

BABY BOTOX: BOTULINUM TOXIN A USE IN STUDENTS AT
THE UNIVERSITY OF OREGON

by
ANDI JO SUTTIE

A THESIS

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Approved: Oluwakemi “Kemi” Balogun, Ph.D.
Primary Thesis Advisor

In an era where appearance is increasingly tied to self-expression and social capital, cultural norms have fueled a rising interest in non-surgical facial enhancements among college-aged women. To assess this proliferation, this study examines the attitudes and predictors of women’s openness to both general and preventive Botox use, with particular attention to life stage, peer exposure, age, and social media engagement. Using a convenience sample of women at the University of Oregon aged 18–25 (n=332), the analysis proceeds in two stages. First, bivariate tests assess associations between independent variables and each dependent outcome, followed by logistic regression models that estimate the net effects of these predictors on the likelihood of Botox consideration and preventive use.

Findings reveal that life stage is a significant and consistent predictor across both models. Women who expressed Botox interest during young adulthood were substantially more likely to consider both general and preventive use than those who deferred such decisions to later adulthood. Peer influence also emerged as a significant factor, as knowing someone who had used Botox increased the odds of considering it across both models. While age was a significant predictor of preventive Botox use, it was not significant in the general use of Botox treatment model. This was likely due to the narrow age range in the sample, but it is important to note that as women approached graduation they became increasingly interested in Botox. Surprisingly,

social media usage showed no significant association in either model. These results underscore the importance of early-life beauty norm internalization and social influence in shaping young women's cosmetic decisions, particularly as they relate to proactive appearance management.

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Table of Contents

Introduction	8
Overview of Botox	11
Sociological Perspectives	11
Symbolic Interactionism	12
Biomedicalization	12
Feminist Frameworks	13
Preventative Botox	15
Research Methodology	20
Data and Sample	20
Measures	21
Dependent Variables	21
Explanatory Variables	24
Analytical Estimations	28
Results	30
Conclusion	36
Appendix	40
Bibliography	43

List of Figures

Figure 1: Frequency of Women's Botox Use Likelihood	22
Figure 2: Frequency of Women's Preventative Botox Use Likelihood	23
Figure 3: Predictors of Women's Likelihood of Considering Botox Use	31
Figure 4: Predictors of Women's Likelihood of Considering Preventative Botox Use	34

List of Tables

Table 1: Descriptive Statistics. Bivariate Associations with Likelihood of Treatment Botox Use (Unlikely Use and Likely Use)	25
Table 2: Descriptive Statistics. Bivariate Associations with Likelihood of Preventive Botox Use (Unlikely Use and Likely Use)	26
Table 1A: Logistic Regression Predicting Women's Likelihood of Considering Botox Use	40
Table 1B: Logistic Regression Predicting Women's Likelihood of Considering Preventive Botox Use	41
Table 1C: Variable Description- Survey Instrument	41

Introduction

Women's bodies are frequently cast as symbolic sites where ideals of appearance reflect deeply rooted cultural narratives of true womanhood. Through the embodied ideal of feminine beauty, women's figurative and literal bodies are used to strategically signal propriety, social acceptance, and reputability both for the individual and the nation (Balogun, 2019). Bodily practices and markers of appearance such as dress, makeup, and grooming serve as vehicles of collective identity, rendering women's bodies central terrains upon which national identities are produced, maintained, and at times, resisted (Balogun & Hoang, 2013; Balogun, 2012).

Diverse beauty practices around the world offer critical insight into shifting cultural logics and social structures. These practices are socially contingent and historically situated, often reflecting broader value systems, power dynamics, and individual expressions of agency (Balogun, 2023). Among them, cosmetic interventions like Botox and preventive Botox have become widely accepted as effective, convenient, and well-tolerated treatments—framed as attractive options for those seeking to avoid more invasive procedures (Frampton & Easthope, 2003).

Botox use amongst young women has had a notable spike in recent years. This is likely due to the growing acceptance of preventative Botox use as a type of insurance against facial wrinkles and rhytids. Preventative Botox is the use of a reduced amount of botulinum toxin A. Injections can start at a younger age, typically before the formation of visible static wrinkles. The idea is that these smaller yet frequent injections delay and reduce the development of future wrinkles and fine lines. The prevention fad has grown into a major market, with Botox use among individuals aged 20–29 increasing by 8% between 2022 and 2023—a rise that reflects a steady upward trend as more young people adopt Botox as part of their skincare routine (ASPS,

2024). It is important to note that the popular name Botox refers to a brand name from the company Allergan, although other pharmaceutical companies also produce similar botulinum toxin A products under different names. In this thesis, I will be using the word Botox as a colloquial term to refer to all botulinum toxin A injectables to communicate effectively with my audience.

Botox, in particular, is uniquely gendered: over 90% of its users are women. Unlike other anti-aging interventions, Botox is marketed as a normalized, casual, and preventive component of beauty maintenance (Berkowitz, 2021). Botox is targeted at managing facial wrinkles and laxity—features that signify aging and are increasingly treated as problems to be corrected. As noted by Kattimani et al. (2019), the face serves as the primary site for identity recognition and emotional communication, reinforcing the proverb, “the face is an index of the mind.” Therefore, wrinkles are perceived not just as signs of aging but as impediments to emotional expressiveness and aesthetic legibility. The anti-aging industry reflects the shift in how we view aging as a society—that looking old means looking sick. Therefore, one must avoid looking old as it is both morally and aesthetically lacking (Berkowitz, 2017). This cultural emphasis contributes to the growing demand for non-surgical facial enhancements (Peterson, 2018). Botox’s medical utility further bolsters its appeal. Described as “the poison that heals”, Botox has proven effective in treating a range of non-cosmetic conditions related to the head and neck (Awan, 2016; Glogau, 2002). Its rise is further shaped by a social climate in which aging is increasingly viewed as an undesirable and limiting experience (Bottrill, 2003).

While a growing body of scholarship has examined cosmetic procedures among millennials and young adults (Michon, 2023; Zarrington et al., 2020; Freeman et al., 2021), much of this work focuses on clinical efficacy or ethical considerations. For instance, Collier (2013)

interrogates the ethical challenges aesthetic practitioners face when young adults request Botox despite lacking clinical signs of aging. Yet, a critical gap remains in understanding how young women themselves perceive Botox and what factors shape their attitudes toward its use—especially within educational settings. To address this gap, the present study examines college aged women’s perceptions of both general Botox treatment and preventive Botox. Drawing on data from students at the University of Oregon, this study explores how age, peer influence, life stage, and social media use shape young women’s attitudes and their propensity to use or avoid cosmetic injectables. In doing so, the research contributes to broader conversations on youth, beauty, and bodily self-regulation in contemporary culture.

This study offers insight into how young college women perceive and engage with Botox, a rapidly normalized cosmetic intervention shaped by gendered beauty norms. By examining both general and preventive Botox use, the research addresses a gap in the literature concerning the sociocultural drivers of cosmetic decision-making among women in early adulthood. The findings shed light on how life stage, peer influence, and aesthetic socialization inform young women’s openness to Botox, contributing to broader debates on gender, embodiment, and beauty politics. These findings also raise concern about the long-term effects of Botox use, which may include muscle atrophy, diminished facial expression, and the potential development of resistance to the toxin.

Overview of Botox

While Botox research is fairly limited overall, the topic has become increasingly popular in academia especially as the popularity of the product has grown in the past decade. Botox literature mostly engages treatment recommendations, outcomes, and overall reviews of the benefits and risks of regular use (Satriyasa, 2019; Fagien, 2003; Sepehr et al., 2010). Botulinum toxin type A, commonly known as Botox, is a neurotoxin protein produced by the bacterium *Clostridium botulinum*. This is the microorganism that causes botulism, a potentially lethal paralytic disease caused by eating contaminated preserved food (Satriyasa, 2019).

