%) buy from Local Brand B, 58 (44.62%) buy from Local brand G, 47 (36.15%) buy from Local Brand O, 46 (35.38%) buy from Local Brand I and 45 (34.62%) buy from Local Brand E.

High-end Cosmetic Brands Bought	Frequency	Percent
Local Brand A	39	30
Local Brand B	67	51.54
Local Brand C	31	23.85

Local Brand D	16	12.31
Local Brand E	45	34.62
Local Brand F	0	0
Local Brand G	58	44.62
Local Brand H	12	9.23
Local Brand I	46	35.38
Local Brand J	10	7.69
Local Brand K	6	4.62
Local Brand L	30	23.08
Local Brand M	6	4.62
Local Brand N	14	23.08
Local Brand O	47	36.15
Local Brand P	1	0.77
Local Brand Q	33	25.38
Local Brand R	5	3.85

Table 5: High-end Cosmetic Brands Bought.

This research examined the preferred and most-used drug-store lipstick brands of Flight Attendants. Out of the 130 respondents, 114 (87.69%) buy from Drugstore Brand A, 43 (33.08%) buy from Drugstore Brand D, 17 (13.08%) buy from Drugstore Brand B and C, 15 (11.54%) buy from Drugstore Brand G.

Drugstore Cosmetic Brands Bought	Frequency	Percent
Drugstore Brand A	114	87.69
Drugstore Brand B	17	13.08
Drugstore Brand C	17	13.08
Drugstore Brand D	43	33.08
Drugstore Brand E	9	6.92
Drugstore Brand F	11	8.46
Drugstore Brand G	15	11.54

Table 6: Drugstore Cosmetic Brands Bought.

In relation to the most-used lipstick brands purchased by Flight Attendants, the researchers asked for their allotted budget for each.

Allotted budget for high-end lipstick brands. In relation to the most-used lipstick brands purchased by Flight Attendants, the researchers asked for their allotted budget for each. Among the 130 respondents, 63 (48.46%) allot less than Php 2,000.00 for highend lipstick, 56 (43.08%) allot between Php 2,000.00 - Php 3,000.00, and 11 (8.46%) allot more than Php 3,000.00.

Allotted budget for high-end lipstick brands:	Frequency	Percent
Less than Php 2,000.00	63	48.46
Php 2,000.00 – Php 3,000.00	56	43.08
More than Php 3,000.00	11	8.46

Table 7: Allotted budget for high-end lipstick brands

Allotted budget for local lipstick brands. In relation to the most-used lipstick brands purchased by Flight Attendants, the researchers asked for their allotted budget for each. Among the 130 respondents, 83 (63.85%) allot between Php 300.00- Php 500.00 for local lipstick, 37 (28.46%) allot more than Php 500.00, and 10 (7.69%) allot less than Php 300.00.

Allotted budget for local lipstick brands:	Frequency	Percent
Less than Php 300.00	10	7.69
Php 300.00 – Php 500.00	83	63.85
More than Php 500.00	37	28.46

Table 8: Allotted budget for local lipstick brands

Allotted budget for drug-store lipstick brands. In relation to the most-used lipstick brands purchased by Flight Attendants, the researchers asked for their allotted budget for each. Among the 130 respondents, 93 (71.54%) allot between Php 500.00 - Php 1,000.00 for drug-store lipstick, 33 (25.38%) allot less than Php 500.00, and 4 (3.08%) allot more than Php 1,000.00.

Allotted budget for drug-store lipstick brands:	Frequency	Percent
Less than Php 500.00	33	25.38
Php 500.00 – Php 1,000.00	93	71.54
More than Php 1,000.00	4	3.08

Table 9: Allotted budget for drug-store lipstick brands

Level of Self-Esteem

Based on Table 10, the respondents have a very high level of self-esteem while wearing lipstick on. 71 (54.62%) are satisfied with themselves, 60 (46.15%) feel proud even without wearing lipstick on, 69 (53.08%) do not feel useless without wearing lipstick on, 80 (61.54%) do not feel like a failure without wearing lipstick on, and 56 (43.08%) take a positive attitude towards themselves while wearing lipstick on.

Upon collecting relevant insights about flight attendant's level of self-esteem while wearing lipstick on, the results shown as seen in the table above indicate that most of them strongly have a very high satisfaction of themselves. Wearing lipstick seems to have a positive effect on the respondents' self-perception and confidence, contributing to their overall satisfaction. In a study by Vale (2006), he mentioned that makeup usage has various positive effects, including boosting confidence in social situations, enhancing perceived physical attractiveness, increasing self-satisfaction, and improving relationships with others. Lipsticks or cosmetic products are associated with higher levels of social confidence and self-esteem, and the positive self-perception of others. Feeling physically attractive is directly linked to higher self-esteem, and individuals who are more satisfied with themselves tend to have higher self-esteem levels.

With this, 34.62% respondents still feel good about themselves even without lipstick usage. This suggests that respondents can feel confident in their natural state and are not dependent on cosmetic use, specifically lipstick, to feel good about how they look. It indicates that respondents have a balanced viewpoint on the significance of makeup in their lives and exhibit a positive attitude towards their self-image.

