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Plastic surgery on Instagram: where do we stand on racial diversity and inclusion?

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Highlights:

- White plastic surgery patients are overrepresented on Instagram compared to reported demographics of plastic surgery patients, while Asian and Hispanic patients are underrepresented.
- Black patients had significantly more views, likes, and comments than White patients in the Southeast US when controlling for other covariates.
- Race was not a significant predictor of engagement per follower.
- There is very little patient-surgeon racial concordance on plastic surgery Instagram for non-White patients, which may affect engagement patterns.

Abstract

Plastic surgeons use Instagram to expand their practices to accommodate growing interest in plastic surgery. Thus, it is important to assess whether the depiction of plastic surgery on Instagram is inclusive. This study aimed to analyze the racial representation of posts by United States (US) board-certified plastic surgeons and its impact on engagement with the content. Instagram accounts of US board-certified plastic surgeons active from February 1, 2023 – April 12, 2023, were randomly chosen. For procedural posts, the engagement and race of both the patient depicted and the surgeon were collected. ANCOVA was performed to explore whether patient race influenced engagement. Additionally, patient-surgeon racial concordance was investigated. 2,157 posts from 120 accounts were analyzed. White patients were overrepresented compared to the reported demographics of plastic surgery patients. Asian and Hispanic patients were underrepresented. Posts featuring Black patients in our sample had significantly more views, likes, and comments than White patients in the Southeast when controlling for other covariates. However, race was not a significant predictor of engagement per follower. Hispanic plastic surgeons were underrepresented compared to the demographics of practicing plastic surgeons. 88 of 120 accounts had > 50% patient-surgeon racial concordance. 23 had 100% concordance, all featuring White patients/surgeons. The depiction of plastic surgery on Instagram of patients and surgeons can become more racially inclusive. This will likely bring more engagement to this content, resulting in the growth of plastic surgery as a field and increased perceived accessibility to plastic surgery.

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1. Introduction

Patients are increasingly turning to social media to educate themselves about plastic surgery, particularly as it becomes more popular on the Internet (Shauly et al., 2023; Shiah et al., 2023). Furthermore, aesthetic surgery has gained significant popularity, especially among women. According to the International Society of Aesthetic Plastic Surgery, the number of aesthetic surgery procedures has risen each year, with nearly 30 million aesthetic procedures performed worldwide on female patients in 2023 (Surgery, 2024). Many factors likely contribute to these trends, but modern Internet culture particularly seems to create unrealistic ideals of feminine beauty, which may entice more patients to consider plastic surgery (Furnham & Levitas, 2012; Kaplan, 2021). Additionally, the growing use of technology for interaction means our faces appear on screens more often, contributing to the widely discussed "Zoom boom" phenomenon after the Coronavirus-19 pandemic, which has led many patients to seek facial plastic surgery (Chen et al., 2021; Padley & Di Pace, 2022). Previous studies have even indicated that patients' use of social media can persuade them to pursue plastic surgery; this tendency is especially pronounced among younger female patients (Arab et al., 2019; Kinney et al., 2023; Obeid et al., 2022). Plastic surgeons, particularly those in private practice, are capitalizing on the trend of increased social media use to grow their followings and expand their practices to meet the rising interest in aesthetic plastic surgery (Economides et al., 2019; Society, 2023). Regardless of plastic surgeons' personal views on this trend, social media is set to become a vital avenue for surgeons to engage with both their patients and the general public. Therefore, it is essential to evaluate whether plastic surgery is portrayed on social media as accessible and inclusive for patients from all backgrounds. This is especially important as plastic surgery has historically lacked racial diversity in multiple aspects ranging from patient care to training (Alotaibi, 2021; Moss et al., 2023; Silvestre et al., 2016) (Smith et al., 2020; Tolson et al., 2023). Over two-thirds of aesthetic surgery patients in the United States (US) were reported to be White as recently as 2020, indicating White patients are overrepresented compared to the US Census (Surgeons, 2021) (Bureau, 2023). There are likely multiple barriers to plastic surgery, with previous studies highlighting the multitude of racial and financial healthcare disparities that exist in plastic surgery (Khetpal et al., 2021; Morris et al., 2021; Restrepo et al., 2019). These pre-existing barriers further highlight the importance of characterizing who is being depicted as performing and undergoing plastic surgery.

Instagram (Menlo Park, CA) is becoming more popular for sharing and engaging with posts about plastic surgery, especially among younger patients (Shauly et al., 2023). In plastic surgery specifically, one can imagine it would be important for prospective patients to see patients who look like themselves undergoing plastic surgery with positive results on an individual surgeon's Instagram page. They can expect the surgeon to achieve the specific aesthetic outcomes they are interested in or may have expertise in the cultural nuances of beauty each patient desires. Furthermore, previous studies demonstrate that physicians' social media posts include higher-quality information, which may have a greater influence on public perception of plastic surgery (Gray et al., 2020).

Previous work has utilized the Fitzpatrick scale to analyze racial representation of plastic surgery on patient-centered social media platforms as well as plastic surgery journals/associations Instagram accounts, ultimately showing that White patients are overrepresented compared to US racial demographics (Tirrell et al., 2021) (Ullrich et al., 2022). Social media posts specifically about breast reconstruction and gender-affirming surgery depict a similar picture (Hassan et al., 2021) (Robinson et al., 2023). However, the Fitzpatrick scale is an analysis of skin tone and should not necessarily be used as a proxy for race because all races may include the entire spectrum of the Fitzpatrick scale (Khosla et al., 2021; Ware et al., 2020). Although race is widely acknowledged as a social construct, patients often use racial categorizations to form opinions about how well they are represented in healthcare settings (Moore et al., 2023; Sim et al., 2021). Thus, our research question asked what the racial distribution of plastic surgery patients was on Instagram in posts by US board-certified plastic surgeons. In this study, we aim to assess the current state of racial representation of patients depicted on Instagram posts. Secondarily, we aim to assess engagement with these posts and potential trends of patient-surgeon racial concordance.

