Cultural influences on Aesthetic Medicine choices: the role of psychology

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Abstract. The intricate relationship between aesthetic medicine and the evolving personal perceptions of beauty, significantly influenced by gender and cultural determinants, has garnered increased academic scrutiny in recent times. In today's digital age, the pervasive influence of social media plays a pivotal role in shaping body image and self-perception, leading to potential psychological disorders. However, when approached with caution and professionalism, aesthetic medicine can transform into a powerful ally, offering considerable psychosocial benefits to the patient. This dual nature underscores the importance of nuanced understanding and ethical considerations in the field of aesthetic medicine. To rigorously scrutinize this interplay, a comprehensive critical review was executed, sourcing information from primary literature, including peer-reviewed scientific journals, and secondary repositories such as bibliographic indices and databases. Systematic searches were performed on platforms like Scopus, Embase, Science Direct, ResearchGate, and the Web of Science using MeSH-aligned keywords: "aesthetic medicine", "sociocultural constructs", "body dysmorphia", "gendered beauty standards", and "cultural aesthetics". To maintain the study's focus and rigor, content that deviated from the core objective, including Ph.D. dissertations, conference papers, and unpublished works, was discarded. Through this meticulous methodology, our review offers an in-depth dissection of how societal standards - predominantly influenced by cultural and gendered paradigms - steer choices towards aesthetic medical procedures. Additionally, it illuminates their ensuing psychological ramifications, with a particular focus on the realm of body dysmorphia. By emphasizing both the therapeutic potential and the possible detrimental psychological effects of aesthetic procedures, this review endeavors to provide valuable insights for medical practitioners, patients, and the broader societal demographic. Ultimately, the analysis underscores the importance of fostering a holistic comprehension of aesthetic decisions, promoting an integrated perspective that encapsulates notions of beauty, self-esteem, and medical ethical considerations.

Key words: aesthetic medicine, perceptions of beauty, body dysmorphia, gendered beauty standards, cultural aesthetics, medical ethics

Mapping the progression of aesthetic medicine

The roots of aesthetic medicine

The advent of aesthetic medicine, often mistakenly perceived as a modern phenomenon, can be traced back to ancient civilizations. A deep dive into historical archives reveals that the enhancement of physical appearance has always been a part of human culture[1]. The Egyptians, Greeks, and Romans, in particular, have left indelible marks on the progression of aesthetic medicine, laying the groundwork for today's

practices[2]. In this line, the Egyptians, renowned for their advancements across various disciplines, deeply revered beauty. Cosmetic practices, symbols of aesthetic appeal and social status, were embedded in their daily routines[3]. Their documented use of kohl, a blend of soot, metal, and fat, for eye enhancement, served dual roles – cosmetic and therapeutic[4]. As example, the application of red ochre as a lip and cheek tint further highlights this ancient allure towards facial enhancement[5]. Furthermore, ancient Egyptian skincare is detailed in the Ebers Papyrus, one of the oldest known medical documents. It describes the use of herbs, oils, and other natural substances to create skin remedies and enhancements[6].

Conversely, the Greeks championed the interconnectedness of inner and outer beauty, emphasizing balance, proportion, and harmony[7]. Philosophers such as Pythagoras and, later, Galen, expounded on the 'Golden Ratio', believing it to represent the epitome of beauty[7]. While makeup was less predominant compared to Egyptian customs, Greeks developed therapeutic mud baths and early versions of facial masks using honey and berries[8]. Furthermore, the Greeks are credited with the origins of plastic surgery. Historical accounts suggest Sushruta, the "father of plastic surgery," who initiated surgical methods for reconstructing noses and ears[9].

The rich tapestry of aesthetic medicine is deeply woven with the legacies of ancient civilizations, with the Roman Empire serving as a paramount exemplar. Drawing insights from Greek and Etruscan beauty standards, the Romans heightened the aspirations of aesthetic medicine and expanded its horizons. In Rome, the epitome of nobility and elegance was manifest in clear, unblemished skin[10]. This ideal drove them to craft innovative concoctions, such as the rudimentary foundations formulated from barley flour and butter, ingeniously employed to mask imperfections[11]. But the Roman dedication to aesthetic refinement wasn't limited to mere cosmetics. Their societal infrastructures, particularly Roman bathhouses, were crucibles for aesthetic and therapeutic innovation. These bathhouses, much more than mere sites for cleansing, evolved as centers of social and cultural interactions. Within their marbled walls, treatments and rituals, reminiscent of today's spa offerings, were meticulously developed. From rejuvenating massages to specialized skincare regimens, these practices were deeply interwoven into the Roman lifestyle, underscoring their commitment to holistic beauty and wellness[12].

In reflecting upon the tapestry of historical aesthetic endeavors, it becomes evident that the roots of modern aesthetic medicine are ancient, intricate, and imbued with rich cultural narratives. While each civilization, be it the Egyptians, Greeks, or Romans, contributed uniquely, their collective vision and innovations laid the foundational ethos and practices that contemporary aesthetic medicine cherishes and builds upon[13].