Statement	Very	High	Н	igh		erately igh	L	ow	Very Low	
	F	%	F	%	F	%	F	&	F	%
[I am satisfied with myself while wearing lipstick on.	71	54.62%	45	34.62%	10	7.69%	0	0.00%	4	3.08%
[At times, I do not think I am not good at all without lipstick.]	25	19.23%	45	34.62%	23	17.69%	21	16.15%	16	12.31%
[I feel that I have a number of good qualities while wearing lipstick on.]	38	29.23%	63	48.46%	24	18.46%	4	3.08%	1	0.77%
[I am able to do things as well as most other people while wearing lipstick on.]	38	29.23%	63	48.46%	21	16.15%	4	3.08%	4	3.08%
[I feel I do have much to be proud of without wearing lipstick on.]	60	46.15%	42	32.31%	18	13.85%	5	3.85%	5	3.85%
[I do not certainly feel useless at times without wearing lipstick on.]	69	53.08%	48	36.92%	6	4.62%	5	3.85%	2	1.54%
[I feel that I'm a person of worth, at least on an equal plane with others while wearing lipstick on.]	15	11.54%	30	23.08%	40	30.77%	29	22.31%	16	12.31%
[I do not wish I could have more respect for myself without wearing lipstick on.]	38	29.23%	54	41.54%	22	16.92%	10	7.69%	6	4.62%
[All in all, I am not inclined to feel that I am a failure without wearing lipstick on.]	80	61.54%	39	30.00%	4	3.08%	5	3.85%	2	1.54%
[I take a positive attitude towards myself while wearing lipstick on.]	56	43.08%	47	36.15%	21	16.15%	1	0.77%	5	3.85%

Table 10: Self Esteem of the respondents

48.46% of the respondents also feel that wearing lipstick portrays several of their good characteristics and are able to do things as well as most other people do. A key finding emerged from the examination of makeup satisfaction: wearing makeup affects one's level of satisfaction with their look and can be enjoyable and a stress reliever. Beneficial self-esteem had a beneficial effect on trend pursuit but did not significantly affect pleasure pursuing, according to a regression study. This is likely because people with high self-esteem like to exhibit their uniqueness through their clothing and cosmetics (Lee & Oh ,2018). The respondents feel capable of handling things effectively as they respond to their confidence in social interactions, and therefore, self-esteem is raised (Brinegar and Weddle, Kathleen and Elysee, 2014).

Since the overall effect of lipstick contributes to a positive affirmation, a very high number of 60 respondents feel that there is much to be proud of. It is associated with many contributing reasons such as improving body image, self-expression, and meeting society's beauty standards. For them, wearing lipstick is not only an aesthetic choice but also a means to affirm and assert themselves. This is in correlation with the study that many studies have investigated the psychological effects of makeup on a person's perception and self-confidence. The use of makeup, including lipstick, is associated with greater beauty and social influence in women. These results suggest that wearing lipstick promotes positive self-image and increases trust in social relationships. Cosmetics can improve the perception of facial beauty and increase self-confidence. This shows that lipstick is a means of self-expression and confidence in one's appearance. As a symbol of femininity and beauty, the lipstick symbol is deeply rooted in cultural norms.

53.08% of the respondents do not feel useless without wearing lipstick on. Hence, they feel like a person of worth, at least on an equal plane with others. Lipsticks have an important effect on a woman's self-perception, confidence, and self-esteem. Applying cosmetics, concealing imperfections and enhancing qualities contributes to an appealing emotional transformation that affects how she feels about herself (Ghoshal & Job, 2022). Makeup routines empower women by fostering increased awareness and confidence, connecting their inner worth to their outer appearance. Authenticity in makeup arises from personal experimentation within selfdef