2. Methods

2.1. Post-Selection and Analysis

The methodology employed to randomly select active accounts of board-certified plastic surgeons who are ASPS members was the same as our group has previously published (Lin et al., 2024). In brief, plastic surgeons listed in the ASPS Connect Database were randomly selected and then included for analysis if they

had an active Instagram page where at least one procedural post per week was posted from February 1, 2023 – April 12, 2023. The study period was chosen as ten weeks from the beginning of the project to ensure enough time for users to engage with the posts and that total engagement would likely be saturated. Figure 1 details the process of account screening and identification. To ensure a broad representation of types of Instagram accounts in the sample in terms of popularity and traffic, we established three categories of account following: High (>10,000 followers), Medium (2000-10,000 followers), and Low (<2000 followers). The senior author's anecdotal experience determined this and only reflects our attempts to ensure the experimental design was reproducible and feasible. Data collection was from July 1, 2023 – to October 8, 2023, to allow adequate time for users to engage with those posts, which included both Reels and traditional photo/video posts. Reels are short videos that are less than 90 seconds which Instagram users can create and edit in Instagram's app (Reels, 2024).

Engagement statistics and race of both patient and surgeon were collected for all procedural posts during the defined period. Notably, Reels were the only post type for which "views" were collected, as the view count of a post is only visible for Reel posts (Reels, 2024). Race was rated by two independent raters (blinded to each other's rating) using racial categories defined by ASPS: Caucasian (White), Hispanic, African American (Black), or Asian (Surgeons, 2021). In cases of disagreement, a third rater was the tiebreaker. If there was still no consensus, race was considered "Ambiguous". Posts featuring multiple patients of various races were marked "Multiple" if raters felt more than one race was represented.

Exclusion criteria were accounts featuring posts of procedures done by multiple plastic surgeons, procedures done by providers other than the plastic surgeon who owns the account, advertisement posts, and posts where likes, comments, and/or views were not displayed. The last scenario occurs when an account user hides the engagement amount from public view, which Instagram implemented in an attempt to help users focus on content rather than engagement (Meta, 2021).

2.2. Statistical Analysis

Following data collection of engagement variables, engagement variables were normalized relative to account, followed by calculating the ratio of views, likes, and comments to number of followers (respectively). ANCOVA was performed with both raw engagement and engagement/follower ratio to understand whether patient race affects engagement with posts. Covariates were: account following, procedure type, patient gender, aesthetic vs reconstructive procedure, surgical vs non-surgical procedure, account region, media type of post (i.e. Photo vs Reel, etc.), and whether the post was sensitive.

In addition, it was also of interest to understand the extent of patient-surgeon concordance and whether this concordance affects engagement with posts. This was studied by performing multivariate regression on accounts with patient-surgeon racial concordance greater than 50% (defined as 50% of the account's posts featured patients of the same race as the surgeon). Dixon's outlier test was used to determine outliers in the data. Odds ratios were calculated to compare patient race with procedure type to evaluate whether particular types of patients were more likely to be featured in posts of particular procedures. Krippendorff's alpha was calculated to evaluate inter-rater reliability for race classification of both surgeons and patients. Where applicable, an alpha of 0.05 was set for statistical significance. All statistical analysis was done via Python version 3.12.2 (Wilmington, Delaware).

3. Results

2,157 posts from 120 surgeon accounts were analyzed (Table 1, Table 2). There was fair rater agreement for patient race (Krippendorff's alpha = 0.65) and strong agreement for surgeon race (Krippendorff's alpha = 0.83). Figure 2 details the racial breakdown of patients in analyzed posts. White patients comprised most of the sample (77.9%) but were less featured in the Southeast than in other regions ($p = 0.007$). Black patients were concentrated mostly in the Southeast (29.7% of posts), while Asian patients were concentrated in the Northeast and the West; these trends aligned with US census-reported demographics (Bureau, 2023). Patient race was deemed Ambiguous in only 1.4% of posts.