Botulinum toxin, regardless of type, is acknowledged as the most poisonous toxin known to humans (Berkowitz, 2017). It works by blocking the release of acetylcholine (a neurotransmitter) from nerve endings at neuromuscular junctions (Barnes, 2003). This leads to muscle paralysis, as there is no communication between nerve and muscle cells. The form of botulinum toxin type A we know from pharmaceutical manufacturer Allergan as Botox is highly diluted. This dilute form allows for significant medical and cosmetic clinical uses, due to its ability to temporarily paralyze the muscle, reducing muscle activity. Popular injection sites include the forehead, around the eyes (crow's feet), and between the eyebrows (frown lines) (Satriyasa, 2019). The effects of Botox treatments are temporary and usually last somewhere between three to six months. The procedure can be done within a lunch break and is minimally invasive with little recovery time. After one to two weeks post injection, the treatment begins to set in fully (Barnes, 2003).

Sociological Perspectives

Cosmetic enhancement has been widely discussed in sociological literature; however, Botox is sidelined in the discussion in favor of more “extreme” cosmetic enhancements such as

those performed with general anesthesia. Nevertheless, the prevalence and casualness of noninvasive cosmetic work implores an increase in engagement of Botox (Dwyer & Cook, 2021). Proliferation as well as an increase in the number of young people injecting the drug give rise to sociological considerations about the medicalization of aging and marketing to youth. Therefore, it is important to consider what different sociological theories can offer to our understanding of Botox. Both structural and critical sociological theories are important to consider how bodies are produced, regulated, and disciplined by power relations. This analysis draws on three key theoretical lenses: symbolic interactionism, biomedicalization, and a feminist framework.

Symbolic Interactionism

Symbolic interactionism is a sociological theory which focuses on meaning-making within social interactions (Berkowitz, 2017). When drawing on symbolic interactionism with Botox use in college students, we see how bodies can be a subject that individuals are cultivating, experiencing, and negotiating as they head into the work force. Symbolic interactionism accentuates how young women are creating their bodies in ways that uphold themselves and their social identities (Berkowitz, 2017). Therefore, within this lens it is made clear how social relationships shape bodies.

Biomedicalization

The term “medicalization” refers to the expansion of medical authority to other aspects of our life outside of illness. However, as medical sociologist Adele Clarke and her colleagues suggest, the term biomedicalization better reflects the increasingly complex and widespread ways that medicalization is evolving and becoming deeply embedded in everyday culture (Berkowitz, 2011). A good example of this outside of Botox would be biomedically engineered

prosthetic limbs, or laser eye surgery to be able to see. When viewing Botox use in college students with this lens, we can see the shift in how we view aging from the medical perspective. Biomedicalization places healthy bodies under scrutiny, demanding intervention and optimization. Within this lens, the rise in preventative Botox is seen as a new form of lifestyle medicine to treat already healthy, unwrinkled bodies.

Feminist Frameworks

Feminist scholars have long contributed to debates about women's participation in beauty culture, particularly in relation to cosmetic surgery—a practice often scrutinized for its extreme bodily transformations (Berkowitz, 2017). Much of the early conversation focused on whether such procedures represented oppression or empowerment. Drawing from a feminist tradition of “giving voice,” scholars have sought to understand women's personal reasons for undergoing surgery, while also challenging reductive narratives (Wolf, 2002). Feminist theorist Susan Bordo, for example, critiques the binary framing of women as either victims or agents, urging a more nuanced perspective that situates cosmetic surgery within broader consumer culture. She argues that this binary creates “a diversionary din” that distracts from the powerful influence of a capitalist, appearance-driven society (Berkowitz, 2011). Such a society constructs what feminist author Naomi Wolf calls a “beauty myth”, a socially constructed ideal that keeps women preoccupied with achieving impossible beauty standards, thus limiting their time, energy, and self-worth (Wolf, 2002). This positions cosmetic surgery, and Botox, as not just a personal choice, but a normalized and profitable industry which perpetuates social injustice.

Rather than relying on a traditional Marxist lens that locates power solely in domination, feminist poststructuralist thinkers, drawing on Michel Foucault, redefine power as Foucault defines power as “not something that acts on subjects through domination or force; rather, power

is enacted through subjects, producing explicitly gendered selves, identities, and bodies” (Berkowitz, 2017). Rosalind Gill echoes this view, noting that “women’s choices about whether and how to cultivate their bodies are shaped by socially constructed, mass-mediated ideals of beauty that are internalized and made their own” (Gill, 2007). In this context, self-surveillance and body modification feel empowering because they are socially rewarded. Within the current postfeminist era, empowerment itself is paradoxical. Women may claim liberation, but only if it aligns with normative ideals of femininity. As Botox sociologist Dana Berkowitz remarks, “to put it bluntly, in our postfeminist era, being hot is what women’s liberation looks like” (Berkowitz, 2017). Therefore, to stay hot for longer, women are enlisting in a lifetime of Botox use.

Beauty practices that were once condemned for oppressing women and disconnecting them from their bodies have been reimagined in today’s postfeminist era as sources of pleasure and expressions of feminine identity. However, feminist critics have also noted that “when a woman’s actions are considered a result of her own choosing, no further problematization or critical analyses of these choices is warranted” (Berkowitz, 2017). With that, feminist critics warn that framing these practices purely as personal choices obscures the decades of media messaging, marketing, and gendered pressures that shape women’s desires (Wolf, 2002). Assuming such choices are entirely free overlooks the persistent influence of hegemonic beauty norms and systemic inequalities that continue to govern how women feel, act, and appear. Surely, young women lining up to inject themselves with a deadly toxin to prevent wrinkles that have yet to form is a choice that begs to be questioned.

Preventative Botox

Previous research about preventative Botox (also known by the popular term “Baby Botox”) is mostly focused on cosmetic implications and results. However, a recent study in China found that among female college students at a tertiary school, factors such as family socioeconomic status, peers’ cosmetic surgery practices, and media exposure were positively linked to the likelihood of considering cosmetic surgery (Zhang et al., 2024). Additionally, self-rated physical appearance, academic performance, and anticipated post-graduation income were also associated with increased interest (Zhang et al., 2024). These findings suggest that decisions about cosmetic surgery among these students are shaped not only by personal factors but also by broader structural influences.

In another study which investigated the prevalence of young people using Botox, a randomized sample found that of the 90 respondents ages 19-25, 16% had received Botox injections (Freeman et al., 2021). When asked about the purpose of their use, the overwhelming majority reported “Both prevention and treatment of facial rhytids”. The results from this study underscored that younger patients are pursuing botulinum toxin injections at an earlier age initially than their older counterparts (Freeman et al., 2021). Additionally, the survey concluded that significantly more people believe these injections are intended for the prevention and treatment of facial wrinkles and rhytids rather than exclusively treatment alone.

Studies examining the sociological factors influencing cosmetic surgery beyond college populations reveal several consistent themes. Notably, every article I reviewed identified media consumption as a significant social determinant of increased interest in cosmetic enhancement (Furnham & Levitas, 2012; Di Gesto et al., 2022; Căiță et al., 2023). In addition, low self-esteem, body image, and religiosity frequently emerged as key factors shaping individuals'

decisions to pursue cosmetic procedures (Furnham & Levitas, 2012; Căiță et al., 2023). Căiță et al. (2023) conceptualizes the desire for beauty as a response to natural, spiritual, and social needs. Within this framework, they found that motivations for cosmetic surgery are influenced by a range of factors including the pursuit of social acceptance, societal pressure, socioeconomic background, age, marital status, education, and income.