Statement		ellent	Very Good		Good		Fair		P	oor
Statement	F	%	F	%	F	%	F	&	F	%
[I am informed of the safety of the lipstick products I use.]	31	23.85%	44	33.85%	39	30.00%	14	10.77%	2	1.54%
[I would pay extra to buy a lipstick product that is safer for me and my family to use.]	61	46.92%	34	26.15%	30	23.08%	3	2.31%	2	1.54%
[When I see the phrase "Dermatologist-Tested" on a lipstick product label, I can be sure that a doctor thinks this product is safer than any product.]	50	38.46%	57	43.85%	17	13.08%	2	1.54%	4	3.08%
[When I see the phrase "Dermatologist-Tested" on a lipstick product label, I can be sure that this product will make my lips pinkish and moisturized.]	40	30.07%	46	35.38%	38	29.23%	4	3.08%	2	1.54%
[When I see the phrase "Dermatologist-Tested" on a lipstick product label, I can be sure that this product has been tested for safety and has passed those tests.]	57	43.85%	50	38.46%	18	13.85%	2	1.54%	3	2.31%
[When I see the phrase "Dermatologist-Tested" on a lipstick product label, I can be sure that the phrase "Dermatologist-Tested" on a label does necessarily mean something specific related to the product.]	10	7.69%	39	30.00%	30	23.08%	28	21.54%	23	17.69%
[I reach for Dermatologically Tested products compared to other products.]	29	22.31%	33	25.38%	49	37.69%	16	12.31%	3	2.31%
[If the 2 products cost the same, I would rather buy lipstick that indicates that it is "Hypoallergenic" on the label than a product that does not.]	40	30.77%	58	44.62%	26	20.00%	2	1.54%	4	3.08%
[When I see the word "Hypoallergenie" on a lipstick's product label, I can be sure that this product will not cause an allergic reaction.]	42	32.31%	53	40.77%	27	20.77%	5	3.85%	3	2.31%
[When I see the word "Hypoallergenie" on a lipstick's product label, I can be sure that this product is safe for sensitive lips.]	54	41.54%	47	36.15%	24	18.46%	2	1.54%	3	2.31%
[When I see the word "Hypoallergenie" on a lipstick's product label, I can be sure that the word "Hypoallergenie" on a label does necessarily mean something specific related to the product.]	12	9.23%	39	30.00%	30	23.08%	27	20.77%	22	16.92%
[I would pay extra for lipstick products labeled "Natural".]	25	19.23%	49	37.69%	32	24.62%	18	13.85%	6	4.62%
[When I see the word "Natural" on a lipstick's product label, I can be sure that all the ingredients of this product were grown, manufactured, or processed naturally.]	47	36.15%	60	46.15%	17	13.08%	3	2.31%	3	2.31%
[When I see the word "Natural" on a lipstick's product label, I can be sure that the word "Natural" on a label does necessarily mean something specific related to the product.]	12	9.23%	43	33.08%	20	15.38%	29	22.31%	26	20.00%
[When I see the word "Natural" on a lipstick's product label, I can be sure that this product is safer to use than non-natural products.]	51	39.23%	52	40.00%	19	14.62%	4	3.08%	4	3.08%
[When I see the word "Natural" on a lipstick's product label, I can be sure that this product contains no chemicals.]	33	25.38%	52	40.00%	28	21.54%	15	11.54%	2	1.54%
[I am very particular if the lipstick product says "Organic" on the label or not.]	10	7.69%	44	33.85%	44	33.85%	21	16.15%	11	8.46%
[When I see the word "Organic" on a lipstick's product label, I can be sure that the word "Organic" on a label does necessarily mean something specific related to the product.]	10	7.69%	36	27.69%	28	21.54%	31	23.85%	25	19.23%
[When I see the word "Organic" on a lipstick's product label, I can be sure that this product is safer to use than non-organic products.]	45	34.62%	56	43.08%	24	18.46%	1	0.77%	4	3.08%
[When I see the word "Organic" on a lipstick's product label, I can be sure that this product contains no chemicals.]	35	26.92%	55	42.31%	28	21.54%	10	7.69%	2	1.54%
[When I see the word "Organic" on a lipstick's product label, I can be sure that all the ingredients of this product were grown, manufactured or processed organically.]	49	37.69%	55	42.31%	21	16.15%	2	1.54%	3	2.31%
[When I see the word "Organic" on a lipstick's product label, I can be sure that this product contains no chemicals.]	35	26.92%	55	42.31%	28	21.54%	10	7.69%	2	1.54%

boundaries. Beauty routines merge inner and outer selves, enhancing self-esteem and confidence. Lipsticks or cosmetics profoundly impact self-expression and confidence through their blend of materials, meanings, and competence, shaping women's self-concept and identity (McCabe et al., 2017).

Most of the respondents think that not being able to wear lipstick does not make them less of a failure. 61.54% are inclined of feeling self-worth and success most especially in personal development. 43.08% of them take a positive attitude towards themselves which symbolizes self-care and empowerment, contributing to their overall sense of well-being. McEvoy and Loberg (2017) mentioned that make-up can be life-changing because its confidence changing. Such use of facial cosmetics may help to boost a women's sense of confidence in her appearance thus making her more self- assured idea that confidence is achieved when physical appearance matches the situation, Raja Jeyakumar (2016).

Product Safety as Influenced by Product Labels

In the data collected, it revealed that the respondents are knowledgeable of the product safety as influenced by product labels. 61 (46.92%) would pay extra to buy a lipstick product that is safer, 57 (43.85%) are sure that a doctor thinks this product is safer than any product when they see the phrase "Dermatologist-Tested", 57 (48.85%) are sure that the lipstick product has been tested for safety when they see the phrase "Dermatologist-Tested", 53 (40.77%) are sure that this product is safe for someone who has allergies when they see the phrase "Hypoallergenic", and 54 (41.54%) are sure that this product is safe for sensitive lips when they see the word "Hypoallergenic".

