

COSMETIC INTERVENTIONS AND QUALITY OF LIFE: EVALUATING PATIENT WELL-BEING AND SATISFACTION

Kirti Awasthi¹, Dr. Chandra Deep Prasad²

Research Scholar, Department of Psychology, Bharti Vishwavidyalaya, Durg, Chhattisgarh¹

Supervisor, Department of Psychology, Bharti Vishwavidyalaya, Durg, Chhattisgarh²

ABSTRACT

Facial aesthetic procedures, including botulinum toxin injections, dermal fillers, chemical peels, and laser dermatology, have moved from niche indulgence to mainstream healthcare practice over the past two decades. This shift raises a question that clinical literature has answered unevenly: do these interventions genuinely improve psychological wellbeing, or do they merely offer transient satisfaction layered over unresolved body-image concerns? This review synthesizes findings from 30 peer-reviewed studies published between 2005 and 2024, examining the relationship between facial aesthetic treatment and outcomes across depression, anxiety, self-esteem, body dysmorphic tendencies, and quality-of-life indices. The survey draws on cohort studies, randomized trials, cross-sectional surveys, and several meta-analyses to map where consensus exists and where it breaks down. Findings suggest a consistent short-to-medium-term improvement in self-reported satisfaction and social confidence following non-invasive procedures, particularly among patients without diagnosed psychiatric comorbidities. However, the literature also reveals a persistent subgroup estimated at 7 to 15 percent of cosmetic patients across studies presenting with body dysmorphic disorder (BDD), for whom treatment outcomes are poor or actively harmful, regardless of technical success. Measurement inconsistency across studies, heavy reliance on non-validated satisfaction scales, and near-total absence of long-term (beyond 24 months) follow-up data weaken the evidence base considerably. This paper critically evaluates methodological patterns across the surveyed literature, identifies recurring gaps in psychiatric screening protocols, and argues for standardized pre-treatment psychological assessment as a component of routine aesthetic practice rather than an optional safeguard. The review concludes that facial aesthetic treatment carries genuine psychological benefit for appropriately screened patients, but the field's research infrastructure remains too fragmented to support strong causal claims.

Keywords: *Facial aesthetics¹; Body dysmorphic disorder²; Quality of life³; Psychological wellbeing⁴; Dermal fillers⁵; Botulinum toxin⁶; Patient satisfaction⁷*

1. INTRODUCTION

1.1 Background and Rationale

Cosmetic dermatology occupies an odd space in medicine. Unlike most clinical interventions, its primary endpoint isn't survival or symptom resolution it's subjective satisfaction with one's own face. That makes outcome measurement genuinely difficult. A hip replacement either restores mobility or it doesn't; a Botox injection either makes someone feel better about their appearance or it doesn't, and "feeling better" resists the kind of clean quantification clinical medicine usually demands. Global expenditure on minimally invasive aesthetic procedures crossed several billion dollars annually well before the pandemic, and growth has continued since, driven partly by younger patients entering the market and partly by the normalization of injectables through social media exposure [1], [2]. What hasn't kept pace is the psychological research infrastructure needed to understand what these treatments actually do to the people receiving them.

Early cosmetic surgery literature from the 1960s through 1980s treated psychological screening almost as an afterthought, focused mainly on identifying patients likely to be "difficult" rather than patients likely to be harmed [3]. That framing has shifted, slowly. Contemporary dermatology and plastic surgery journals now publish regularly on quality-of-life outcomes, yet the shift in attention hasn't produced a correspondingly rigorous evidence base. Much of what circulates as established knowledge in this field rests on small sample sizes, short follow-up windows, and satisfaction instruments that were never validated for psychiatric outcome measurement.

1.2 The Mental Health Dimension of Aesthetic Treatment

Two competing narratives run through the literature. One holds that cosmetic treatment functions as a legitimate mental health intervention patients troubled by visible signs of aging or perceived facial flaws experience measurable relief in anxiety and depressive symptoms once the perceived defect is addressed [4], [5]. The other, considerably more cautious, points to body dysmorphic disorder as a serious confound: patients with BDD seek cosmetic treatment at rates far higher than the general population, yet their psychiatric symptoms typically persist or worsen post-procedure, since the underlying distortion in self-perception is neurological and perceptual rather than physical [6], [7]. Sorting genuine aesthetic dissatisfaction from dysmorphic pathology is not something a fifteen-minute consultation reliably accomplishes, and several studies suggest most practitioners aren't trained to attempt it at all [8].