Emerging literature suggests that while Botox is widely regarded as safe and effective in the short term, the long-term use of botulinum toxin A may carry both physiological and psychological implications that warrant careful consideration. According to Witmanowski & Blochowiak (2020), Botox-related adverse events can be categorized into two types: benign and potentially serious. Benign events are typically localized, mild, and self-resolving, whereas potentially serious events can lead to complications resembling botulism. A famous example of such complications occurred just after FDA approval in 2003 when a high-profile Hollywood lawsuit was filed by former model, actress, and wife of a high-powered film executive, Irene Medavoy. Medavoy sued her dermatologist Dr. Arnold Klein when she fell ill after treating her with over 80 units of Botox. Within a week of the injections, she had headaches, fever, blurred vision, ringing ears, respiratory problems, gastric distress, and difficulty swallowing (Berkowitz, 2011). Her lawsuit alleged malpractice by failing to have informed consent from her for use of Botox and its potential side effects, especially arising from off-label uses such as migraine treatment. While Medavoy was painted as a vain opportunist and ultimately lost the case, the trial uncovered a crippling testimony from neurologist and senior vice president of Allergan Mitchell Brin. Brin confessed that, at the time, the risks of Botox were mostly unknown in dosages higher than 20 units, and that the drug has potential to spread to other parts of the body affecting neuromuscular transmission (Berkowitz, 2011). These potentially serious results are

attributed to incorrect injection techniques. Nonetheless, such risks are largely preventable when Botox is administered at appropriate doses, with proper technique, and following a thorough review of the patient's medical history (Witmanowski & Blochowiak, 2020).

Echoing the notion that Botox is generally safe, Satriyasa (2019) noted that common or benign side effects such as redness, swelling, or mild pain at the injection site are usually temporary and manageable. Such effects can be minimized using thinner needles and saline dilution. More significant yet also temporary side effects such as ptosis (drooping eyelid), fatigue, and flu-like symptoms, tend to occur when the toxin diffuses into adjacent muscles (Satriyasa, 2019). While these outcomes are reversible, they underscore a need for precision and dosage restraint particularly over repeated sessions as suggested with preventative use.

Clinical guidelines reinforce the importance of cautious and strategic use of Botox over time. The Global Aesthetics Consensus (Sundaram et al., 2016) emphasizes an individualized treatment approach with lower doses, shallow injections, and integrating fillers when appropriate to maintain natural-looking results and minimize risks. This strategy supports aesthetic goals and also limits potential complications. In terms of long-term efficacy, Binder (2006) presents compelling evidence through a 13-year observational study of identical twin sisters (starting at age 25). The twin which received Botox injections showed fewer visible facial lines when compared to her untreated sister, suggesting regular use of Botox does prevent the development of deep-set wrinkles (Binder, 2006). It is important to note that no adverse effects were reported over the 13-year period, indicating that long-term Botox use may be both safe and beneficial for desired results when monitored and applied correctly.

Beyond physical effects, long-term Botox use may also influence emotional processing. Bulnes et al. (2019) found that participants who received Botox injections in the frown area

showed reduced ability to detect angry facial expressions over time, supporting the Facial Feedback Hypothesis—the idea that facial movements contribute to emotional perception and learning. This suggests that repeated Botox use could potentially alter emotional awareness and social interaction, particularly when expression-related muscles are involved. Together, these findings point to the importance of balancing the benefits of Botox with mindful clinical practice. While the treatment is generally safe, both physiological side effects and subtler psychological impacts may arise, particularly with prolonged use—highlighting the importance for continued research in preventative Botox.

Advertisements as well as attitudes of Botox providers in the media portray the idea that aging is the benchmark for which to resist. Media and medical messages both emphasize early proactive measures to guard against the appearance of aging, thus reducing the need for more Botox units or more invasive procedures later in life (Castillo-Abdul et al., 2021; Berkowitz, 2011). The result is that in today’s beauty culture, women are increasingly encouraged to begin a lifelong regimen of aesthetic maintenance in their twenties. Feminist cultural theorist Meredith Jones calls this phenomenon “stretching middle age,” as it blurs the visible markers of aging by slowing, rather than reversing, time’s effects (Berkowitz, 2017). Within this ethos of preventative aesthetics, Botox has been marketed not only as a tool to soften existing lines but also to prevent them altogether by limiting facial movements that cause wrinkles.

Techniques such as “Baby Botox” that utilize lower doses thereby maintaining some facial movements, are culturally preferred as these practices conceal the labor involved with achieving a youthful look (Berkowitz, 2017). Woven throughout medical and marketing discourse is the idea that “good” Botox makes you look like a more refreshed version of yourself—not different, just better. Ultimately, the burden falls on the individual woman to

manage her beauty responsibly, reinforcing a consumer-driven, individualist approach that masks the structural pressures behind these choices. Botox is effectively changing the face of America, and it's starting younger and younger. The impact of preventative Botox on young women in society is visible not only on their faces but in the media, in mass marketing campaigns, and in the way our cultural commentary views aging.

Research Methodology

Data and Sample

Due to the nature of the study's focus, which aimed to explore women's perceptions of Botox use, the sample was restricted to women respondents. Data was collected through a survey administered to students at the University of Oregon via the online platform SurveyMonkey. This study specifically targeted tertiary (college-level) students for two primary reasons. First, tertiary students are situated at a transitional life stage marked by heightened self-awareness and the negotiation of personal and societal standards of beauty, making them a valuable target population for studying attitudes toward cosmetic procedures such as Botox. Second, this population is both highly accessible and sufficiently diverse in terms of age, socioeconomic background, and exposure to popular beauty trends, allowing for the collection of varied perspectives within a relatively controlled environment.

Participants were recruited using a convenience sampling approach and the recruitment strategy was adjusted as needed to enhance the diversity of the sample. Recruitment was done via flyers posted in classrooms and common areas on campus, as well as verbal recruitment and flyers. Flyers had a QR code on the survey which respondents scanned to be directed to the SurveyMonkey website for the survey. Due to sampling strategy, these findings are not statistically generalizable. However, this convenience sample can give insight into a broader university population.

It is worth noting that this study adhered to established ethical standards. Participation was voluntary, and respondents were informed about the purpose of the study prior to their participation. Informed consent was obtained from all participants, and confidentiality of responses was strictly maintained. No identifying information was collected, and participants

were assured that their responses would remain anonymous and would be used solely for academic research purposes. The study protocol received approval from the institutional review board (IRB) at the University of Oregon. There were 388 total responses recorded. These responses were then cleaned based on completeness of response.