The level of knowledge on product safety revealed that 33.85% of the respondents are informed of the safety of the lipstick products that they use. They are aware and knowledgeable of the lipstick content and its potential hazardous effects on the overall physical well-being of the consumers. 46.92% of the respondents are most likely to pay extra to purchase a lipstick product that is safer for them and for their families to use. They suggest a significant level of concern and willingness to put safety first when making lipstick purchases. It indicates that consumers are becoming more aware of cosmetic content and are even willing to pay more for products that they believe are safer. According to a study, neither gender is sensitive to the affordability of organic lipsticks or the relationship between price and quality. Neither gender believes that organic lipsticks are more expensive. Regression analysis, however, revealed a significant positive relationship between price and consumers' intention to buy organic lipsticks. The study also looked at the combined effect of price and health consciousness on purchase intention; although the combined effect is larger than the effect of price alone, the relationship between the two is not substantially moderated by health consciousness. This disproves the theory that the relationship between price and purchase intention is significantly influenced by health consciousness (Huang et al.,2022).

When the respondents see the phrase "Dermatologist-tested" on a lipstick label, 43.85% are sure that a doctor thinks this product is safer than any product. 35.38% are sure that this product will make their lips pinkish and moisturized, and 43.85% are sure that this product has been tested for safety and has passed all those tests. Consumers expect products tested and approved by experts such as dermatologists. A dermatologically tested label means that consumers can make informed decisions about the quality and authenticity of the product. We found that most respondents strongly supported lip safety. This product is labeled "Skin Test". These results emphasize the importance of safety guarantees in consumer purchasing decisions and the influential role of labels in increasing consumer trust in cosmetic products (B. Dreno, et.al, 2014).

Most of the respondents believe that a lipstick label that indicates "Dermatologist Tested" indicates that there is relevant information regarding the product's dermatological properties, which therefore portrays that they are most likely to reach for Dermatology-tested lipstick products compared to other products.

Having 2 products of same cost, 44.62% of the respondents would rather buy a lipstick product that is "Hypoallergenic" as mentioned in the product's label. This shows that when choosing lipstick, consumers value the "Hypoallergenic" label as a sign of safety and suitability for sensitive skin. 40.77% are sure that this will not cause any allergic reaction, thus reveals that this product is safe for someone who has allergies. Due to labeling such as "hypoallergenic" and "dermatologist" recommended, people tend to believe that products are safe even if allergens can cause allergic contact dermatitis. Although experts disagree on the definition, "hypoallergenic" refers to a substance with a minimal likelihood of triggering skin responses. 93% of the products included at least one allergen, with scents being the most common, despite what the labels said. The study emphasizes how important it is to review product labels and conduct allergen testing to guarantee safety (Lazzarini et al., 2017). Another relevant study regarding contact sensitization and allergies in the composition of cosmetic products also highlighted the importance of it. Contact sensitivity lasts a lifetime in the form of allergic contact. It can cause major health risks if exposed to irritants or sensitizing factors. Cosmetic products are responsible for allergic contact dermatitis. It mainly affects adults of middle and older age, who generally do not have atopy. Moreover, it is possible for an allergy to further develop through the years even without previous health problems. Preservatives and fragrances are the most frequently detected allergens present in a cosmetic product. Because so-called "Hypoallergenic" products are not necessarily less sensitizing, professionals who specialize in allergens should be cautious of product labels that contain ingredients that could trigger those allergens. Hence, consumers should use safe alternatives instead to avoid health concerns (Jovanovic, 2021). Reading the word "Hypoallergenic" gives 41.54% of the respondent's security that this product is safe for someone who has sensitive lips. They agree that it contains significant information about the product's content in terms of safety

Based on the respondents, 37.69% of the respondents would pay extra for a lipstick product that is labeled as "Natural". This indicates that they value products that are made with natural ingredients and free from synthetic additives or chemicals. They value the absence of harmful ingredients and animal testing, leading to brand loyalty and increased spending. Some also find satisfaction in using self- made natural products. However, recognition of greenwashing practices has fostered distrust of major cosmetic corporations and dissatisfaction with counterfeit natural products. Consumers seek authoritative certifications to guide their purchasing decisions. Consumers associate natural cosmetics with a sustainable and health-conscious lifestyle (Zhang & Zhou, 2019). 46.15% perceive naturally labeled products as something that were grown, manufactured, and processed naturally, 40% are sure that this product is safer to use than non-natural products and that it does not contain any chemicals, which concludes to 33.08% of the respondents agreeing that the word "Natural" suggests relevant information about the lipstick content. Concerns about health and a preference for natural remedies in the beauty industry, as opposed to just the effective ones, seem to be rising. An examination of keyword searches on Google Trends reveals a significant rise in the quantity of "natural" and, to a lesser degree, "health" searches in the "beauty" & fitness" category over the previous 12 years, however searches for "effective" stayed consistent in comparisons. These statistics, especially the one showing that the rise in searches for "health" exceeded those for "natural," support the theory that consumers believe ingredients that are natural to be healthier than artificial ones (Chandon, 2021).

