

# Risk Awareness of UV Exposure in Gel Manicures Among UCSD Students

Merna Fahmy, Sarahy Martinez, Ashley Prado & Ana Daniela Rojas Gallegos

B.S. in Public Health, UC San Diego Herbert Wertheim, School of Public Health

## Background

- The process to do gel manicures requires a gel polish and UV lamp dryer.
- A UV lamp is used to cure nail polish and help them harden at wavelengths varying from 340-380 nm.<sup>1</sup>
- Studies by UC San Diego Researchers have found that the use of UV light nail dryers can damage DNA and cause somatic cell mutations in human cells that can increase the risk of skin cancer.<sup>2</sup>
- There have been reports that variable cases of melanoma have been found on the nail or had due to UV radiation from gel manicures.<sup>3</sup>

## Objective

To determine if risk awareness of skin cancer risks due to UV exposure in gel manicures of UCSD students associates to an increase in skin cancer prevention behavior intentions from April-May 2023.

## Methods

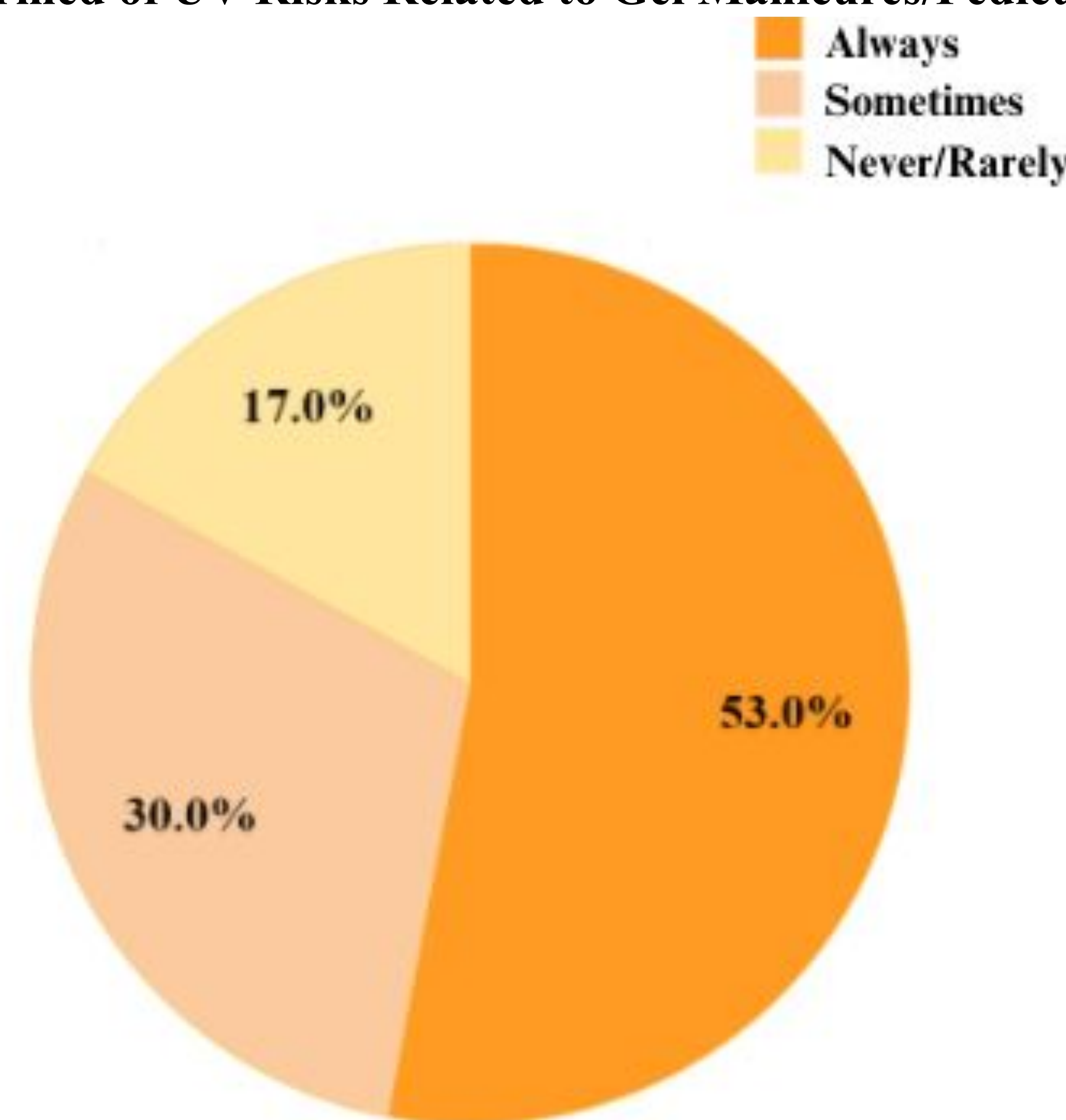
- Cross-sectional study using a Google Form survey to examine 100 UCSD undergraduate and graduate students.
- Survey was posted on social media platforms and sent to Public Health students for UCSD under & post-graduate students to complete the cross-sectional survey.