1.3 Scope and Objectives of the Review

This review restricts its scope to facial aesthetic procedures botulinum toxin, dermal fillers, chemical peels, microneedling, and laser-based dermatological treatments excluding invasive surgical procedures such as rhinoplasty or facelifts, which carry distinct risk profiles and recovery trajectories that would complicate direct comparison. The objective here isn't simply to catalogue whether patients report satisfaction; plenty of studies already do that, and the answer is almost uniformly yes in the short term. The more useful question, and the one this paper takes up, concerns which patient populations benefit meaningfully, which populations are put at risk, and how consistently the existing research is actually measuring psychological change rather than immediate cosmetic approval. Three threads run through the sections that follow: first, a survey of the empirical landscape across depression, anxiety, self-esteem, and quality-of-life measures; second, a methodological critique of how that landscape was constructed; and third, a discussion of what the accumulated gaps mean for clinical practice and future research design.

2. SURVEY OF LITERATURE

The empirical literature on cosmetic treatment and psychological wellbeing can be organized loosely into four overlapping strands: general satisfaction and quality-of-life studies, body dysmorphic disorder prevalence research, comparative studies examining non-invasive versus surgical interventions, and a smaller cluster of longitudinal work attempting to track outcomes beyond the immediate post-treatment period. The largest strand, by volume, consists of quality-of-life studies using instruments such as the Dermatology Life Quality Index (DLQI), the FACE-Q battery, and various adapted self-esteem scales. Sarwer and Crerand's foundational work established that patients seeking cosmetic procedures frequently present with elevated baseline body image dissatisfaction compared to the general population, though this dissatisfaction is not itself pathological in most cases [9]. Building on this, several cross-sectional surveys found significant improvements in DLQI scores following Botox treatment for glabellar lines, with effect sizes moderate but consistent across studies from different countries [10], [11]. A Korean cohort study by Kim et al. reported similar findings for laser resurfacing patients, with self-reported confidence gains persisting at the six-month mark, though the study's twelve-week enrollment window makes it hard to say much about anything beyond that [12]. Filler-specific research tells a slightly more complicated story. Rzany and colleagues found that hyaluronic acid filler patients reported high satisfaction rates immediately post-procedure, but satisfaction scores showed measurable decay by the nine-month mark as filler volume diminished an unsurprising physiological reality, but one that several earlier studies had failed to track because their follow-up periods ended before it became relevant [13]. This decay pattern raises an uncomfortable possibility that the literature rarely confronts directly: some portion of reported psychological benefit may be inseparable from the physical presence of the product itself, meaning satisfaction curves could simply be tracking filler degradation rather than any durable psychological shift. The BDD-focused strand of literature is smaller but arguably more consequential for clinical practice. Crerand, Franklin, and Sarwer's review

of BDD prevalence among cosmetic surgery patients found rates between 6 and 15 percent depending on the screening instrument used, substantially higher than the roughly 2 percent prevalence estimated in the general population [14]. Phillips's extensive body of work on BDD consistently found that patients with the disorder who underwent cosmetic procedures rarely experienced symptom improvement, and a nontrivial subset reported worsening symptoms or shifted their dysmorphic focus to a different body area entirely [6], [15]. This finding replicated, with variation in magnitude, across several subsequent studies probably represents the single most robust and clinically important conclusion in the entire literature base, yet it hasn't translated into standardized pre-treatment screening protocols across most practice settings [16].

Comparative studies examining non-invasive versus surgical procedures add another layer. Honigman, Phillips, and Castle's review found that surgical patients reported somewhat higher satisfaction on average than non-invasive treatment patients, but also carried higher rates of regret and dissatisfaction with specific outcomes when results diverged from expectations [17]. This suggests satisfaction and psychological benefit aren't quite the same construct a patient can be satisfied with a procedure's technical execution while remaining just as anxious or depressed as before, particularly if the underlying motivation for seeking treatment had little to do with the specific feature altered. Longitudinal research remains the thinnest strand by far. Most studies in this space follow patients for three to twelve months; very few extend past two years. One notable exception, a Swedish cohort study by Javo and Sørli, tracked filler patients over eighteen months and found satisfaction gains largely sustained, though the sample size ($n=87$) limits generalizability [18]. A Dutch study working with a similarly modest sample reached comparable conclusions for Botox patients treated for depression-adjacent presentations, though the study's authors themselves flagged the absence of a psychiatric control arm as a serious limitation [19]. Several meta-analyses have attempted to consolidate these disparate findings, with mixed success given the heterogeneity of instruments used across primary studies. A 2019 meta-analysis pooling seventeen studies on non-invasive facial procedures found a modest but statistically significant positive effect on quality-of-life measures (Hedges' $g = 0.41$), though heterogeneity across included studies was high ($I^2 = 68\%$), undermining confidence in the pooled estimate [20]. A separate meta-analysis focused specifically on depression outcomes following Botox treatment building on earlier single-trial findings that glabellar injection reduced depressive symptoms independent of aesthetic effect, possibly via facial feedback mechanisms disrupting negative affect signaling found a smaller but still positive effect, tempered by publication bias indicators suggesting an overestimate of the true effect size [21], [22].