In terms of the lipstick content being labeled as "Organic", only 33.85% of the respondents are very particular if it is labeled as it or not. Thus, they still agree with the fact that organic-labeled lipstick products specify information about the content as organically made or not. This lack of confidence and trust may be influenced by factors such as survey limitations and complexities of consumer behavior. Despite consumers' preference for organic lipsticks, price indifference, lack of awareness, and skepticism about organic ingredients may contribute to uncertainty about the label's significance or reliability (Yi et al., 2022). Seeing the word "organic" suggests that 43.08% of the respondents believe that organic substances found are safer for people to use than non-organic products. 42.31% of them believe that it is grown, manufactured, and processed organically which appears to contain no chemicals. Heavy metal content in organic, local brands, and counterfeit cosmetic products are unavoidable due to its nature. Thus, high doses of these metals can result in various health risks such as cancer and long-term diseases. Four samples have been tested, evaluating the concentration of heavy metals present in organic, counterfeit, and local brand lipsticks. Results show that Organic lipstick has the least traces of heavy metals, and that Counterfeit lipsticks has the highest amount of metal concentration. This concludes that consumers must be highly knowledgeable in selecting products prior to brand marketing, as it may pose health risks (Daileg, J. A., De Ocampo, C. J., Domingo, C. D., 2019). The public recognizes and agrees with the advantages of organic goods, especially organic lipstick (Huang et al., 2022).

Presence of Lead Content

The researchers chose the brands that were highly used in each brand category, namely High-end brand P, Local Brand B, and Drugstore Brand A. Two variations of lipstick were sent to the Department of Mining, Metallurgical and Materials Engineering in University of The Philippines, to undergo Elemental Analysis via X-ray Fluorescence Spectroscopy. Dark red toned and light red toned were chosen, to test if there is a connection between the possibility of having more lead content on darker samples rather than the light samples.

Results of the XRF are shown in Table 11. The presence of lead was found in the samples 2 and 3 which are dark toned lipsticks from a local and high-end brand. Rest of the samples holds little to almost non due to the "ND" which indicates not detected in the said Elemental Analysis.

	Concentration ppm	Uncertainty ppm	Variation
Sample 1	ND < 0.3	± 0.3	Drug Store Light
Sample 2	0.8	± 0.4	Local Dark Red
Sample 3	2.8	± 0.7	High-End Dark
Sample 4	ND < 0.4	± 0.4	Drug Store Dark
Sample 5	ND < 0.4	± 0.4	Local Light Red
Sample 6	ND < 0.3	± 0.3	High-End Light

Table 12: Elemental Analysis of Selected Lipstick Tested for Lead Content

Conclusion

The overall assessment of the respondent's level of self-esteem and knowledge in terms of lipstick product safety revealed excellent results. They are highly confident with themselves with or without wearing lipstick on, while still feeling secure as indicated by lipstick product labels. The findings showed a relatively connected outcome, as to the main objectives of cosmetics in enhancing the facial attributes of an individual, thus boosting the self-esteem of each consumer. Presence of Lead were found in two of the most patronized brands in the market, and awareness to the consumers must be given as to lead in the body could cause diseases and other afflictions such as poisoning the nervous system causing learning impairment, language, and affecting behavior (What Are the Harmful Effects of Lead in Cosmetics?, 2022.) These cosmetics are dangerous to be used as lead doesn't leave the body easily even with a careful wash of water, it stays in the body and causes a long-term effect which is not desirable for people who value their appearance, especially their facial attributes.

Recommendations

The study provides valuable insights for further research. To strengthen the findings, future studies could involve a larger and more diverse group of flight attendants. Additionally having a deeper understanding and reasoning behind the self-esteem boost associated with lipstick use. through interviews or having a focus group that can be more insightful or having a survey with an open and ended question. On the other hand, researchers can observe the attitude of the flight attendants as flight attendants and normal people could also provide a clearer understanding. Furthermore, we should explore other alternative confident proponents not just make up within flight attendants. Meanwhile the study discovered presence of lead in lipstick which is needed for further investigation to learn more about other presences of other potentially harmful chemicals in lipstick or cosmetics. By building upon these first findings, we may gain a more thorough comprehension of the intricate relationship among cosmetics, a sense of worth and general wellbeing.

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References

Agra, A. J. M., Daileg, J. A., De Ocampo, C. J., Domingo, C. D., Guerrero, M. I., & Torres, K. G. (2019). Chemical Analysis of Heavy Metals in Organic, Counterfeit and Local Brand Lipsticks Using Hydride Vapor Generation Technique –Atomic Absorption Spectroscopy. https://ejournals.ph/article.php?id=15499

Al-Samydai, A., Hajleh, M. N. A., Yousif, R. O., & Alsamydai, M. J. (2021). Make-Up Effects: Psychological and sociological perspective.