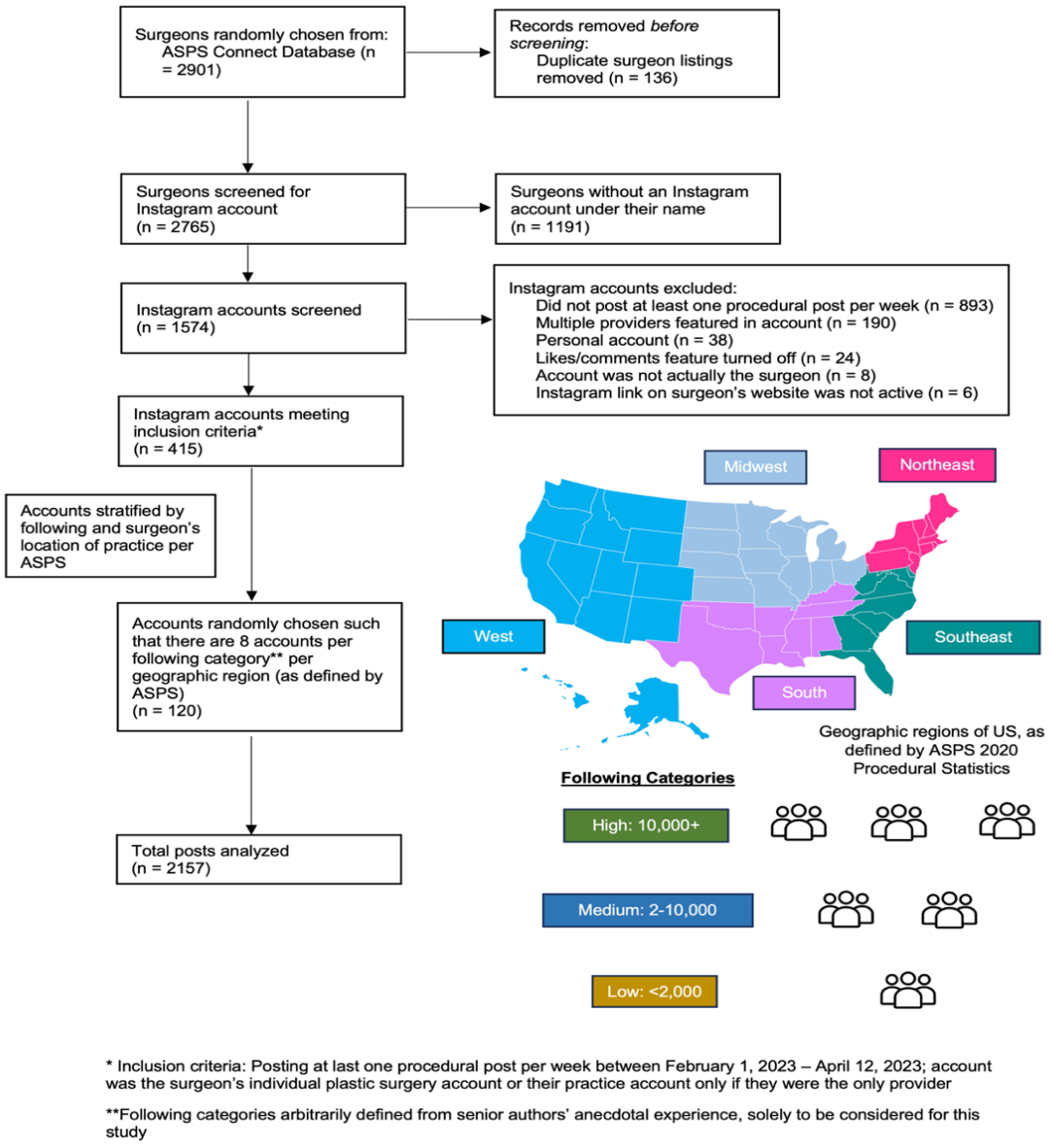

Figure 1. The screening process of board-certified plastic surgeon Instagram accounts. *Inclusion criteria: Posting at least one procedural post per week between February 1, 2023 – April 12, 2023; the account was the surgeon's individual plastic surgery account or their practice account only if they were the only provider. **Following categories arbitrarily defined from senior authors' anecdotal experience, solely to be considered for this study.

Table 1. Racial Demographics of Patients Depicted in Instagram Posts Analyzed

Region	White	Black	Hispanic	Asian	Ambiguous	Multiple	TOTAL
Northeast	377	24	39	12	9	6	467
Midwest	371	34	28	2	7	0	442
Southeast	264	132	42	1	4	1	444
South	297	33	31	0	2	3	366
West	371	14	31	10	9	3	438
TOTAL	1680 (77.9%)	237 (11.0%)	171 (7.9%)	25 (1.2%)	31 (1.4%)	13 (0.6%)	2157

Table 2. Racial Demographics of Plastic Surgeons Analyzed

	White			Black			Hispanic			Asian			TOTAL
Region	**High**	**Medium**	**Low**	**High**	**Medium**	**Low**	**High**	**Medium**	**Low**	**High**	**Medium**	**Low**	
Northeast	4	6	7	1	0	0	0	0	0	3	2	1	24
Midwest	6	6	7	1	1	0	0	0	0	1	1	1	24
Southeast	3	3	8	4	0	0	0	1	0	1	4	0	24
South	6	6	8	0	0	0	0	1	0	2	1	0	24
West	6	6	8	0	0	0	1	0	0	1	2	0	24
TOTAL	**25**	**27**	**38**	**6**	**1**	**0**	**1**	**2**	**0**	**8**	**10**	**2**	**120**

High: Greater than 10,000 followers, Medium: 2-10,000, Low: Less than 2,000

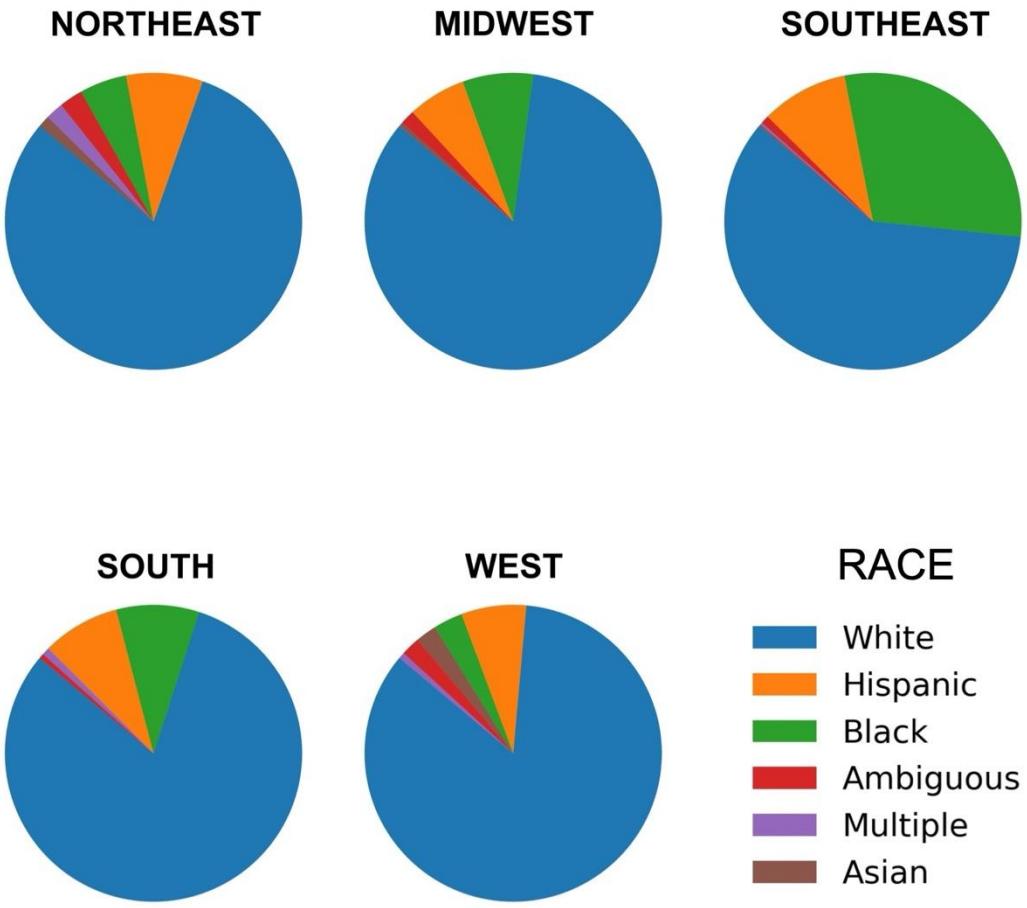

Figure 2. Racial breakdown of patients depicted in analyzed Instagram posts by US region. Regions defined by the American Society of Plastic Surgeons, ASPS.