Measures

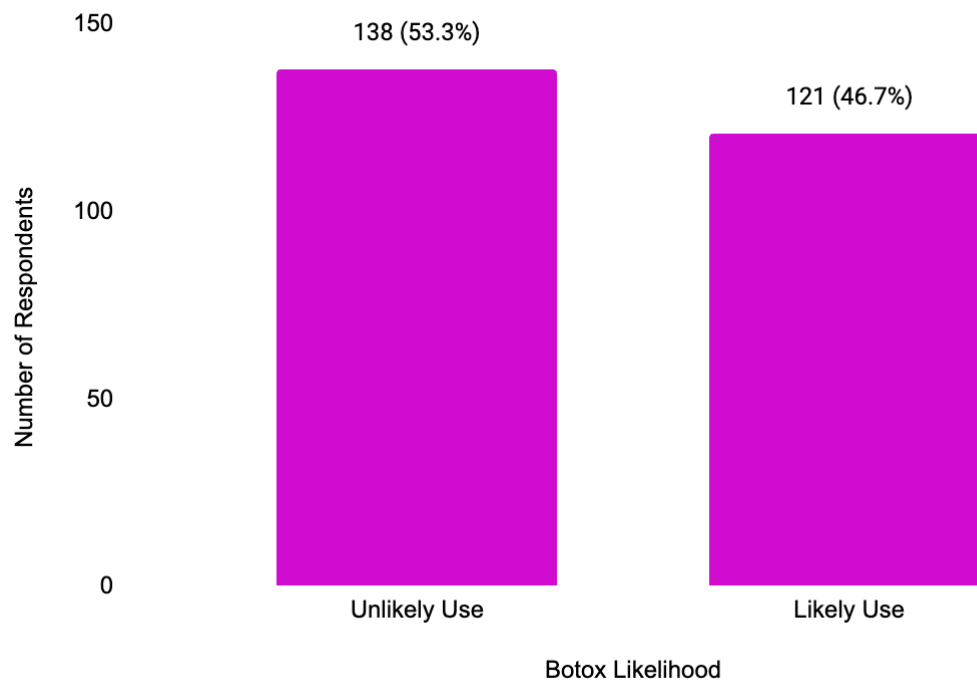
Dependent Variables

There is a difference between Botox (generally called “Botox” or “Botox treatments”) and preventive Botox. Aligned with the study’s objectives to examine women’s likelihood of undergoing Botox treatment or preventive Botox, the study uses two outcome variables. Botox treatment refers to the use of botulinum toxin A (usually Botox, Dysport, Xeomin, etc.) to reduce the appearance of existing fine lines and wrinkles. It works by temporarily paralyzing muscles to smooth out dynamic wrinkles (those caused by facial movement, like frown lines or crow’s feet). Preventive Botox on the other hand refers to using Botox before deep lines have formed, usually in people in their mid-20s to early 30s, with the goal of preventing wrinkles from developing in the first place. The idea is that by relaxing the facial muscles early, you reduce repeated movements that etch lines into the skin over time.

First, to assess the predictors of Botox treatments, the analysis focused on the survey question: “Rank how likely it is that you would get Botox in your lifetime.” Responses were initially recorded on a five-point Likert scale: 1 = “Very Unlikely,” 2 = “Unlikely,” 3 = “Neutral,” 4 = “Likely”, and 5 = “Very Likely”. For the purposes of analysis, the responses were binarized to distinguish between women unlikely versus likely to consider Botox use. Responses indicating “Very Unlikely” or “Unlikely” were recoded into a single category (0 = Unlikely use), while responses indicating “Likely” or “Very Likely” were combined into a second category (1 =

Likely use). “Neutral” responses were not included in analysis as these responses do not indicate likely or unlikely use. This binary classification facilitates a clearer analytical distinction aligned with the study’s focus on general willingness or reluctance toward Botox use.

Figure 1: Frequency of Women’s Botox Use Likelihood



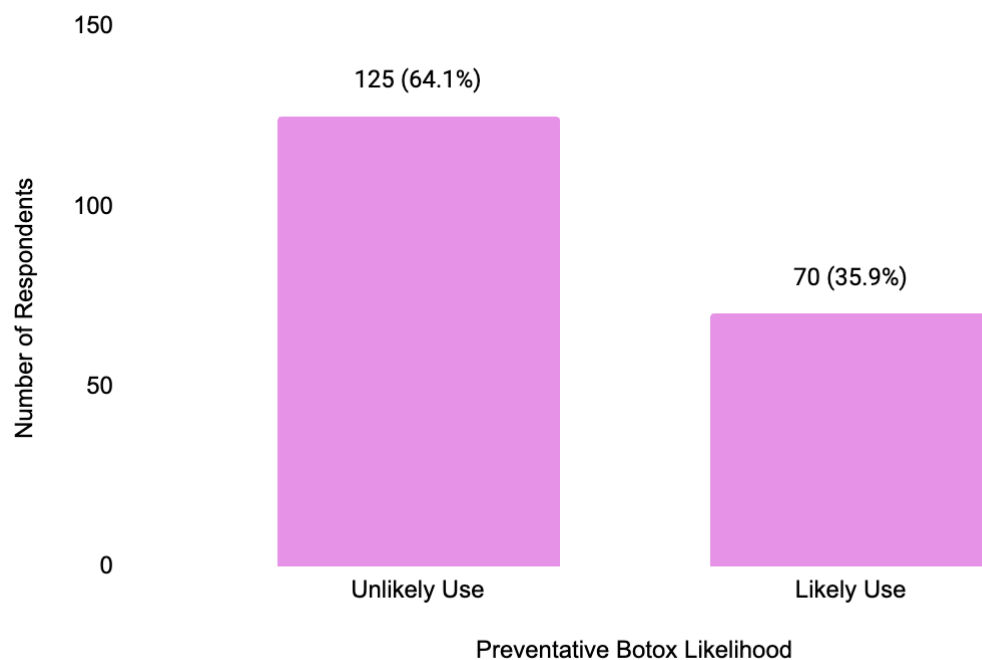
Frequency of Responses for Women’s Botox Use Likelihood (Unlikely Use and Likely Use)
(*n*=259)

Figure 1 displays the distribution of women's likelihood of considering Botox use. A slight majority of respondents (53.3%) indicated that they were unlikely to consider using Botox in their lifetime, while 46.7% reported a likelihood of considering it. This suggests a relatively even split in attitudes toward Botox use among women in the sample, with a marginally greater proportion expressing reluctance.

Second, preventive Botox is captured on the question “Rank how likely you are to get preventative Botox?”. Responses were initially recorded on a five-point Likert scale: 1 = “Very Unlikely,” 2 = “Unlikely,” 3 = “Neutral,” 4 = “Likely”, and 5 = “Very Likely” and 6 = “I have

already had Botox treatment”. Only 8 respondents chose the “I have already had preventive Botox treatment” and so those responses were dropped given the small sample size for this category. For the purposes of analysis, the remaining responses were further binarized to distinguish between women unlikely versus likely to consider preventive Botox use. Responses indicating “Very Unlikely” or “Unlikely” were recoded into a single category (0 = Unlikely use), while responses indicating “Likely” or “Very Likely” were combined into a second category (1 = Likely use). “Neutral” responses were omitted.

Figure 2: Frequency of Women’s Preventative Botox Use Likelihood



Frequency of Responses for Women’s Preventative Botox Use Likelihood (Unlikely Use and Likely Use) (n=195)

The bar plot illustrates the distribution of women's responses regarding their likelihood of using preventative Botox. Most respondents (64.1%) indicated they are unlikely to use preventative Botox, while a smaller proportion (35.9%) expressed a likelihood of doing so. This suggests that

preventive Botox use is not widely embraced among the surveyed women, although a sizable minority remains open to the possibility.

Explanatory Variables

In line with the study's objectives, the analysis assessed the extent to which respondents' age, life stage consideration, knowledge of Botox usage, and social media usage were associated with their likelihood of considering Botox use. Age was measured by asking respondents, "What is your age?". The sample included women ages 18 to 25 years. Age is treated as a continuous variable in the analysis. Life stage consideration was assessed by asking participants at what age they would consider using Botox, if ever, with response options ranging from 18–25, 26–30, 31–40, 41–50, 51–65, and 66+. For analysis, this variable was recoded into a binary indicator where early adulthood (ages 18–50) was coded as 1, and late adulthood (ages 51 and above) was coded as 0. This recoding distinguishes between women considering Botox at younger versus older life stages. Knowledge of Botox usage was proxied by the binary question, "Do you know someone else who has gotten Botox in college?". Responses were dichotomized, with "No" coded as 0 and "Yes" coded as 1, capturing the degree of social exposure to Botox use among respondents. Social media usage was measured by asking participants, "How many hours on average do you spend on social media daily?" Responses were initially captured on a continuous scale ranging from "Less than 1 hour" to "10+ hours." For analysis, social media usage was collapsed into three categories: "Low" (less than 1 hour and 1 hour), medium (2–5 hours), and high (6–10+ hours). This categorization captures differences in screen time intensity and allows for the examination of how varying levels of social media engagement might influence perceptions of Botox use.