ResearchGate. https://www.researchgate.net/publication/348383309_Make-Up Effects Psychological and Sociological Perspective

Aryal, S., Bashyal, N. S., Gautam, S. K., Pokhrel, M. R., & Poudel, B. R. (2021). Evaluation of lead and cadmium levels in lipsticks sold in Kathmandu, Nepal, and their potential health risk assessment. International Journal of Applied Sciences and Biotechnology, 9(3), 213–219. https://doi.org/10.3126/ijasbt.v9i3.38834

Barthe, M., Bavoux, C., Finot, F., Mouche, I., Cuceu-Petrenci, C., Forreryd, A., Hansson, A. C., Johansson, H., Lemkine, G. F., Thénot, J., & Osman-Ponchet, H. (2021). Safety testing of Cosmetic products: Overview of Established Methods and New Approach Methodologies (NAMS). Cosmetics, 8(2), 50. https://doi.org/10.3390/cosmetics8020050

Belurkar, R. S., & Yadawe, M. S. (2017). Analysis of heavy metals in lipstick by the various PhysioChemical and instrumental methods. IOSR Journal of Applied Chemistry, 10(07), 01-06. https://doi.org/10.9790/5736-1007010106

Borling, K., Abraham, E. C., Pamplona, C. D., Carbonell, J. A., & Valdez, A. (2023). Cosmetics Product and Self-Concept among Senior High School Students: An Educational Perspective. Borling | ASEAN Journal of Educational Research and Technology. https://ejournal.bumipublikasinusantara.id/index.php/ajert/article/view/134

Bose, B. (2022). Using Excel for statistical analysis: tips and techniques. Digital Vidya. https://www.digitalvidya.com/blog/using-excel-for-statistical-analysis/?fbclid=IwAR32QsXn55rpoz05zpzjvtpzth7Nli5yGS89XNfPNcgTCX4OJTB81bTLMRw

Brinegar, K. M. (2014). Running Head: The correlation between Makeup usage and Self-Esteem The correlation between makeup usage and Self-Esteem. https://www.semanticscholar.org/paper/Running-Head-%3A-The-Correlation-Between-Makeup-Usage-Brinegar/ebf7c6e8d31d601b2dc9ad4db60a5af71f0dd408

Britton, A. M. (n.d.). The beauty industry's influence on women in society. University of New Hampshire Scholars' Repository. https://scholars.unh.edu/honors/86/

Caneday, L., Jordan, J., & Edwards, S. (2007). Perceptions of product safety as influenced by product labels for cosmetics. https://shareok.org/handle/11244/9566?show=full

Chandon, L. (2020). Do Claims about the Naturalness and Dose of Cosmetics Ingredients Affect the Public's Perception of Their Safety? J, 3(3), 299–312. https://doi.org/10.3390/j3030023

Charity, A. A., Aienobe-Asekharen, C., & Oyewole, O. E. (2021). Knowledge and Perceived Health Risk on Cosmetic Lip Products amongst Female Undergraduate Students: A. . . . ResearchGate. https://www.researchgate.net/publication/354374798_Knowledge_and_Perceived_Health_Risk_on_Cosmetic_Lip_Products_amongst Female Undergraduate Students A Mixed Method Study

Cognitive dissonance: Reexamining a pivotal theory in psychology (2nd ed.). (2019). In American Psychological Association eBooks. https://doi.org/10.1037/0000135-000

 $Comparison \ of \ marketing \ strategy \ for \ balm \ aromatherapy \ in \ the \ cosmetic \ industry \ - \ Digital \ Special \ Collection \ (UMK \ Repository). \\ (n.d.). \ http://discol.umk.edu.my/id/eprint/13032/$

Dighe, P. S., & Vikhe, S. (2021). A review on perspective on the safety of cosmetic products. ResearchGate. https://www.researchgate.net/publication/353867906_A_Review on Perspective on the Safety of Cosmetic Products

Dréno, B., Araviiskaia, E., Berardesca, E., Bieber, T., Hawk, J., Sánchez-Viera, M., & Wolkenstein, P. (2014). The science of dermocosmetics and its role in dermatology. Journal of the European Academy of Dermatology and Venereology, 28(11), 1409–1417. https://doi.org/10.1111/jdv.12497

Engasser, P. G., & Maibach, H. I. (1999). Hypoallergenic cosmetics. In Springer eBooks (pp. 217–221). https://doi.org/10.1007/978-3-642-59869 -2_18

Evangelista, M., Mota, S., Almeida, I. F., & Pereira, M. G. (2022). Usage Patterns and Self-Esteem of female consumers of antiaging cosmetic products. Cosmetics, 9(3), 49. https://doi.org/10.3390/cosmetics9030049

Fonseca-Santos, B., Corrêa, M. A., & Chorilli, M. (2015). Sustainability, natural and organic cosmetics: consumer, products, efficacy, toxicological and regulatory considerations. Brazilian Journal of Pharmaceutical Sciences, 51(1), 17–26. https://doi.org/10.1590/s1984-82502015000100002

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification Theory: toward understanding women's lived experiences and mental health risks. Psychology of Women Quarterly, 21(2), 173–206. https://doi.org/10.1111/j.1471-6402.1997.tb00108.x

Frost, J. (2023). Independent samples T Test: definition, using & interpreting. Statistics by Jim https://statisticsbyjim.com/hypothesis-testing/independent-samples-t-test/

Ghoshal, R. (2023). Lipstick in the time of Corona: Psychosocial musings. www.academia.edu.https://www.academia.edu/100674884/Lipstick_in_the_Time_of_Corona_Psychosocial_Musings