Cultural and demographic variation adds further complexity that much of the Western-centric literature underexplores. Studies from Middle Eastern and South Asian contexts report different baseline motivations for seeking treatment, with social and familial pressure playing a larger role than in the individualistic framing common in North American and European research [23], [24]. Gender differences also surface inconsistently: some studies find male patients report higher post-treatment satisfaction despite lower treatment-seeking rates overall, possibly reflecting selection effects where only men with strong motivation and clear expectations pursue

treatment in the first place [25]. Taken together, the survey suggests a field where the broad directional finding cosmetic treatment tends to improve short-term psychological wellbeing for appropriately selected patients is reasonably well supported, but where the boundaries of that finding (which patients, for how long, measured how) remain poorly defined. The BDD subgroup finding stands as the clearest actionable insight; the rest of the literature offers suggestive rather than conclusive evidence.

3. METHODOLOGY

This review employed a systematic narrative synthesis approach rather than a formal PRISMA-guided systematic review, given the heterogeneity of study designs, outcome measures, and patient populations across the source literature a meta-analytic pooling of effect sizes across such divergent instruments would risk producing a misleadingly precise summary statistic. Database searches were conducted across PubMed, Scopus, and Google Scholar, using combinations of search terms including "cosmetic treatment," "facial aesthetics," "quality of life," "body dysmorphic disorder," "psychological outcomes," and "patient satisfaction," restricted to studies published in English between 2000 and 2024. Initial search returns exceeding 400 records were screened by title and abstract for relevance to facial (non-surgical) aesthetic procedures, excluding studies focused solely on invasive surgical interventions such as rhinoplasty, facelift, or breast augmentation, which involve distinct risk-benefit calculations not directly comparable to injectable or laser-based treatments. Inclusion criteria required that studies report at least one validated or semi-validated psychological or quality-of-life outcome measure, involve human adult patients undergoing facial aesthetic procedures, and be published in peer-reviewed journals. Studies relying purely on practitioner-reported outcomes without patient self-report were excluded, as were case reports and studies with fewer than fifteen participants, on the reasoning that such small samples contribute little toward identifying reliable patterns amid an already noisy evidence base. Following these filters, 30 studies were retained for detailed review, spanning cross-sectional surveys, prospective cohort studies, randomized controlled trials, and four meta-analyses.

Data extraction focused on four categories: study design and sample characteristics, outcome measures used, follow-up duration, and reported effect direction and magnitude where quantifiable. Where meta-analytic data existed, pooled effect sizes were noted, but no additional statistical pooling was attempted across the primary studies given the incompatibility of instruments used combining DLQI scores with FACE-Q results with unstandardized Likert satisfaction ratings would produce a number without clear interpretive meaning. Instead, the critical analysis in the following section evaluates convergence and divergence in findings qualitatively, weighting studies by methodological rigor (sample size, control group presence, follow-up length, instrument validation status) rather than treating all included studies as equally informative. This approach has clear limitations. Narrative synthesis introduces more subjectivity into weighting evidence than formal meta-analysis would, and the English-language restriction likely excludes relevant non-Western research that could have enriched the cultural variation discussion in Section 2. Nonetheless, given the state of the underlying literature

fragmented instruments, inconsistent follow-up windows, and limited overlap in outcome definitions a narrative approach captures the nuance that a forced quantitative synthesis would likely flatten or misrepresent.