Median number of views was highest for posts featuring Black patients, but median views per follower was highest for posts featuring White patients (**Figure 3a**). Median number of likes was highest for posts featuring Black patients, and the same was found for median likes per follower (**Figure 3b**). Median number of comments was highest for posts featuring Black patients, but median comments per follower was highest for posts featuring Multiple races (**Figure 3c**).

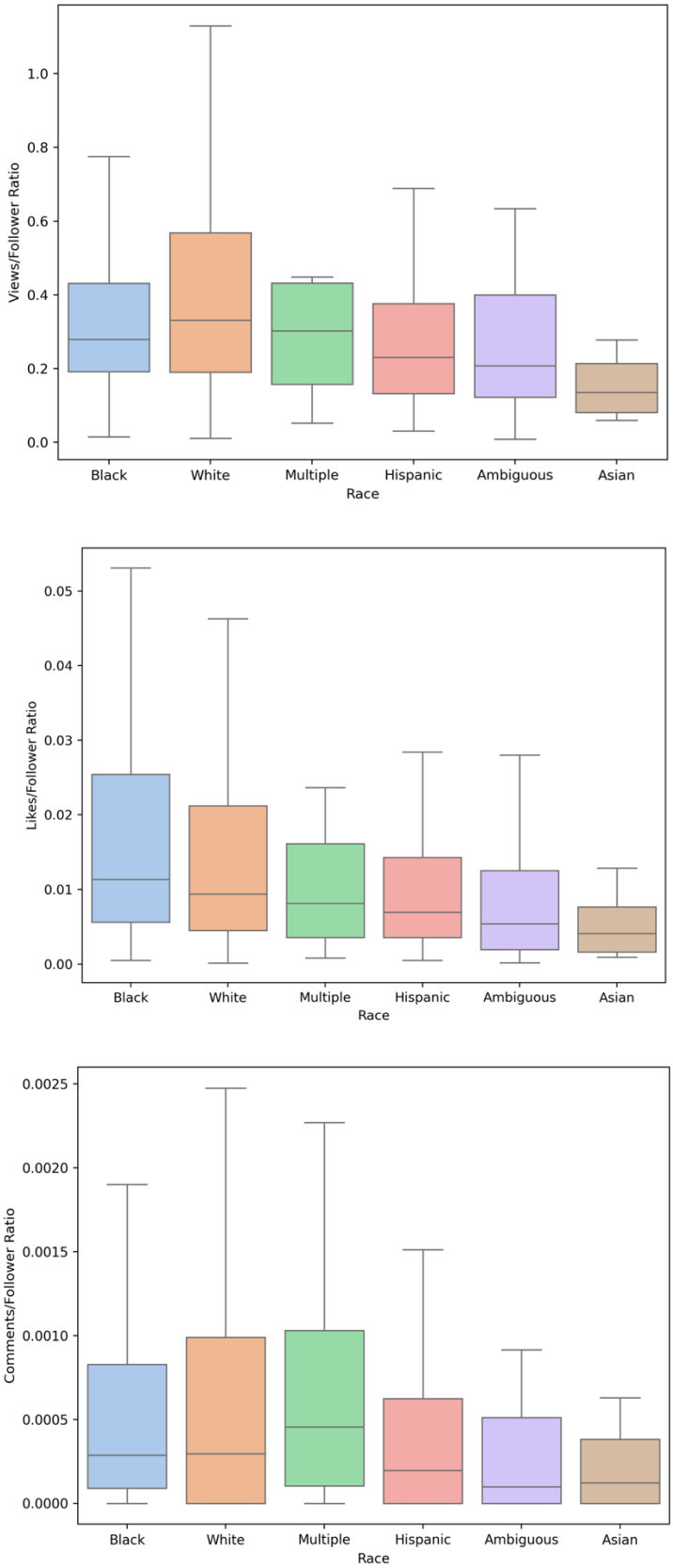

Figure 3. Views (3a), Likes (3b), and Comments (3c) per follower by racial group of patient depicted in Instagram posts. Views are only applicable to Instagram Reels. Outliers outside 1.5 times the interquartile range were excluded for graphical purposes but this did not affect the median or quartile calculations.

ANCOVA analysis indicated patient race, when considering all other covariates, affected the raw number of likes and comments a post received but not views (**Table 3**). Given the anecdotal understanding of how region affects patient demographics, we performed an interaction analysis with White as the reference race as White patients are the majority in every region. Posts featuring Black patients (p=0.03) or patients whose race was ambiguous (p=0.02) were associated with more views than those featuring White patients in the Southeast. Black patient posts tended to have more likes (p=0.01) and comments (p<0.01) than those featuring White patients in the Southeast. Posts featuring patients of multiple races were likely to have more comments than those featuring White patients in the West (p<0.01).

Table 3. ANCOVA analysis variable effect on raw engagement statistics.

Engagement	Variable	p-value
Views (R^2=0.182)	Race	0.45
	Gender	0.83
	Sensitive	0.02
	Procedure	0.14
	Region	<0.01
	Surgical	0.05
	Aesthetic	0.76
	Followers	<0.01
Likes (R^2=0.281)	Race	0.01
	Gender	0.29
	Sensitive	0.68
	Procedure	<0.01
	Region	<0.01
	Surgical	0.02
	Aesthetic	0.84
	Followers	<0.01
Comments (R^2=0.358)	Race	<0.01
	Gender	0.50
	Sensitive	0.14
	Procedure	0.01
	Region	<0.01
	Surgical	0.03
	Aesthetic	0.42
	Followers	<0.01

Race: classified by racial groups defined by US Census Bureau; Gender: classified as male, female, or unknown; Sensitive: whether a post is deemed "sensitive" by Instagram; Procedure: classified as Body, Breast, Face, Multiple; Surgical: whether a procedure is surgical or not; Aesthetic: classified as an aesthetic or reconstructive procedure (or both); Followers: continuous variable; p-values were determined statistically significant at p<0.05.