Table 1: Descriptive Statistics. Bivariate Associations with Likelihood of Treatment Botox Use (Unlikely Use and Likely Use)

Variable	Unlikely use 138 (53.3%)	Likely Use 121 (46.7%)	Total 259 (100.0%)	t-Test
Age	19.833 (1.321)	20.124 (1.159)	19.969 (1.254)	0.063
Life Stage				
Late adulthood	22 (20.8%)	2 (1.9%)	24 (11.4%)	<0.001
Young people	84 (79.2%)	102 (98.1%)	186 (88.6%)	
Know Someone				
No	85 (63.0%)	43 (35.8%)	128 (50.2%)	<0.001
Yes	50 (37.0%)	77 (64.2%)	127 (49.8%)	
Social Media Usage Category				
Low	11 (8.4%)	6 (5.2%)	17 (6.9%)	0.432
Medium	99 (75.6%)	86 (74.1%)	185 (74.9%)	
High	21 (16.0%)	24 (20.7%)	45 (18.2%)	

Mean (Standard deviation): p-value from the pooled t-test.

Frequency (Percent): p-value from Pearson test.

Table 1 presents descriptive statistics and bivariate comparisons among women respondents, examining differences between those who reported an unlikely use of Botox and those who indicated a likelihood of use. Among the total sample of women ($n = 259$), 53.3% indicated unlikely use, while 46.7% reported a likelihood of using Botox. From the data gathered for this analysis, the mean age of women unlikely to use Botox is 19.833 years ($SD = 1.321$), and for women likely to use Botox, it is 20.124 years ($SD = 1.159$). The difference in mean age between the two groups was not statistically significant ($p = 0.063$). In other words, the women who want Botox and those who do not are basically the same age even though the average ages are different (19.83 vs. 20.12 years). The decision to use or not may be attributed to other factor(s) than age.

Regarding life stage, significant differences were observed ($p < 0.001$). A greater proportion of women reported an unlikely use of Botox (20.8%) in their late adulthood compared to those indicating a likelihood of use (1.9%). Conversely, the vast majority of women likely to use Botox during their young years in life (98.1%), compared to 79.2% among unlikely users.

Knowledge of someone who had used Botox was also significantly associated with likelihood of use ($p < 0.001$). Among women unlikely to use Botox, 63.0% reported not knowing someone who had used Botox, whereas among women likely to use Botox, 64.2% reported knowing someone who had. No statistically significant differences were found across social media usage categories ($p = 0.432$). In both groups, most women fell into the medium social media usage category, with smaller proportions categorized as low or high users.

Table 2: Descriptive Statistics. Bivariate Associations with Likelihood of Preventive Botox Use (Unlikely Use and Likely Use)

Variable	Unlikely Use 125 (64.1%)	Likely Use 70 (35.9%)	Total 195 (100.0%)	t-Test
Age	19.784 (1.248)	20.343 (1.141)	19.985(1.237)	0.002
Life Stage				
Late adulthood	17 (17.7%)	2 (3.0%)	19 (11.7%)	0.004
Young people	79 (82.3%)	65 (97.0%)	144 (88.3%)	
Know Someone				
No	71 (56.8%)	26 (37.1%)	97 (49.7%)	0.008
Yes	54 (43.2%)	44 (62.9%)	98 (50.3%)	
Social Media Usage Category				
Low	8 (6.4%)	1 (1.4%)	9 (4.6%)	0.220
Medium	98 (78.4%)	54 (78.3%)	152 (78.4%)	
High	19 (15.2%)	14 (20.3%)	33 (17.0%)	

Mean (Standard deviation): p-value from a pooled t-test.

Frequency (Percent): p-value from Pearson test.

Table 2 presents the bivariate associations between key socio-demographic and behavioral variables and the likelihood of preventive Botox use among women. The dependent variable was stratified into two categories: Unlikely use and Likelihood of use. Age is significantly associated with the likelihood of preventive Botox use ($p = 0.002$). Women who expressed a likelihood of using preventive Botox were slightly older ($M = 20.34$, $SD = 1.14$) than those who were unlikely to use it ($M = 19.78$, $SD = 1.25$). While the mean age difference is modest, the statistical significance suggests that even within a relatively young sample, increasing age may correspond with greater openness to preventive cosmetic interventions.

Life stage was also significantly associated with Botox use intentions ($p = 0.004$). Among women who were likely to consider usage of preventive Botox, 97.0% indicated using the intervention when they are young, while only 3.0% indicate using the preventive Botox intervention in their in late adulthood. In contrast, 82.3% of respondents that were unlikely to use Botox indicated they would use it young, and 17.7% indicated intentions of using it in late adulthood. These findings imply that college aged women are more interested in Botox use before the age of 50 among those expressing an intention to use Botox preventively.

Social influence appears to play a critical role. Knowing someone who has had Botox was significantly associated with the likelihood of preventive use ($p = 0.008$). A greater proportion of women who reported likely use (62.9%) indicated knowing someone who had undergone Botox treatment, compared to 43.2% among those who were unlikely to use it. This suggests that familiarity with Botox procedures through social networks influences individual openness to cosmetic enhancement. Intuitively, this can be attributed to some of these college women's association/affiliation with a sorority or other closely knitted friendship groups that are much invested in beauty norms. For instance, in a study involving a random sample of undergraduates in the United States, Adams, Behrens, Gann and Schoen (2017) found significant impact of traditional feminine gender role norms on self-objectification, body image, and feedback regarding physical appearance for sorority and non-sorority undergraduate women.

In contrast, no statistically significant association was found between social media usage category and the likelihood of preventive Botox use ($p = 0.220$). Both likely and unlikely users were similarly distributed across low, medium, and high social media usage groups, with the majority falling into the medium usage category (78.3% and 78.4%, respectively). Although a slightly higher proportion of likely users reported high social media use (20.3% vs. 15.2%), this

difference did not reach statistical significance. The lack of a statistically significant association may be due to the similar distribution of social media usage levels between the two groups, which limits detectable differences. Additionally, the sample size within the low and high usage categories was relatively small, reducing statistical power. Lastly, media exposure alone may not directly shape preventive Botox intentions without the influence of more targeted cosmetic content or peer endorsement.

Overall, the comparative findings highlight that while life stage and peer influence consistently predict both general and preventive Botox intentions, age of intended use plays a more salient role in the context of prevention, and social media usage remains an insignificant factor in both cases. These patterns underscore the importance of differentiating between motivations for cosmetic procedures that are framed as reactive (general use) versus proactive (preventive use), and they suggest that peer networks and generational positioning are more consequential than media consumption in shaping young women's decisions about Botox.

Analytical Estimations

This study employed a two-step analytical approach to examine the factors associated with women's openness to cosmetic interventions. The analysis focused on two binary dependent variables: (1) likelihood of Botox use and (2) likelihood of preventive Botox use. In the first stage, bivariate analyses were conducted to explore the relationships between each dependent variable and a set of key independent variables, including age, life stage, knowledge of someone who has used Botox, and social media usage. These analyses provided an initial assessment of patterns and group differences using chi-square tests for categorical variables and pooled t-tests for continuous variables.