**Table 1: Participant Characteristics (N=100)**

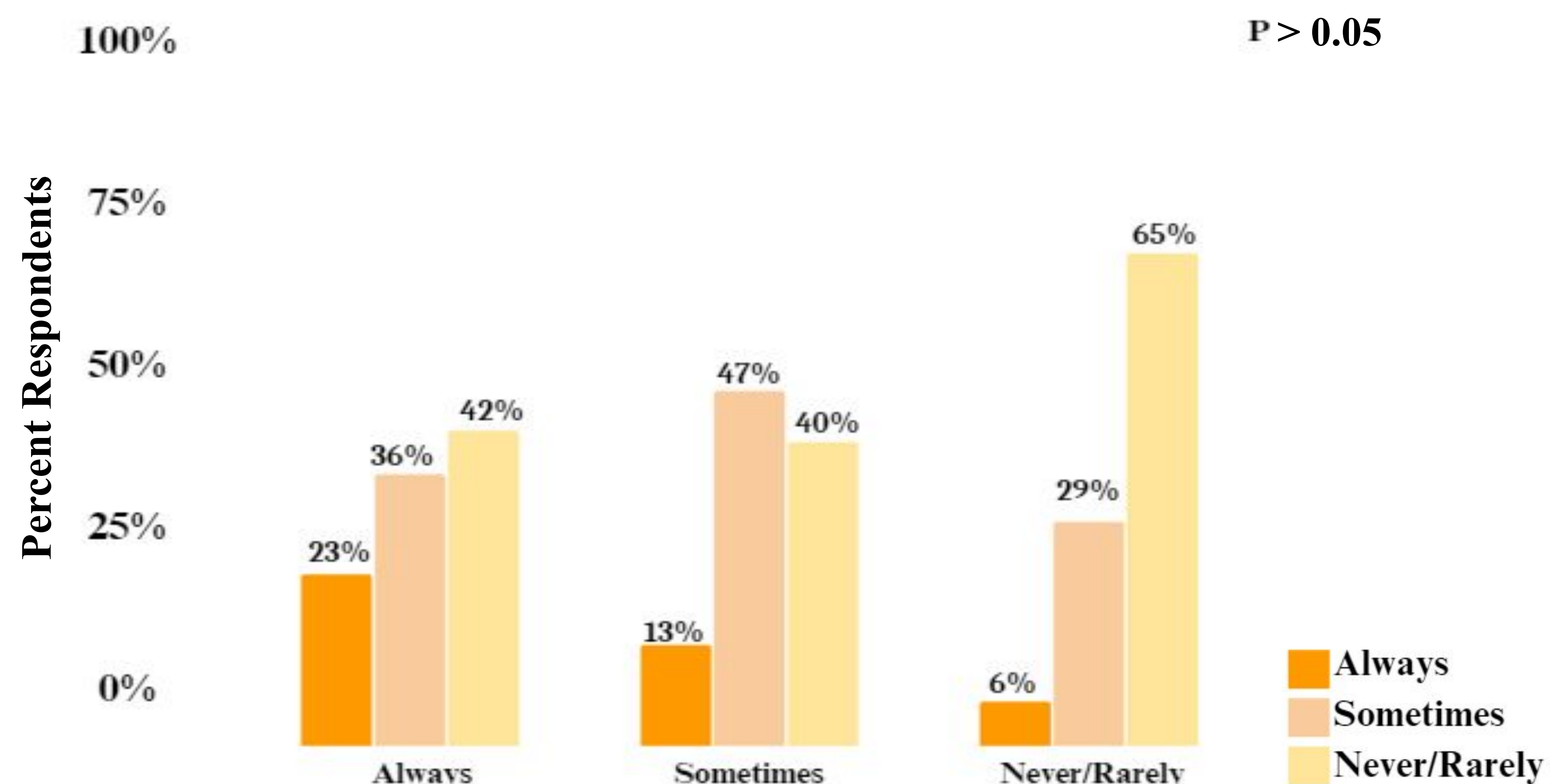
Year in College	
Undergraduate- 1st year	7%
Undergraduate- 2nd year	17%
Undergraduate-3rd year	16%
Undergraduate- 4th year	48%
Undergraduate- 5th year or more	5%
Graduate	7%
Race/Ethnicity	
American Indian/Alaska Native	3%
Asian	31%
Black or African American	1%
Hispanic or Latino	42%
White	19%
Other	4%

## Results

**Figure 1: Likelihood of Sunscreen Application After Being Informed of UV Risks Related to Gel Manicures/Pedicures**



**Figure 2: Frequency of Gel Manicures/Pedicures and Likelihood of Sunscreen Application After Being Informed of UV Risks Related to Gel Manicures/Pedicures (N=100)**



## Conclusions

- These results show that the UCSD students who participated in the survey receive gel manicures/pedicures.
- Prior to reading the article, more than half of students did not apply sunscreen before receiving gel manicures/pedicures.
- Being informed about UV exposure risks when receiving gel treatment had no significant association with increased changed behavior intentions for skin cancer prevention.

## Policy Implications

- Policy interventions include having sunscreen dispensers readily available at nail salons for all public members to use before receiving gel manicures/pedicures.
- Others include educative initiatives such as posters and advertisements to educate the general public of health risks associated to UV exposure when receiving gel manicures/pedicures.

## Acknowledgements

We would like to thank all UCSD students who participated in our study, Professor Sally Romero and the TA's for their guidance throughout the capstone course.

## References

- Schwartz, C. T., Ezaldein, H. H., & Merati, M. (2020). Ultraviolet Light Gel Manicures: Is There a Risk of Skin Cancer on the Hands and Nails of Young Adults?. *The Journal of clinical and aesthetic dermatology*, 13(7), 45–46.
- Treisman, R. (2023, January 26). UV nail dryers may pose cancer risks, a study says. Here are precautions you can take. NPR. <https://www.npr.org/2023/01/26/1151332361/gel-nails-cancer-manicure-safe>
- MacFarlane, D. F., & Alonso, C. A. (2009). Occurrence of nonmelanoma skin cancers on the hands after UV nail light exposure. *Archives of Dermatology*, 145(4). <https://doi.org/10.1001/archdermatol.2008.622>