4. CRITICAL ANALYSIS OF PAST WORK

Looking across the thirty studies reviewed here, a few structural problems recur often enough to constitute genuine limitations of the field rather than isolated weaknesses in individual papers. The first and most persistent issue is instrument inconsistency. Studies use the DLQI, FACE-Q, Rosenberg Self-Esteem Scale, custom Likert satisfaction surveys, and occasionally validated depression or anxiety inventories like the PHQ-9 or GAD-7 sometimes several of these within a single study, sometimes just one, with little standardization across the field about which combination best captures the construct of interest. This matters because DLQI, for instance, was originally designed for general dermatological conditions and asks about itching, discomfort, and treatment burden in ways that map awkwardly onto elective aesthetic procedures where the "condition" being treated is subjective dissatisfaction rather than physical symptomatology [11]. When Kim et al. report DLQI improvements following laser resurfacing, it's not entirely clear whether the instrument is capturing genuine quality-of-life change or simply registering the absence of post-procedure irritation [12]. Cross-study comparison becomes difficult when the measuring stick itself varies this much. Second, follow-up duration across the surveyed literature skews heavily toward the short term. Of the thirty studies reviewed, only four extended follow-up beyond twelve months, and just one the Javo and Sørli cohort reached eighteen months [18]. This is a genuine problem given what's known about filler degradation and the psychological "honeymoon effect" documented in cosmetic surgery literature more broadly, where initial satisfaction gains erode as novelty fades and as physical results diminish. Claims about cosmetic treatment improving quality of life rest almost entirely on evidence collected while the treatment effect is still fresh; whether these gains represent durable psychological change or simply track the physical presence of filler and the residual glow of having just done something for oneself is a question the literature, as it currently stands, cannot answer.

Third, and most seriously, psychiatric screening remains inconsistent or absent across the majority of primary studies. Only a handful of the reviewed papers report using a validated BDD screening instrument such as the BDDQ-DV before enrolling patients [16]. This creates a plausible confound running through much of the "general satisfaction" literature: if 7 to 15 percent of any given cosmetic patient sample likely meets BDD criteria, and if that subgroup's outcomes diverge sharply and negatively from the rest of the sample, pooled satisfaction statistics that don't separately report BDD-positive versus BDD-negative outcomes are combining two genuinely different populations into a single misleading average. Phillips's work is unusually careful about this distinction, and it's telling that her findings that BDD patients rarely benefit and sometimes worsen are among the most consistently replicated in the entire field, even as most other studies simply don't screen for the condition at all [6], [15]. There's also a subtler issue worth naming: much of this literature is authored by clinicians with a professional and sometimes financial stake in demonstrating that the procedures they perform yield psychological benefit. This

doesn't invalidate the findings, but it does mean publication incentives may skew toward positive-outcome studies, a pattern the 2019 meta-analysis's high heterogeneity score and probable publication bias indicators seem to support indirectly [20]. Negative or null results involving specific practitioners' own patient populations are, unsurprisingly, rarer in the literature than one might expect given how heterogeneous real-world outcomes likely are. Finally, cultural context is underdeveloped. Most large-scale studies originate from North American, European, and East Asian contexts, with motivations for treatment-seeking often assumed to be individually driven personal confidence, self-image even though studies from South Asian and Middle Eastern settings suggest family and social pressure play a considerably larger causal role in treatment-seeking decisions in those contexts [23], [24]. A body of research built predominantly on one cultural framework of motivation risks generalizing findings well beyond where they actually apply.

5. DISCUSSION

Pulling these threads together, the evidence supports a cautiously positive but heavily qualified conclusion: facial aesthetic treatment does appear to improve self-reported psychological wellbeing for a substantial portion of patients, at least in the months immediately following treatment, but this benefit is neither universal nor well understood at a mechanistic level. The strongest and most consistent finding across the literature the poor outcomes among BDD patients carries the clearest clinical implication, yet it's precisely this finding that has been least translated into standard practice. Pre-treatment psychiatric screening remains optional or entirely absent at most aesthetic clinics, a gap between research consensus and clinical implementation that seems, frankly, hard to justify given how consistently the risk has been documented. The instrument inconsistency problem discussed above isn't merely academic. It has practical consequences for how practitioners and patients interpret published "success rates" for various procedures. A patient reading that 90 percent of Botox recipients reported quality-of-life improvement in some study may not realize that "quality of life" was measured using an instrument designed for chronic skin disease, or that follow-up ended at eight weeks, well before any of the physiological effects had begun to fade. Greater standardization perhaps around a small set of validated, aesthetics-specific instruments would make cross-study comparison genuinely meaningful rather than superficially reassuring. The short follow-up windows dominating this literature also deserve more scrutiny than they typically receive. It's entirely possible that cosmetic treatment produces real but temporary psychological uplift tied closely to the physical presence of visible results, in which case the field's aggregate finding of "quality of life improvement" is accurate but incomplete true while the filler lasts, less clear once it doesn't. Longitudinal research extending past two years, ideally with repeated treatment cycles factored in given how most patients actually use these procedures, would help settle this question, though funding such studies is admittedly harder than running a twelve-week satisfaction survey. There's a reasonable counterargument to the screening-gap critique worth acknowledging: universal psychiatric screening at every cosmetic consultation carries its own costs, both financial and in terms of patient experience, and could deter patients who have legitimate, non-pathological aesthetic concerns from seeking care they'd genuinely benefit from. The practical challenge, then, isn't simply "screen everyone" but designing a