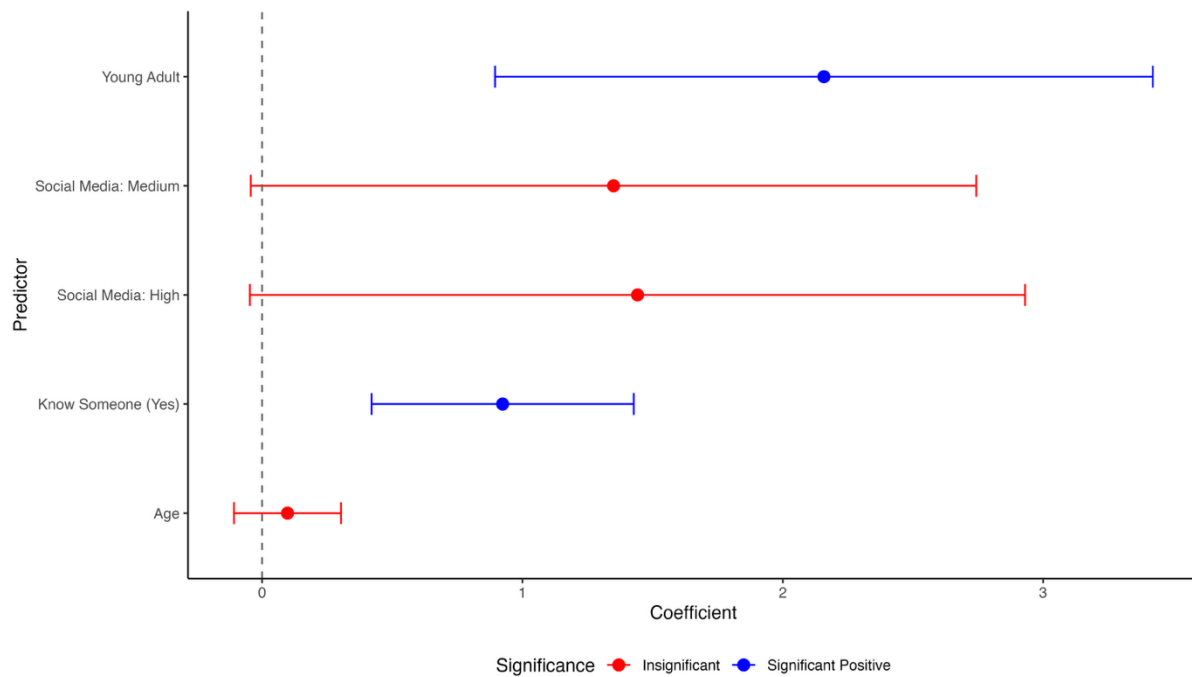
To confirm and adjust for potential confounding factors, the second stage involved estimating logistic regression models, appropriate given the binary nature of the dependent variables. These multivariate models allowed for the simultaneous evaluation of the net effects of each independent variable on the likelihood of both general and preventive Botox use, providing a more robust understanding of the predictors while controlling for covariates.

Results

The estimations, two models were specified. Model 1 served as the baseline model with no independent variables and indicated no explanatory power (Pseudo $R^2 = 0.0000$), confirming that predictors are needed to explain variation in women's likelihood of considering Botox use. Model 2 introduced four predictors: age, life stage consideration, knowledge of someone who had used Botox, and social media usage. The overall fit of Model 2 was improved compared to Model 1, as reflected in a higher Pseudo R^2 value of 0.1153 and a lower log likelihood (-125.0612), suggesting that the inclusion of these predictors provides a better explanation of the likelihood of considering Botox use¹.

¹ See table 1A and 1B in appendix for thresholds in logistic regression models

Figure 3: Predictors of Women's Likelihood of Considering Botox Use



Predictors of Women's Likelihood of Considering Botox Use (Logistic Regression Coefficients)

Regarding individual predictors, life stage consideration was significantly associated with the likelihood of Botox use. Specifically, the odds of women who expressed the tendency to consider using Botox as young adults were 2.158 times significantly more likely to consider Botox compared to those interested in late adulthood ($b = 2.158$, $p < 0.001$). This suggests that perceptions formed as young adults are strongly associated with increased openness toward cosmetic procedures at younger ages. However, life stage consideration analysis was limited into two binary categories for the purpose of analysis in which the young adulthood category stretches to age 51. This binary distribution limits the data and does not recognize that most women begin Botox treatment in middle age. By including this middle age range into results, the analysis must be observed with some caution as the label "early adulthood" is somewhat a misrepresentation of the dataset. With that being said, earlier consideration of Botox use may reflect greater exposure to beauty norms during formative years, when societal pressures around

youthfulness and aesthetic enhancement are most pronounced. In young adulthood, cosmetic procedures such as Botox are often framed not merely as corrective measures but as preventive practices, contributing to the normalization of early intervention. Women who internalize these norms earlier may therefore exhibit greater openness toward cosmetic procedures, viewing them as proactive and routine aspects of self-care rather than responses to aging.

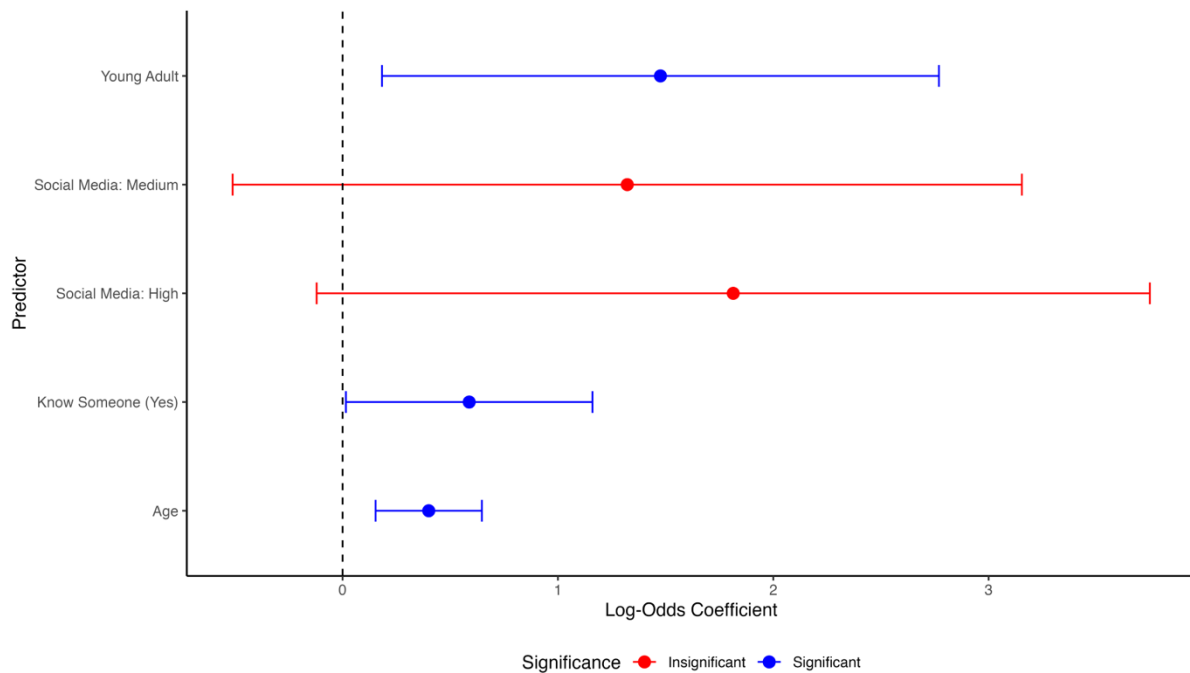
Similarly, women involved in this study that indicate knowing someone who had used Botox was positively associated with considering Botox use ($b = 0.924$, $p < 0.001$), indicating that social exposure to Botox use increases a woman's likelihood of considering it herself by 0.924 times. This finding suggests that familiarity with Botox through peers normalizes the practice and reduces psychological barriers, making cosmetic enhancement appear more acceptable and attainable. This may be attributed to the fact that, when women know someone personally who used Botox, it makes Botox seem normal, safe, and socially acceptable. Moreover, exposure to peers who engage in such practices may encourage women to align themselves with dominant aesthetic norms, highlighting how self-discovery and identity formation are shaped by broader social networks.