A separate ANCOVA analysis indicated that patient race did not affect number of views, likes, or comments per follower when considering all other covariates. Notably, there were no significant variables in ANCOVA analysis for views and likes per follower. Posts featuring Multiple procedures (p=0.01), from accounts in the South (p=0.01) and West (p=0.04), and from accounts with a lower number of followers (p=0.01) were all associated with a higher number of comments per follower. However, the coefficients were not practically significant (all less than or equal to 0.001 comments per follower, or less than or equal to one Comment increase per 1000 followers). Figure 4 shows adjusted means by race of views per 1000 followers (Figure 4a), likes per 1000 followers (Figure 4b), and comments per 1000 followers (Figure 4c) after ANCOVA; there were no statistically significant differences in means.

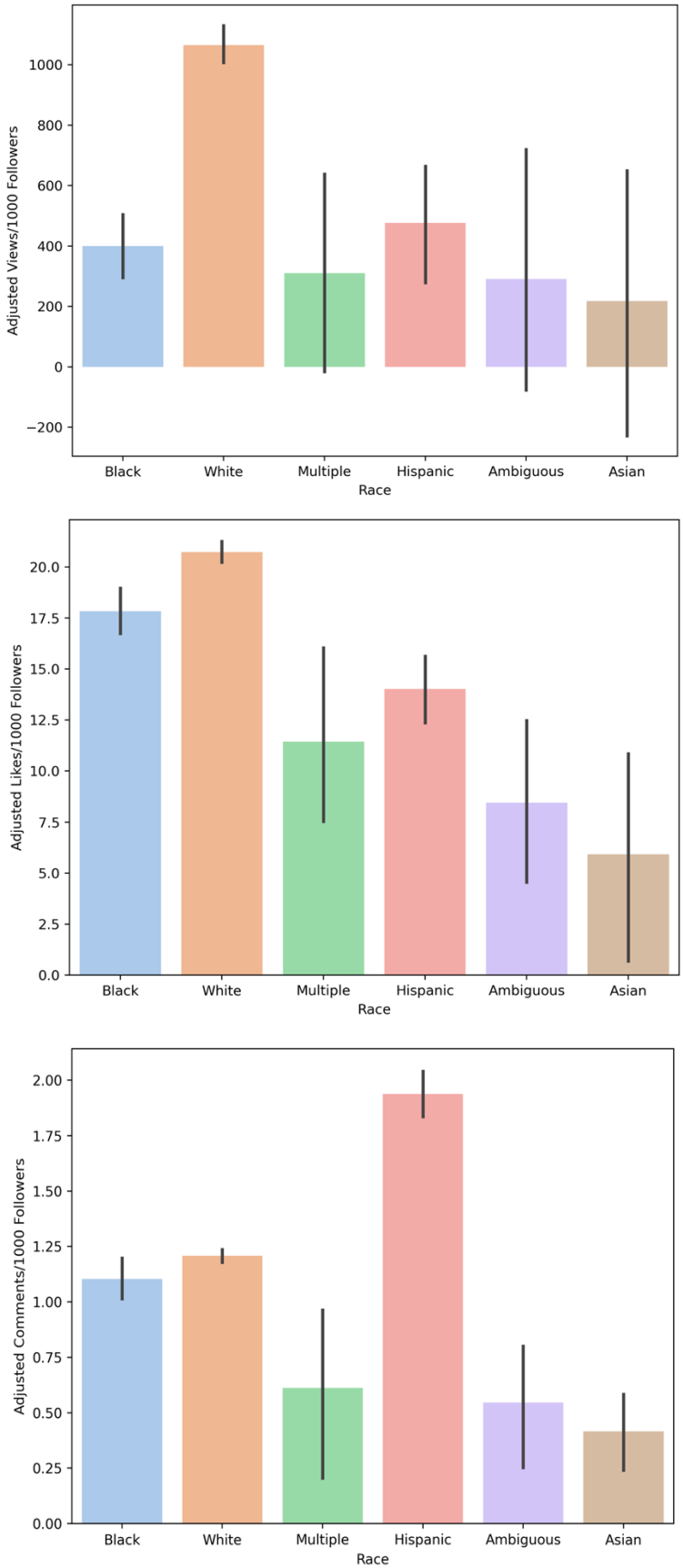

Figure 4. Adjusted means of Views (4a), Likes (4b), and Comments (4c) per 1000 followers by racial group of patient depicted in Instagram posts after ANCOVA. Error bar plotted is 95% confidence interval. There were no statistical differences between means.

A manual count showed that 88 of 120 accounts had greater than 50% patient-surgeon racial concordance. 23 (19.2%) had 100% concordance, all featuring White patients/surgeons. Only seven of the 88 accounts with patient-surgeon racial concordance had significantly more engagement for posts depicting a specific patient race (determined by multivariate regression). However, this effect was not isolated to only racially concordant posts. In addition, the specific engagement variable that was affected differed amongst the accounts. White surgeon accounts had the highest patient-surgeon racial concordance, while Asian surgeon accounts had the least (Figure 5). Particularly, 75% (15 of 20) of Asian surgeon accounts had 0% patient-surgeon racial concordance, and the highest amount of patient-surgeon racial concordance for a single Asian surgeon account was only 16%.