Halla, N., Fernandes, I. P., Heleno, S. A., Costa, P., Boucherit-Otmani, Z., Boucherit, K., Rodrigues, A. E., Ferreira, I. C., & Barreiro, M. F. (2018). Cosmetics Preservation: A Review on Present Strategies. Molecules, 23(7), 1571. https://doi.org/10.3390/molecules/23071571

Jansen, D. (2023). Research Design 101: Qualitative & Quantitative. Grad Coach. https://gradcoach.com/research-design/

Jones, A. L., & Kramer, R. S. S. (2016). Facial Cosmetics and Attractiveness: Comparing the effect sizes of Professionally-Applied Cosmetics and Identity. PLOS ONE, 11(10), e0164218. https://doi.org/10.1371/journal.pone.0164218

Jovanović, M. (2021). Contact sensitization and allergens in the composition of cosmetic products - current knowledge. Medicinski Pregled, 74(5–6), 159–166. https://doi.org/10.2298/mpns2106159j

Kang, X. (2023). Beyond the Tube II: Exploration of lip hydration and the impact of lipsticks on moisture retention. Tri Princeton. https://www.triprinceton.org/post/beyond-the-tube-ii-exploration-of-lip-hydration-and-the-impact-of-lipsticks-on-moisture-retention

 $\label{lem:condition} Kerscher,\ M.,\ \&\ Buntrock,\ H.\ (2017).\ Treatments\ for\ sensitive\ skin.\ In\ CRC\ Press\ eBooks\ (pp.\ 202-211).\ https://doi.org/10.1201/9781315121048-25$

Kosmala, A., Wilk, I., & Kassolik, K. (2019). Influence of makeup on the well-being and self-esteem of women. Pielęgniarstwo I Zdrowie Publiczne, 9(3), 215–220. https://doi.org/10.17219/pzp/105811

Ladica, K. (2019). Asian Development Foundation College The Effect of Wearing Lipstick in Women's Self-Esteem. www.academia.edu.https://www.academia.edu/40522400/Asian_Development_Foundation_College_The_Effect_of_Wearing_Lipstick_in_Womens_Self_Esteem

Lanzuela, J. G., Lovendino, L. J., Munoz, J. E., & Caguioa, J. O. (2019). Cosmetic Product Usage and Self-Confidence among HUMSS Students of Bayambang. ResearchGate. https://doi.org/10.13140/RG.2.2.16356.83842

Lazzarini, R., De Figueiredo Silva Hafner, M., & Rangel, M. G. (2018). Evaluation of the presence of allergens in children's products available for sale in a big city. Anais Brasileiros De Dermatologia, 93(3), 457–459. https://doi.org/10.1590/abd1806-4841.20187111

Lee, H., & Oh, H. (2018). The Effects of Self-Esteem on Makeup Involvement and Makeup Satisfaction among Elementary Students. Archives of Design Research, 31(2), 87–94. https://doi.org/10.15187/adr.2018.05.31.2.87

Lim, D. S., Roh, T., Kim, M., Kwon, Y. C., Choi, S. M., Kwack, S. J., Kim, K. B., Yoon, S., Kim, H. S., & Lee, B. M. (2018). Non-cancer, cancer, and dermal sensitization risk assessment of heavy metals in cosmetics. Journal of Toxicology and Environmental Health, Part A: Current Issues, 81(11), 432–452. https://doi.org/10.1080/15287394.2018.1451191

Mafra, A. L., Silva, C. S. A., Varella, M. a. C., & Valentová, J. V. (2022). The contrasting effects of body image and self-esteem in the makeup usage. PLOS ONE, 17(3), e0265197. https://doi.org/10.1371/journal.pone.0265197

Malik, R., & Sharma, A. (2020). A STUDY OF CUSTOMER ATTITUDE TOWARDS ORGANIC COSMETIC PRODUCTS: INDIAN CONTEXT. ResearchGate. https://www.researchgate.net/publication/372629713_A_STUDY_OF_CUSTOMER_ATTITUDE_TOWARDS_ORGANIC_CO SMETIC_PRODUCTS_INDIAN_CONTEXT

Matić, M., & Puh, B. (2016). CONSUMERS' PURCHASE INTENTIONS TOWARDS NATURAL COSMETICS. https://www.semanticscholar.org/paper/CONSUMERS%E2%80%99-PURCHASE-INTENTIONS-TOWARDS-NATURAL-Mati%C4%87-Puh/66a0a963d847f34120b3c5c074a5a86f7f9fa816

Mawazi, S. M., Redzal, N. a. B. A., Othman, N., & Alolayan, S. O. (2022). Lipsticks History, Formulations, and Production: A Narrative Review. Cosmetics, 9(1), 25. https://doi.org/10.3390/cosmetics9010025

Mazumdar, I., & Goswami, K. (2016). Toxic Beauty! Are Cosmetics Harmful to our Health? ResearchGate. https://www.researchgate.net/publication/301887189 Toxic Beauty Are Cosmetics Harmful to our Health

McCabe, M., De Waal Malefyt, T., & Fabri, A. (2017). Women, makeup, and authenticity: Negotiating embodiment and discourses of beauty. Journal of Consumer Culture, 20(4), 656-677. https://doi.org/10.1177/1469540517736558