In contrast, age as a continuous variable was not a statistically significant predictor ($b = 0.0976$, $p > 0.05$), suggesting that slight age differences among the women sampled (ages 18–25) did not meaningfully impact their likelihood of considering Botox. The non-significant association between age and likelihood of considering Botox may be attributed to the narrow age range of respondents, the greater relevance of broader life stage transitions over specific chronological age, and the homogenizing effect of contemporary beauty norms among young adults.

Social media usage categories (medium and high compared to low usage) showed positive but statistically non-significant associations with the likelihood of Botox use. Neither medium nor high daily social media use reached conventional levels of significance, indicating that higher social media exposure was not strongly predictive of Botox consideration within this sample. The non-significant association between social media usage and Botox consideration may reflect that exposure alone is insufficient to shape cosmetic intentions. Despite previous studies having strong links to cosmetic surgery and social media exposure (Furnham & Levitas, 2012; Di Gesto et al., 2022; Căiță et al., 2023), this sample suggests that college-aged individuals are not as affected by social media exposure to Botox. Rather, content-specific engagement, individual critical resistance to beauty norms, and the already saturated social media environment among young women may weaken the predictive power of overall usage time.

The negative and statistically significant constant term in Model 2 suggests that, in the absence of key predictors—specifically among women who would consider Botox use only in late adulthood, who do not know someone who has used Botox, and who report low social media usage—the baseline likelihood of considering Botox is low. This finding reinforces the importance of social and life stage factors in shaping openness to cosmetic procedures. Without exposure to social influences or early beauty-related considerations, the inclination toward Botox use among young women remains minimal. Collectively, the results highlight that it is not merely individual characteristics such as age that predict Botox consideration, but rather the broader social context, including peer networks and age-related self-perceptions, that significantly inform these cosmetic decisions.

Figure 4: Predictors of Women's Likelihood of Considering Preventative Botox Use



Predictors of Women's Likelihood of Considering Preventive Botox Use (Logistic Regression Coefficients)

The results from the logistic regression model provide insight into how age, life stage, social exposure, and social media usage are associated with women's likelihood of using preventive Botox. Age emerged as a statistically significant predictor of preventive Botox intentions (OR = 1.49, $p = 0.008$). Holding all other variables constant, each one-year increase in age is associated with a 49.1% increase in the odds of reporting a likelihood to use preventive Botox. This finding aligns with the earlier bivariate result and reinforces that even within a narrowly defined youth cohort, slightly older women may be more open to preventive cosmetic interventions.

The effect of life stage also trended toward significance (OR = 4.37, $p = 0.060$), indicating that women categorized as willing to try Botox at an earlier life stage have over four times higher odds of reporting a likelihood of preventive Botox use compared to those willing to try Botox in late adulthood. Although this effect is marginally above conventional thresholds for

statistical significance, it is still noteworthy. This pattern reflects the descriptive finding that nearly all women who consider preventive Botox are willing to try Botox in the younger age category.

Knowing someone who has had Botox was positively associated with likelihood of use (OR = 1.80), with a p-value of 0.092. While not statistically significant at the 0.05 level, the direction and magnitude of the effect suggest that social exposure may increase openness to cosmetic procedures, supporting the idea that peer influence plays a non-negligible role in shaping such decisions.

Regarding social media usage, neither medium nor high usage categories showed statistically significant associations with preventive Botox intentions. Women with medium social media usage had 3.75 times the odds of likely Botox use compared to low users ($p = 0.235$), and those with high usage had 6.14 times the odds ($p = 0.123$). Although the odds ratios are relatively large, the wide confidence intervals and lack of statistical significance suggest that variability within usage categories and limited sample size may hinder detectability of these effects. The model's pseudo R-squared value of 0.1064 indicates modest explanatory power, and the model as a whole is statistically significant ($\chi^2 = 23.30$, $p = 0.0003$), suggesting that the included variables collectively improve model fit relative to the null model.

Conclusion

This study set out to examine the factors shaping young women's perceptions and openness toward Botox treatment and preventive Botox, with a specific focus on college students at the University of Oregon. Motivated by the growing normalization of cosmetic procedures among young adults—particularly women—the research sought to understand how life stage, social exposure, age, and social media engagement influence decisions to consider Botox as either a beauty-enhancing or preventive intervention.

The findings reveal that life stage consideration and peer influence are significant predictors of both general and preventive Botox use. Women in the study who contemplated both general and preventative Botox reported that they were substantially more likely to use it during young adulthood and were more likely to express openness toward its use, suggesting that internalization of beauty norms plays a critical role in shaping preventative cosmetic attitudes. Additionally, knowing someone who has undergone Botox significantly increased the odds of consideration, highlighting the power of social networks in normalizing aesthetic interventions. Age was a significant predictor only in the preventive Botox model, while social media usage did not show statistically significant associations in either model—indicating that general exposure alone may not drive cosmetic intentions.

In contemporary culture, the dominant image of female beauty—youthful, thin, toned, and wrinkle-free—is not only unattainable for most women but also impossible to maintain across a lifetime. College-aged women's interest in Botox is but a reflection of an attempt to maintain this ideal for as long as possible. Women's bodies and appearances are still treated as their most valuable assets, with greater social and economic rewards granted the closer they come to these narrow ideals (Zhang et al., 2024). Aging is seen as one of the greatest threats to

these ideal, and visible signs of aging such as wrinkles can deeply impact women's sense of identity and desirability. This makes aging a highly gendered experience, rooted in broader systems of inequality that devalue older women's bodies far more than men's. As Susan Sontag notes, there is a double standard in aging: men become distinguished, while women are considered "old" as soon as they are no longer visibly young (Berkowitz, 2017). As we can see from our data, women can feel like they are racing the clock; as young women are nearing 25, they are increasingly likely to consider Botox. This double standard produces real social and economic inequalities, affecting everything from self-perception to employment. To avoid these penalties, women are encouraged to participate in beauty work such as Botox as soon as possible to hide aging's most stigmatized signs. Based on our data, we can see this encouragement is leading to real interest in young women. Botox exemplifies the many feminized practices marketed to women that help them perform youthfulness and femininity in a culture where looking young is equated with being valuable (Gimlin, 2002).

Biomedicalization accentuates the scrutiny that women's bodies are under by medicalizing appearance and aging. As the boundaries of medical practice extend to include the enhancement of otherwise healthy bodies, young women become central subjects in a system that frames beauty as both attainable and necessary through clinical means. This shift reinforces societal pressures to conform to narrow standards of attractiveness, often under the guise of personal choice and empowerment. Symbolic interactionism illustrates how these unattainable beauty standards are being managed by young women at the University of Oregon. In this lens we see how bodies can be a subject that individuals are cultivating, experiencing, and negotiating. To take it a step further, within this dataset we can also see how the body is discussed and negotiated amongst peers. The negotiation and discussion of Botox as a remedy to

impossible beauty standards influences women to engage in Botox for themselves, and may also influence at what life stage they may consider it.

Utilizing a feminist framework, we can also see how this dataset highlights the sociocultural pressures that women face to uphold the “beauty myth”. Responses indicate a strong interest among college-aged women in both non-preventative and preventative use. This underscores the impact of mass-mediated and socially constructed beauty ideals which are then internalized and made one’s own. The consideration of Botox use among young women shows us that Dana Berkowitz is right. For college students in a postfeminist era, staying hot is what liberation looks like. Using a combined approach of these sociological frameworks, we can see the big picture of Botox use among University of Oregon students. Botox use, in the guise of a voluntary medical procedure, is reinforcing the persistent influence of hegemonic beauty norms and systemic inequalities that women internalize and make their own. Women’s choices surrounding Botox use are not entirely their own, but are instead shaped by pressures from dermatologists, peers, and society.

