

FEATURE | SOCIAL SCIENCES

Beauty Queens and Sociology: An Interview with Victoria Li

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The shining stage lights, the glitz and glamour, the fierce competition, and the undeniably gorgeous contestants are just a few reasons why the Miss Universe pageant is such an enduring cultural phenomenon. Founded in 1952, the global beauty pageant attracts half a million viewers per year and is broadcast to more than 190 countries and territories. But what makes someone a winning contestant?

Enter Victoria Li, a recent WashU alum from the class of 2025, who majored in economics with minors in computer science and dance. Currently, she works as a consultant for a tech company based in San Francisco, CA, near her hometown of Fremont.

After competing in the Miss Asian Global beauty pageant, Li wanted to investigate the similarities between winning contestants she saw in both her own competition and the Miss Universe pageant. "...in my pageant, the people who place are not necessarily people who are the tallest or have the best education background or have the best job," she said. "...the people who place in the top five are actually on the older end [of the age range], so I was very curious if this was a trend."

Using her background in sociology, data science, and machine learning, Li analyzed the profiles of semifinalists and finalists to explore any common factors that may be the key to their success. She used algorithms XGBoost and SHAP to determine the importance of each factor and if they had a positive or negative correlation with winning the pageant. Li included country-level attributes such as population, economic freedom, and male-to-female ratio, as well as personal factors like height, age, and level of education.

Although Miss Universe had been running for over 70 years, one challenge Li encountered was the lack of data points, as many early records were incomplete or missing. This led her to narrow the scope of her research to the years 2010 to 2021 while smoothing missing data points from the 2020 COVID pandemic.

Li discovered that the most important factor was a contestant's national GDP and tourism revenue as a percentage of GDP, which had a negative influence on winning. "I was actually very surprised," Li said. "I found out that countries with lower GDP per capita and lower tourism revenue as a percentage of GDP tend to have higher success rates in beauty pageants because they tend to invest more in [them]... potentially because they want to use [the pageant] as a platform to promote tourism or promote their country, especially for countries in Latin America."

"My research is a good example of using machine learning and data mining in analyzing social science phenomena," Li explained when asked about future studies. "I think qualitative data is also powerful because in beauty pageants, there are a lot of dif-

ferent factors... Just GDP alone doesn't really account for all the factors that contribute to success."

"Personally, [this research] has been influencing me a lot and how I feel pageants are more than just about beauty. Even though we say it's a beauty pageant, it has more factors: cultural, political, and social."

When asked about the future of data science, Li replied, "From the work that I'm doing... I see a lot of things related to AI... with ChatGPT and DeepSeek... and data is a very big thing. I personally am very interested in AI and seeing how this can really be used and applied to a lot of things in our daily life, not just in technology, but also in places like the fashion industry or in restaurants."

"[The field is] growing at a very fast pace... and I think learning more about data science and AI will be helpful for my job as a tech analyst, [which is] why I'm also pursuing a master's in data science."

Li is very self-motivated and strives for self-improvement. She joined the Miss Asian Global beauty pageant for the opportunity to give back to the community, but also to gain confidence and improve her public speaking skills. Her research project, inspired by her experiences in the pageant, was a personal interest separate from any department at WashU, yet she had the courage to present her work at the university undergraduate research symposium.

When she first competed in the pageant, Li described herself as "on the introverted side." At only 17 years old, she barely made the age requirement to compete and had many public interviews about world politics and social justice, which, as a high school student, was daunting. These experiences pushed her to socialize with people more and form connections with people outside of her community. "A lot of the skills we learn in pageants are more than just the catwalks," Li joked. Public speaking and communication skills are also crucial in research, as researchers must communicate their findings to different audiences for education, awareness, and funding.

Li advised students to take advantage of research opportunities on campus, even in fields that are outside of their major. "I also did sociology research, even though I wasn't in a sociology major or minor, with Professor David Cunningham in the Civil Rights and Restorative Justice lab." In college, Li was the president of the Archery Club, was part of the Robotics Club, did ballroom, jazz, and contemporary dance, and went scuba diving in her free time.

"It's a very interdisciplinary world right now," she said, "just always be brave to try new things." Whether onstage or in a lab, confidence and curiosity about the world are the keys to success. ■