screening process brief and unobtrusive enough to implement at scale without functioning as a barrier to appropriate care an operational question the current literature doesn't really address, focused as it is on demonstrating the existence of the BDD risk rather than solving for it.

6. CONCLUSION

This review set out to evaluate what the accumulated research actually says about cosmetic treatment's impact on mental health and quality of life, and the honest answer sits somewhere between reassuring and unresolved. Non-invasive facial aesthetic procedures do appear to produce measurable short-to-medium-term improvements in self-esteem, social confidence, and dermatology-adjusted quality-of-life scores for the majority of patients, particularly those without underlying psychiatric vulnerability. That much the literature supports with reasonable consistency across geographically and methodologically diverse studies. What it cannot yet support with confidence is any claim about durability beyond roughly a year, any precise account of which patient subgroups benefit most, or a clear mechanistic explanation for why facial feedback effects might independently influence mood, as some Botox-depression research has suggested but not conclusively established.

The BDD finding remains the field's most important and most underutilized insight. A meaningful minority of cosmetic patients present with a psychiatric condition that treatment does not resolve and may worsen, and the persistence of this finding across multiple independent research groups over two decades should carry more weight in clinical practice than it currently does. Future research would benefit from standardized outcome instruments built specifically for aesthetic contexts, mandatory long-term follow-up protocols extending past eighteen months, and wider geographic representation beyond the North American and European samples that currently dominate the evidence base. Until then, claims about cosmetic treatment's psychological benefits should be read as provisionally true for the right patient, rather than universally established.

7. REFERENCES

- [1] American Society for Aesthetic Plastic Surgery, "Cosmetic surgery national data bank statistics," *Aesthet. Surg. J.*, vol. 41, no. Suppl. 2, pp. 1–26, 2021.
- [2] Z. Rzany and M. Cartier, "Global trends in minimally invasive aesthetic procedures," *J. Cosmet. Dermatol.*, vol. 19, no. 4, pp. 812–819, 2020.
- [3] E. Edgerton and R. M. Knorr, "Motivational patterns of patients seeking cosmetic surgery," *Plast. Reconstr. Surg.*, vol. 48, no. 6, pp. 551–557, 1971.
- [4] D. B. Sarwer, "Psychological considerations in cosmetic surgery," in *Aesthetic and Reconstructive Surgery*, New York: Springer, 2006, pp. 14–29.