This study contributes to the limited but emerging body of work on cosmetic decision-making among young women, particularly in non-clinical, everyday contexts such as university settings. It emphasizes the need to move beyond age-based models and instead consider life stage, peer influence, and the socio-relational dynamics of aesthetic practices. Importantly, the study draws attention to how normative beauty pressures are internalized and acted upon even before visible signs of aging appear, especially through preventive cosmetic strategies.

However, this study faced some limitations. The sample was restricted to women from a single university, limiting the generalizability of findings across different educational, racial, or cultural contexts. Beauty ideals vary across racial and ethnic groups, and the kinds of beauty

work women engage in often reflect the norms of their specific communities. Social class plays a significant role in shaping beauty practices, as cultivating a particular appearance can signal status. While this limitation is a setback, we still have a general understanding of the demographics as the sample comes from a university community—specifically, the University of Oregon, where the population is predominantly white and upper-middle class. Furthermore, although this study focused primarily on women as they are the most abundant Botox users, future studies could explore men’s growing acceptance of Botox use. Within this same scope, while this study did not question sexuality, the intersection of gender, sexuality, and Botox use is an emerging body of knowledge. Additionally, the reliance on self-reported intentions may not fully capture future behavior or the nuanced motivations behind cosmetic choices. Future studies could expand this line of inquiry by employing larger and more diverse samples across multiple institutions or national contexts. Further limitations of the life stage consideration variable may be addressed in future studies where middle age is specified and compared to early adulthood Botox consideration and attitudes. Qualitative research would also be valuable in uncovering the deeper meanings, emotions, and negotiations that underlie young women’s decisions around Botox and other cosmetic procedures, and how those decisions influence one another. Moreover, further exploration into how targeted digital content, influencer culture, and algorithmic exposure shape cosmetic desires would enrich our understanding of beauty consumption in the age of social media.

Appendix

Table 1A: Logistic Regression Predicting Women's Likelihood of Considering Botox Use

Variable	(model 1) Likelihood of use	(model 2) Likelihood of use
Age		0.0976 (0.125)
Life stage Consideration (reference category: late adulthood)		
Young Adult		2.158*** (0.768)
Know Someone (reference Category: No)		
Yes		0.924*** (0.306)
Social Media Usage (reference Category: Low)		
Medium		1.350 (0.847)
High		1.442 (0.905)
Constant	-0.131 (0.125)	-5.747** (2.711)
Observations	259	204
Log likelihood	-178.9668	-125.0612
Pseudo R2	0.0000	0.1153

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 1B: Logistic Regression Predicting Women's Likelihood of Considering Preventive Botox Use

Variable	(model 1) Likelihood of use	(model 2) Likelihood of use
Age		0.400*** (0.150)
Life stage Consideration (reference category: late adulthood)		
Young Adult		1.476* (0.786)
Know Someone (reference Category: No)		
Yes		0.588* (0.348)
Know Someone (reference Category: No)		
Medium		1.322 (1.114)
High		1.814 (1.176)
Constant	-0.580*** (0.149)	-11.41*** (3.244)
Observations	195	162

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 1C: Variable Description- Survey Instrument

Title: College Students and Botox Use

1. By checking "I agree" and participating in the study, you are agreeing to be involved in research that will be used for educational purposes. This is completely voluntary. You will only be asked to fill out the questions of this survey form. This survey is asking questions concerning cosmetic injectables, specifically Botulinum Toxin A. The survey should take no longer than 5 minutes. Please reach out to Andi Jo Suttie (831)731-0079 with any questions or concerns. By clicking this box you are also confirming that you are 18 years of age or older.

☐ I agree ☐ I disagree

*If "I disagree" response, survey is ended

2. This survey is completely anonymous and will be used for undergraduate thesis research. It can not be traced back to you in any way.

☐ Great!

3. Are you a student at the University of Oregon

☐ Yes ☐ No

*If "No" response, survey is ended

4. What is your age?

☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ Other (please specify)

5. Gender: How do you identify?

- ☐Man ☐Non-binary ☐Woman ☐Prefer to self-describe, below
 *If “Man” response, survey is ended
6. What is your major? (Select all majors you are currently enrolled in)
☐Business Administration ☐Accounting ☐Psychology ☐Human Physiology ☐Multidisciplinary Science ☐Neuroscience ☐Mathematics ☐Physics ☐History ☐Journalism ☐Political Science ☐Biology ☐Biochemistry ☐Advertising ☐General Social Science ☐Earth Sciences ☐Art ☐Product Design ☐Architecture ☐Educational Foundations ☐Family and Human Services ☐Economics ☐English ☐Environmental Science ☐Environmental Studies ☐Public Relations ☐Computer Science ☐Sociology ☐Global Studies ☐Planning, Public Policy and Management ☐Chemistry ☐Anthropology ☐Women’s, Gender, and Sexuality Studies ☐Other (please specify)
7. What groups/clubs are you part of on campus?
☐Sorority (AXO, APhi, XO, Pi Phi, DG, GPhi, Theta, KKG etc.) ☐UO Athletic Team (WBB, softball, LAX, etc.) ☐Club Sports ☐Intramural Sports ☐ASUO ☐Align Magazine ☐Alpine Ski ☐Asklepiads Pre-Medical Society ☐Aspiring Educators ☐Association of Pre-Physician Assistants ☐Black Law Students Association ☐Black Student Union ☐CHAARG ☐UO Climbing ☐Esports ☐MEDLIFE ☐Operation Smile ☐SHAC (Student Health Advisory Committee) ☐Women in Business ☐Women in Computer Science ☐Women in Creative Industries ☐Women in Economics ☐Women in Law ☐Women in Pre-Health Science ☐Women in Psychology ☐Women in STEM ☐Women in Sports Communication ☐Women’s Gender and Sexuality Studies Interest Collective ☐Womxn of Color Coalition ☐Other (please specify) ☐I am not a part of any groups or clubs
8. Rank how likely it is that you would get Botox in your lifetime
☐Very Unlikely ☐Unlikely ☐Neutral ☐Likely ☐Very Likely
9. Have you ever gotten Botox?
☐Yes ☐No
 *If “No” response, answer question #13
10. What age did you get Botox for the first time?
☐16 ☐17 ☐18 ☐19 ☐20 ☐21 ☐22 ☐23 ☐24 ☐25 ☐Other (please specify)
11. Select the region(s) of the face you have received Botox treatment
☐Between eyebrows ☐Forehead ☐Upper lip (lip flip) ☐Crow’s feet ☐Under the eyes (tear trough) ☐Chin ☐Jawline & Neck ☐Other (please specify)
12. Was your treatment medical or cosmetic?
☐Medical ☐Cosmetic
 *Move to question #15
13. What age would you consider Botox use, if ever?
☐18-25 ☐26-30 ☐31-40 ☐41-50 ☐51-65 ☐66+ ☐I would never consider Botox treatment
 *If “I would never consider Botox treatment” response, answer question #14
14. Are you against Botox use entirely?
☐Yes ☐No ☐I’m not sure, or need more information about it
15. Do you know someone else who has gotten Botox in college?
☐Yes ☐No
16. Have you ever heard of preventative Botox or “Baby Botox”?
☐Yes ☐No
 *If “No” response, answer question #19
17. Rank how likely you are to get preventative Botox?
☐Very Unlikely ☐Unlikely ☐Neutral ☐Likely ☐Very Likely ☐I have already had Botox treatment
18. What age would you start regular preventative Botox treatments?
☐I have already started preventative Botox ☐18-25 ☐26-30 ☐31-40 ☐I am not interested in getting preventative Botox
19. How many hours on average do you spend on social media daily?
☐Less than 1 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10+

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