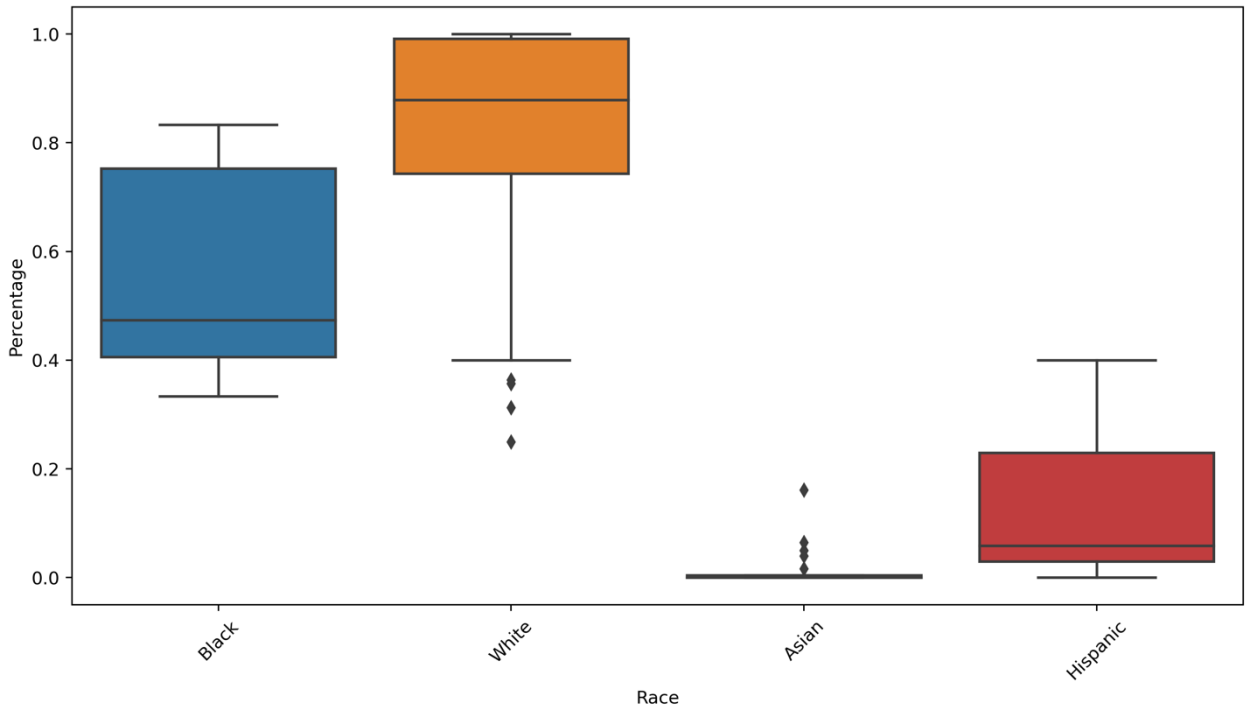

Figure 5. Percentage of patient-surgeon racial concordance in analyzed Instagram posts.

Notable odds ratios (95% confidence interval) comparing Patient Race and Procedure Type (Table 4, Figure 6) indicate that patients were likely to be non-White in Body procedures compared to in other procedures. Black patients were more likely to be featured in Body procedures and less in Face procedures. Hispanic patients were less featured in Breast procedures. Asian patients were more likely to be featured in Face procedures. In addition, 0 Asian patients were depicted as having procedures in multiple areas of the body. Posts depicting multiple patients of various races were likely to be Face procedures.

Table 4. Odds Ratio of Patient Race Based on Procedure Depicted in Post

Procedure	Face	Body	Breast	Multiple
Race				
White	1.32 (1.05, 1.67)	0.56 (0.45, 0.69)	1.4 (1.1, 1.77)	1.14 (0.81, 1.61)
Black	0.23 (0.15, 0.36)	2.76 (2.1, 3.63)	0.88 (0.65, 1.2)	1.07 (0.69, 1.65)
Hispanic	1.48 (1.07, 2.05)	1.14 (0.82, 1.59)	0.56 (0.37, 0.83)	0.81 (0.48, 1.38)
Asian	4.17 (1.63, 10.64)	0.4 (0.12, 1.38)	0.67 (0.22, 2.03)	0
Ambiguous	1.26 (0.6, 2.63)	0.84 (0.39, 1.82)	1.33 (0.64, 2.77)	0.28 (0.04, 2.03)
Multiple	3.11 (1.15, 8.39)	0.49 (0.14, 1.74)	0.36 (0.08, 1.58)	1.23 (0.28, 5.47)

Calculated with 95% Confidence Interval.