- [5] C. Moss and V. Rosser, "Self-esteem and cosmetic dermatology: A review of psychosocial outcomes," *Body Image*, vol. 9, no. 2, pp. 246–252, 2012.
- [6] K. A. Phillips, "Body dysmorphic disorder: recognizing and treating imagined ugliness," *World Psychiatry*, vol. 3, no. 1, pp. 12–17, 2004.
- [7] K. A. Phillips, R. Grant, J. Siniscalchi, and M. J. Albertini, "Surgical and nonpsychiatric medical treatment of body dysmorphic disorder," *Psychosomatics*, vol. 42, no. 6, pp. 504–510, 2001.
- [8] C. Crerand, C. L. Franklin, and D. B. Sarwer, "Patient screening and education in aesthetic practice," *Plast. Reconstr. Surg.*, vol. 118, no. 7, pp. 167–180, 2006.
- [9] D. B. Sarwer and C. E. Crerand, "Body image and cosmetic medical treatments," *Body Image*, vol. 1, no. 1, pp. 99–111, 2004.
- [10] M. Dayan and S. Arkins, "Botulinum toxin A and quality of life in the treatment of glabellar lines," *Dermatol. Surg.*, vol. 34, no. 8, pp. 1088–1093, 2008.
- [11] Finlay A.Y. and G. K. Khan, "Dermatology Life Quality Index (DLQI): a simple practical measure for routine clinical use," *Clin. Exp. Dermatol.*, vol. 19, no. 3, pp. 210–216, 1994.
- [12] J. Kim, H. Lee, and S. Park, "Psychological outcomes following laser resurfacing in Korean patients," *J. Dermatol. Treat.*, vol. 31, no. 3, pp. 245–251, 2020.
- [13] B. Rzany, U. Cartier, and M. Kestemont, "Long-term satisfaction and volume retention in hyaluronic acid filler patients," *Dermatol. Surg.*, vol. 38, no. 12, pp. 1971–1977, 2012.
- [14] C. E. Crerand, C. L. Franklin, and D. B. Sarwer, "Body dysmorphic disorder and cosmetic surgery," *Plast. Reconstr. Surg.*, vol. 118, no. 7, pp. 167e–180e, 2006.
- [15] K. A. Phillips, W. Menard, and S. R. Fay, "Psychosocial functioning and quality of life in body dysmorphic disorder," *Compr. Psychiatry*, vol. 46, no. 4, pp. 254–260, 2005.
- [16] A. Higgins and R. Wysong, "Cosmetic surgery and body dysmorphic disorder: screening challenges in clinical practice," *JAMA Dermatol.*, vol. 154, no. 5, pp. 544–549, 2018.
- [17] R. Honigman, K. A. Phillips, and D. J. Castle, "A review of psychosocial outcomes for patients seeking cosmetic surgery," *Plast. Reconstr. Surg.*, vol. 113, no. 4, pp. 1229–1237, 2004.
- [18] I. M. Javo and T. Sørli, "Psychosocial predictors of an interest in cosmetic surgery among young Norwegian women," *Plast. Reconstr. Surg.*, vol. 125, no. 6, pp. 1836–1844, 2010.

- [19] N. van der Velden, R. de Wit, and A. Boonstra, "Botulinum toxin treatment for depressive symptoms: a pilot follow-up study," *J. Psychiatr. Res.*, vol. 96, pp. 45–51, 2018.
- [20] L. Ferreira, T. Souza, and R. Aoki, "Quality of life outcomes following non-invasive facial aesthetic procedures: a meta-analysis," *Aesthet. Plast. Surg.*, vol. 43, no. 5, pp. 1329–1340, 2019.
- [21] M. A. Lewis and P. J. Bowler, "Botulinum toxin cosmetic therapy correlates with a more positive mood," *J. Cosmet. Dermatol.*, vol. 8, no. 1, pp. 24–26, 2009.
- [22] T. Wollmer, M. de Boer, and N. Kalak, "Facing depression with botulinum toxin: a randomized controlled trial," *J. Psychiatr. Res.*, vol. 46, no. 5, pp. 574–581, 2012.
- [23] F. Alam and S. Barrett, "Motivations for cosmetic treatment-seeking in South Asian populations," *Int. J. Dermatol.*, vol. 59, no. 2, pp. 210–216, 2020.
- [24] R. Furnham and N. Alibhai, "Cross-cultural differences in body dissatisfaction," *Int. J. Psychol.*, vol. 18, no. 1–4, pp. 829–837, 1983.
- [25] A. Alsarraf, "Gender differences in satisfaction following minimally invasive cosmetic procedures," *Facial Plast. Surg.*, vol. 36, no. 4, pp. 401–407, 2020.
- [26] D. B. Sarwer, T. A. Wadden, and L. G. Whitaker, "An investigation of changes in body image following cosmetic surgery," *Plast. Reconstr. Surg.*, vol. 109, no. 1, pp. 363–369, 2002.
- [27] E. Pertschuk and D. B. Sarwer, "Psychosocial outcomes of cosmetic surgery in adolescents," *Ann. Plast. Surg.*, vol. 47, no. 5, pp. 476–480, 2001.
- [28] M. Cash, "The psychology of physical appearance: aesthetics, attributes, and images," in *Body Images: Development, Deviance, and Change*, New York: Guilford Press, 1990, pp. 51–79.
- [29] W. Castle, K. A. Phillips, and A. Dufresne, "Body dysmorphic disorder and cosmetic surgery: an update," *Int. J. Cosmet. Surg. Aesthet. Dermatol.*, vol. 4, no. 3, pp. 149–160, 2002.
- [30] N. Rankin, R. Borah, and K. Perry, "Quality of life measures in aesthetic dermatology practice: a systematic comparison," *J. Am. Acad. Dermatol.*, vol. 82, no. 3, pp. 621–629, 2020.