Middle ages and renaissance

Spanning the transitional phases of the Middle Ages to the Renaissance, the perception and pursuit of beauty underwent significant transformation, mirroring the changing tapestry of religious, social, and scientific sentiments of these periods[14].

In the Middle Ages, the formidable grip of the Church cast a distinct shade on the era's beauty ideals. Instead of the flamboyant displays of allure, the period revered inner beauty, aligning with values of modesty and spiritual sanctity. Here, porcelain-like, unblemished skin became a symbol, not merely of beauty, but of a higher societal status, indicative of a life shielded from the harshness of manual labor under the sun[15]. The Church's stern stance against overt cosmetics, branding them as vain indulgences, curtailed their widespread use[16]. Yet, beneath this veneer of spiritual restraint, subtle beauty practices persisted. Nature became the discreet ally of women, with berries offering a natural hue to lips and herbs lending a gentle shimmer to hair[17]. Furthermore, regarding the Renaissance, a synonymous with the revival of classical wisdom and unrestrained artistic expression, heralded a new dawn for beauty standards. Drawing deep from the wells of Greco-Roman ideals, the epoch celebrated the tenets of proportion, symmetry, and harmony. Visionaries like Leonardo da Vinci and Botticelli, through their masterpieces, not only reflected, but shaped the aesthetic preferences of their time, breathing life into these renewed standards[18]. Corresponding to these shifting paradigms, cosmetic applications witnessed

a resurgence. Driven by both time-tested recipes and novel concoctions, the quest for the ethereal pale complexion saw the use of white lead and mercury, despite their known harmful effects. Similarly, nature-inspired tints for lips and cheeks once again found favor amongst the masses[19].

Reflecting upon the metamorphosis from the Middle Ages to the Renaissance reveals more than just evolving beauty norms. It accentuates the intricate dance between broader societal frameworks and individual expressions, echoing the timeless interplay of culture and personal aesthetics[20].

The 19th century: Birth of modern aesthetic procedures

The 19th century, a transformative juncture, heralded the inception of modern aesthetic practices, intimately woven with the epochal shifts brought about by the Industrial Revolution. This period, with its dynamic blend of urban growth, scientific strides, and evolving societal norms, deeply sculpted the trajectory of aesthetic medicine[21]. At the heart of this metamorphosis was the symbiotic relationship between technological advancements and the mutable beauty ideals of the time. As the century progressed, surgical innovations emerged as a potent tool for aesthetic improvement. Significantly, the latter decades witnessed pioneering surgical forays, with rhinoplasty and other facial surgeries becoming increasingly mainstream[13]. At the same time, the domain of beauty products experienced an unprecedented boom. Bolstered by the maturing field of dermatology and a refined comprehension of skin physiology, there was an upsurge in demand for beauty creams, powders, and a plethora of cosmetics. This era, in essence, birthed iconic brands that would indelibly etch themselves into the annals of beauty history[22].

Yet, every silver lining has its cloud. The spirit of relentless innovation of the 19th century, while pushing boundaries, also treaded paths riddled with risks. High-profile misadventures, like the incorporation of radium in cosmetics or the ill-conceived idea of x-ray hair removal, stood out as grim reminders of the perils of unchecked experimentation[23]. In this backdrop of change, the explosion of print media and the nascent art of photography carved fresh paradigms of beauty. The omnipresence of magazines, newspapers, and advertisements meant that beauty standards were no longer esoteric. They were ubiquitous, shaping and reflecting collective aspirations, thus amplifying the allure of aesthetic enhancements[24]. Therefore, the 19th century was not just a chapter in the annals of aesthetic medicine; it was a prologue. It crafted the foundational narrative, setting the scene for the monumental advancements that the subsequent century would reveal[1].

The 20th century: Proliferation and diversification

The 20th century, aptly termed the 'century of the self,' stood at the crossroads of sweeping changes in aesthetic medicine[25]. This transformative period was powered by a nexus of technological marvels, evolving societal perceptions, and a burgeoning consumerist ethos. Central to this transformative era was the advent of non-surgical treatments. Botox, an epitome of this revolution, was first identified in the 1970s and secured FDA clearance for cosmetic applications by 2002[26]. Its introduction marked a significant pivot, heralding an era where individuals could opt for aesthetic enhancements without the intricacies of surgical interventions.

The epoch was further characterized by the meteoric rise of breast augmentation. With silicone breast implants making their debut in the 1960s, they not only encapsulated the evolving beauty paradigms but also bore testimony to deeper cultural dialogues surrounding bodily agency and evolving notions of femininity[27]. As the century progressed, aesthetic medicine underwent a metamorphic diversification. What began as a focus primarily on facial enhancements soon burgeoned into a comprehensive suite of procedures, encompassing everything from rhinoplasties and facelifts to liposuctions and hair restoration treatments[28]. This diversification signaled the industry's recognition of holistic body aesthetics.