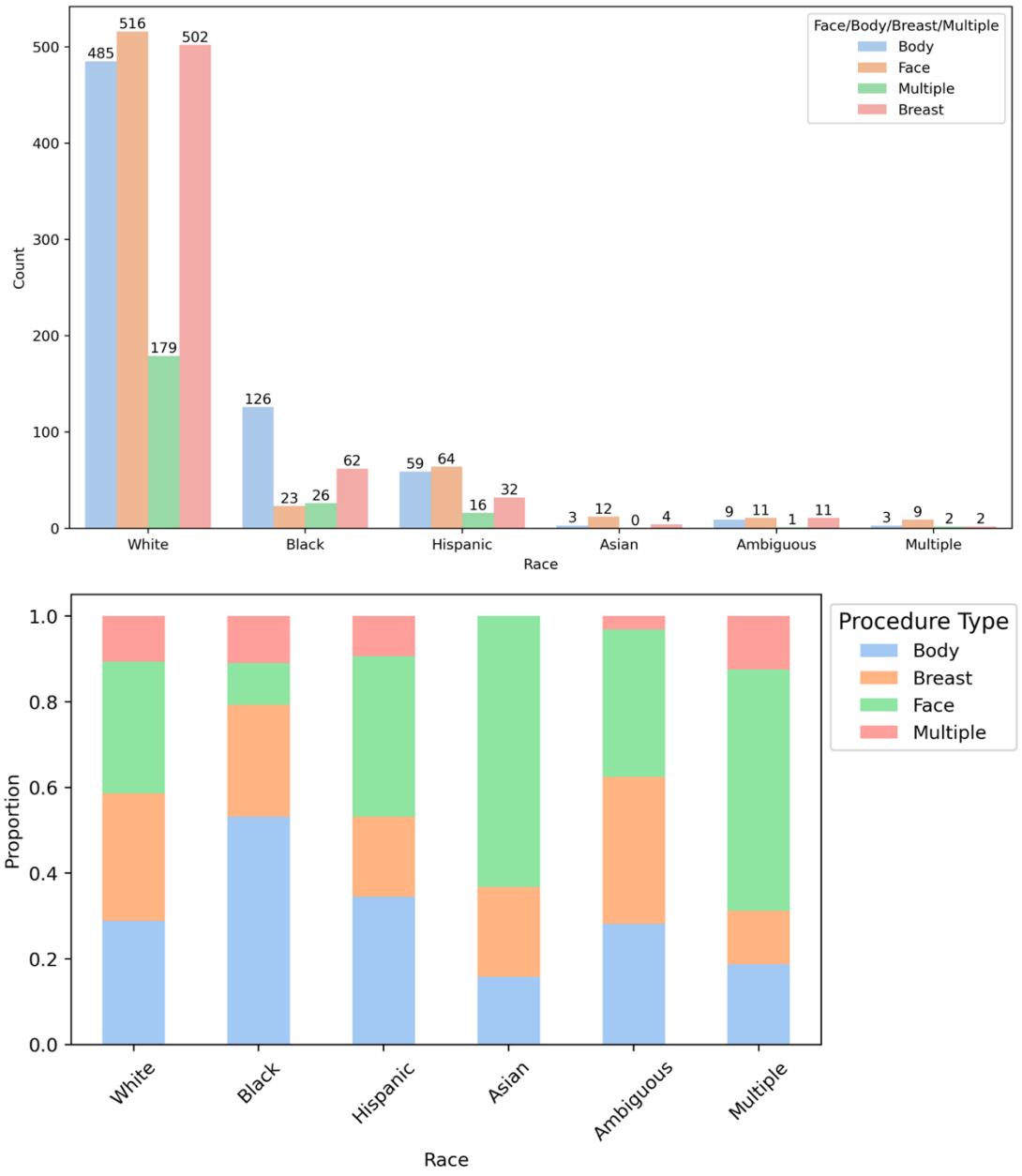

Figure 6. Numerical count (6a) and proportion (6b) of the racial breakdown of patients depicted in various procedure types in analyzed Instagram posts.

4. Discussion

This cross-sectional analysis showed a 9.9% overrepresentation of White patients (77.9%) compared to the amount of White plastic surgery patients reported by ASPS in 2020 (68%) (Surgeons, 2021). The population of plastic surgery patients in 2020 was reported to be 12.6% Hispanic and 7.9% Asian compared to 7.9% and 1.2% of posts in our sample, indicating marked underrepresentation of these racial minorities on Instagram (Surgeons, 2021). Interestingly, Black patients in this sample were encountered at a similar rate as ASPS reported amount of Black plastic surgery patients in 2020 (11% in our sample compared to 11.5% reported). Our use of skin tone to assign race may not be in concordance with the patient's self-identified race; however, this ambiguity will still be seen in the real world because prospective patients will also be using their own biases to determine the race of patients in posts. We found a greater inter-rater agreement with surgeon race than patient race, possibly due to non-blinding of surgeon name. It has previously been demonstrated that surgeon name, and by extension surgeon race can influence public perception of that surgeon (Bhat et al., 2021). Overall, these results highlight that plastic surgery Instagram content is often racially ambiguous, but that practicing plastic surgeons play a large part in crafting the narrative of extent of diversity in plastic surgery.

Statistical analysis showed that in our sample, posts featuring Black patients tended to receive more likes and comments. This appeared to suggest that the audience is engaging more with posts of Black patients, especially considering likes and comments require more effort from a user than passively viewing a post. However, we also found that the number of followers an account has is likely a significant factor in engagement. Indeed, when looking at engagement per follower we did not see the same trends of Black patients necessarily garnering more engagement. A plausible explanation for this discrepancy is that our sample had multiple Black surgeons with a large following, and these Black surgeons tended to post-Black patients. This was especially true in the Southeast, with 50% of "High" following accounts being of Black surgeons (Table 2), including a particularly active account with over 500,000 followers at the time of data collection. Previous research underscores the benefits of patient-physician racial concordance (Ligh et al., 2020; Society, 2023; Takeshita et al., 2020). Our results may support this phenomenon in social media, as one could reason that more Black patients follow Black plastic surgeons and engage more with their content as they can relate to those types of patients.

In addition, we found that Asian surgeon accounts had the least amount of patient-surgeon racial concordance. We hypothesize that this may be partially due to difficulties identifying Asian patients if their facial features were not shown. However, it has also been previously established that many health disparities in the Asian American community are due to stereotypes and assumptions that all Asians are the same (Kim et al., 2021; Yom & Lor, 2022). Thus, we propose that utilizing "Asian" to categorize all plastic surgery patients of Asian descent is not an appropriate measure as there are a wide variety of Asian ethnicities/cultures and, thus, plastic surgery preferences amongst these patients. Further, it is possible that many Asian patients do not pursue plastic surgery in the US and prefer to undergo procedures in Asian countries where surgeons have more experience with the aesthetic preferences of Asian patients (Kwak, 2010).

Asian and Hispanic patients are reported to constitute 7.9% and 12.6% of aesthetic surgery patients, respectively (Surgeons, 2021). While these groups may be underrepresented in our sample, they are likely the hardest to identify based on skin tone and other contextual clues, especially if facial features are obscured. Furthermore, despite our large sample size, the racial distribution of surgeons varies from previous reports (Colleges, 2021). Asian plastic surgeons were represented at 16.7% compared to 14.6% reported, and Black surgeons at 5.8% versus the 3.4% reported; however, Hispanic plastic surgeons were underrepresented at 2.5% compared to 6.4% reported (Colleges, 2021). Our findings suggest that Hispanic patients are unlikely to encounter Hispanic plastic surgeons or patients on Instagram, potentially impacting their pursuit of plastic surgery and engagement with this content. While we cannot currently determine who is using Instagram to view plastic surgery content, it is evident that Instagram usage varies significantly among different demographics in the US. According to the Pew Institute, in 2023, 58% of Hispanic adults and 57% of Asian adults actively used Instagram, which is higher than the rates among Black and White adults, where fewer than 50% were users (Center, 2024). Therefore, the plastic surgery community needs to enhance the representation of patients with diverse backgrounds.