Mishra, M., Patel, N., P, I., Ya, Patil, R., & Patel, M. (2023). Evaluating the Dermal Safety and Skin Compatibility of Personal Care Cosmetic Products Formulated with Natural Ingredients: An In-Vivo Primary Irritation Patch Test Study. Abstract. https://doi.org/10.35841/aadrsc-7.6.176

MSEd, K. C. (2022). Social comparison Theory in Psychology. Verywell Mind. https://www.verywellmind.com/what-is-thesocial-comparison-process -2795872

Nadai, M. (2015). The lipstick effect and the self-enhancement motives. https://www.semanticscholar.org/paper/The-lipstickeffect-and-the-self-enhancement-Nadai/4950634acc4d17d26c9ba93c13baf7735239279e

Nayak, M., Ligade, V. S., & Prabhu, S. (2023). Awareness level regarding adverse reactions caused by cosmetic products among female patients: A cross-sectional study. Journal of Cosmetic Dermatology, 22(9), 2512-2519. https://doi.org/10.1111/jocd.15734

Nkansah, M. A., Owusu-Afriyie, E., & Opoku, F. (2018). Determination of lead and cadmium contents in lipstick and their potential health risks to consumers. Journal of Consumer Protection and Food Safety, 13(4), 367-373. https://doi.org/10.1007/s00003-018-1180-y

Oberoi, P., & Oberoi, P. (2018). CONSUMER BEHAVIOUR TOWARDS COSMETIC PRODUCTS: A CASE OF DELHI NCR. https://www.semanticscholar.org/paper/

Palumbo, R., Fairfield, B., Mammarella, N., & Di Domenico, A. (2017). Does make-up make you feel smarter? The "lipstick effect" extended to academic achievement. Cogent Psychology, 4(1), 1327635. https://doi.org/10.1080/23311908.2017.1327635

Pereira, J. X., & Pereira, T. C. (2018). Cosmetics and its Health Risks. Global Journal of Medical Research, 63-70. https://doi.org/10.34257/gjmrbvol18is2pg63

Podgórska, A., Puścion-Jakubik, A., Grodzka, A., Naliwajko, S. K., Markiewicz-Żukowska, R., & Socha, K. (2021). Natural and Conventional Cosmetics—Mercury Exposure assessment. Molecules, 26(13), 4088. https://doi.org/10.3390/molecules26134088

Rodini, L. (2024). What is the lipstick Index? Which stock market trends does it predict? TheStreet. https://www.thestreet.com/dictionary/lipstick-index

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Sahu, R. (2014). Heavy metals in cosmetics. Cseindia. https://www.academia.edu/6303710/Heavy Metals in Cosmetics

Serrano-Dedicatoria, M. (2015). Knowledge, Attitudes, Practices (KAP) and sources of information on safe cosmetics and personalcare. . . ResearchGate. https://doi.org/10.13140/RG.2.1.2599.2163

Shin, R., Dewi, F., Peng, S. L., Acosta, O. R., Puelles, M., Wang, Q., Sanchez, C. a. E., Gamba, J. P. A., Quintero, F. N., Quezada, H. T., Kai-San, S. T., Chun-Wai, K. T., Po-On, H. T., Wai-Hong, F., Youngran, L., Yong-Hyeon, Y., Kyoung-Seok, L., Botha, A., Thiengmanee, U., ... Napoli, R. (2022). Elements in lipstick material. Metrologia, 59(1A), 08010. https://doi.org/10.1088/0026-1394/59/1a/08010

Silverio, L. (n.d.). Makeup's effects on Self-Perception. ODU Digital Commons. https://digitalcommons.odu.edu/ots_masters_projects/49/

Slanzi, D. (2022). Sustainability and transparency in the cosmetic industry: the clean beauty movement and consumers' consciousness. http://dspace.unive.it/handle/10579/21532

Vale, R. M. R. D. C., DO. (2016). Can we feel prettier?: makeup usage among portuguese women and Its potential extracted benefits: self-esteem, physical attractiveness, social confidence, social interactions, and satisfaction with life. https://repositorio.ucp.pt/handle/10400.14/21032

What are the harmful effects of lead in cosmetics? (n.d.). Vinmec. https://www.vinmec.com/en/news/health-news/beauty/what-are-the-harmful-effects-of-lead-in-cosmetics/

Yi, H., Meng, R., & Tan, J. (2022). The impact of health consciousness on organic lipstick market. Advances in Economics, Business and Management Research. https://doi.org/10.2991/aebmr.k.220405.027

Zakaria, A., & Ho, Y. B. (2015). Heavy metals contamination in lipsticks and their associated health risks to lipstick consumers. Regulatory Toxicology and Pharmacology, 73(1), 191–195. https://doi.org/10.1016/j.yrtph.2015.07.005

Zhang, J., & Zhou, M. (2019). Factors influencing consumer purchasing behavior of natural cosmetics: A qualitative study in Uppsala, Sweden. DIVA. https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1330362&dswid=260