Moreover, individual patients' perspectives on consenting to have their results shared on Instagram, along with cultural differences regarding the acceptance of plastic surgery, likely influenced our results. A study by Swami and Hendrikse in 2013 indicated that British Asian and African Caribbean women held more negative views about aesthetic plastic surgery due to factors such as "cultural mistrust and stronger ethnic identity salience" (Swami & Hendrikse, 2013). It is plausible that similar sentiments exist in the US, which might lead to the underrepresentation of racial minorities, not necessarily reflecting any shortcomings of individual plastic surgeons.

We also discovered that Black patients and Asian patients were more frequently featured in Body and Face procedures, respectively. ASPS has officially documented these trends and also observed anecdotally in other settings, including plastic surgery literature and academic clinics (Surgeons, 2021) (Rhemtulla et al., 2019) (Heiman et al., 2022). Although more research is needed to understand why these preferences might exist among these patients, our study emphasizes that this phenomenon is also observable on Instagram. This aspect may serve as a marketing consideration for plastic surgeons aiming to promote their practices on Instagram.

4.1. Limitations and directions for future research

Our study has several limitations. First, race is a social construct, and the subjective evaluation of one's race does not necessarily align with their self-identified race. The assessment of patient race in our posts was conducted by three authors, consisting of two Asian females and one White female. This limited reviewer

composition may introduce unconscious biases that could result in potential errors in the evaluation. Additionally, the racial categories defined by the ASPS in our study were very narrow, excluding important racial/ethnic groups such as Native American and Middle Eastern. This omission may have led to inaccurate racial identification of patients, emphasizing the need for broader racial classifications in plastic surgery to better represent patient demographics.

Patient gender is another variable that may have been difficult to discern if a post's caption did not explicitly state the gender or if the patient's body habitus was ambiguous. Gender, like race, may also be perceived differently from how a patient self-identifies. In conducting this study, we opted for a binary gender classification to enable comparison with the statistics reported by plastic surgery associations. Still, we again emphasize the need for a broader gender classification to be more inclusive of all plastic surgery patients. Notably, we could not verify whether the accounts included in our sample were truly run by those plastic surgeons. Thus, we could not ascertain whether surgeons themselves were leading the decision to post about certain patients or procedures over others. As many practices are growing due to increased acceptance of plastic surgery, it is plausible that some accounts are professionally managed by designated marketing teams prioritizing engagement rather than depicting a diverse patient population.

Lastly, it is difficult to measure who is engaging with plastic surgery content, meaning we cannot fully understand what kind of audience plastic surgeons are reaching on Instagram. It is likely that the racial makeup of Instagram users also affects post engagement. In addition, engagement is not a purely random process; it can be influenced significantly by surgeon utilization of Instagram marketing, which can boost posts to reach more viewers through algorithms, suggested posts, and paid advertisement (Payment for Instagram Ads). We could not access how much a post had been boosted or any paid marketing associated with a post's engagement. This could falsely inflate the impact of any post regardless of race, and conversely, unboosted posts may have less engagement simply through Instagram marketing algorithms. Understanding who engages with plastic surgery on Instagram is likely the key to understanding why certain patients featured in certain procedures garner more engagement than others.

5. Conclusion & Practical Implications

This cross-sectional analysis of Instagram posts from board-certified plastic surgeons simulates the browsing experience of potential patients interested in plastic surgery. White patients are overrepresented in this sample compared to the reported proportions of individuals undergoing plastic surgery, aligning with previous findings on racial representation in plastic surgery social media (Hassan et al., 2021; Robinson et al., 2023; Tirrell et al., 2021). However, since these posts originate from plastic surgeons' accounts, it highlights that plastic surgeons have agency over their Instagram content and how they promote plastic surgery to the public. Our results indicate a significant level of engagement with these posts, suggesting that many potential patients are indeed using Instagram to gather information about plastic surgery. Given the existing racial disparities in this field, it is crucial to enhance the presentation of plastic surgery on social media to ensure inclusivity and diminish any stigma regarding who seeks aesthetic surgery and who becomes a plastic surgeon. Moreover, while patient-physician racial concordance may contribute to increased engagement, we could not conclusively determine this due to limited data on racial concordance for minority patients and the ambiguity of race representation on Instagram. Nonetheless, we believe our findings support the idea that patient-physician racial concordance likely enhances the quality of patient care and improves the patient experience. Therefore, initiatives aimed at increasing physician diversity are vital to ensure that patients can find physicians who reflect their own appearance and can relate culturally, particularly in the highly diverse society of the US. Overall, addressing the underrepresentation of minorities undergoing plastic surgery on Instagram could enhance the perception of plastic surgery as a more inclusive field.

Future directions include understanding how to engage diverse patient populations better, which may be achieved by being more mindful of specific racial/ethnic aesthetic preferences amongst patients and utilizing more appropriate racial identifiers to ensure patients of all backgrounds are adequately represented. It is also critical to understand who exactly is engaging with plastic surgery content online and whether there are any subconscious factors as to how plastic surgeons choose what type of content to post on social media. Examples could be large population-setting survey studies to understand what Instagram users are more likely to engage with or survey studies with plastic surgeons asking for the rationale of what they choose to post on Instagram. This can further delineate why minority patients are underrepresented on Instagram and explain why engagement with posts of certain patient populations is higher.

Statement of Researchers

Researchers' contribution rate statement:

EL: Conceptualization, data curation, formal analysis, investigation, methodology, project administration, software, validation, visualization, writing – original draft, writing – review & editing; **BS:** Data curation, formal analysis, validation, writing – original draft, writing – review & editing; **MT:** Data curation, validation, writing – review & editing; **EB:** Data curation, validation, writing – review & editing; **WT:** Conceptualization, methodology, validation, writing – review & editing; **SW:** Validation, Writing – review & editing; **DS:** Conceptualization, methodology, supervision, validation, writing – review & editing; **AP:** Conceptualization, methodology, project administration, supervision, validation, writing – review & editing

Conflict statement:

The authors declare that they have no conflict of interest.

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The data supporting this study's findings are available from the corresponding author upon reasonable request.

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The authors submit that no generative AI tools or models were not used in any part of this study.

Ethical Considerations:

"All procedures followed were by the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all participants for being included in the study." All data was collected from publicly available websites. For this type of study, it is exempt from ethics committee approval. No data was collected from human participants.

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