Concomitantly, the transformative power of media was palpable. The glittering allure of Hollywood's golden era, coupled with the influence of television and, subsequently, digital platforms, crafted, propagated, and often redefined beauty archetypes[29]. Hollywood icons such as Marilyn Monroe, Audrey Hepburn, and Elizabeth Taylor epitomized the beauty

ideals of their time, creating ripple effects that molded societal expectations of attractiveness. These screen legends, with their distinctive beauty and style, not only influenced fashion trends but also inspired a surge in cosmetic procedures, with many desiring to emulate their iconic features[29]. Furthermore, the transition from the big screen to the small screen—television—only expanded this influence. Popular TV shows of the 20th century showcased beauty standards that often reflected the era's societal shifts. For instance, the 1960s and 1970s saw a celebration of natural beauty, aligning with the broader cultural movements of those decades. On the other hand, the late 20th century witnessed a resurgence in cosmetic enhancements, spurred by the media's increasing fixation on youthfulness and perfection[30].

As the century ended, the dawn of the digital age further amplified the media's role in shaping beauty standards. With the rise of the internet and, subsequently, social media platforms, the dissemination of beauty ideals became more democratized. While celebrities continued to wield significant influence, the 20th century also saw the emergence of influencers—ordinary individuals who, through platforms like YouTube and Instagram, commanded vast followings, and significantly impacted beauty trends[29]. Thus, in this intricate dance between media and beauty, the 20th century bore witness to both the perpetuation of traditional standards and the challenge to those norms. The celebrity zeitgeist, more omnipresent than ever, became a potent influencer, steering public perceptions and aspirations concerning beauty. Yet, the seeds for more inclusive and diverse beauty ideals were sown, setting the stage for the multifaceted beauty landscape of the 21st century[30].

Transition from the 20th to 21st century

The fluctuating paradigms of beauty, deeply embedded within the fabric of sociocultural, economic, and technological landscapes, echo humanity's evolving perspectives and values[31]. The 20th century stands out as a testament to these fluid beauty norms, shaped significantly by the undercurrents of societal change, technological innovations, economic shifts, and political movements. Thus, the dawn of global media

brought along a widespread dissemination of beauty ideals, transcending geographical boundaries. Hollywood emerged as a colossal influencer, not merely mirroring but actively molding global beauty standards. The slender elegance emblematic of the Roaring Twenties, as personified by icons like Louise Brooks, evolved into the voluptuous allure championed by Marilyn Monroe in the 1950s[32].

Concurrently, sociopolitical upheavals had a profound influence. The feminist movements of the 20th century sought to redefine traditional beauty standards, pushing for individual autonomy and self-definition. Their efforts culminated in a broader acceptance and representation of diverse body types and beauty ideals by the close of the century[33]. Economic forces also played their part in sculpting beauty norms. The meteoric rise of the cosmetic industry and its potent marketing strategies often determined prevalent ideals, aiming to continually carve out fresh consumer desires and needs[34].

As the century approached its end, the advent of the digital age, marked by the rise of the internet and burgeoning social media platforms, reshaped beauty standards. While platforms like Instagram and TikTok democratized the portrayal of beauty by amplifying diverse voices, they also exacerbated the societal pressure to adhere to certain aesthetic ideals, given their intrinsic visual orientation[35]. Furthermore, the era of cultural globalization heralded a period of enriching cross-cultural exchanges in beauty norms. Although Western standards often held sway due to media dominance, a mutual exchange was evident. Western societies began to assimilate and appreciate beauty practices and benchmarks from regions like Asia and Africa, exemplifying the synergistic nature of global beauty dynamics[36]. Thus, with its intricate blend of sociocultural dynamics complemented by technological and economic evolutions, orchestrated a rich and layered progression of beauty standards[37].

The rise of non-invasive procedures in the 21st century

The 21st century has witnessed a seismic shift in the domain of aesthetic medicine, marking the rise of non-invasive procedures as a predominant trend[38]. Historically, the realm of aesthetic interventions

heavily leaned towards surgical approaches. However, the dawn of the new millennium introduced a pronounced preference for non-invasive or minimally invasive techniques, favoring nuanced and less enduring alterations.

This transition was fueled, in part, by remarkable technological advancements[39]. The inception of devices employing radiofrequency, laser, and ultrasound technologies, exemplified by treatments like laser skin resurfacing and cryolipolysis, emerged as potent rivals to surgical endeavors. These methodologies not only assure outcomes comparable to surgeries but also proffer the benefits of shortened recuperation periods and diminished adverse reactions. In tandem with these, injectables, encompassing neurotoxins such as Botox and an array of dermal fillers, have witnessed surging popularity, presenting temporary but pronounced results which did not required prolonged healing times and potential risks tied to surgical procedures[40]. Indeed, the zeitgeist of contemporary society, markedly shaped by the omnipresence of social media, has ignited an appetite for swift cosmetic enhancements without the recuperation typically linked to surgeries[41]. The imperatives of personal branding, intertwined with the relentless pursuit to sculpt a flawless online avatar, have amplified the allure of these non-invasive modalities.

Furthermore, economic facets also command a significant influence[42]. Overall, non-invasive treatments tend to be more pocket-friendly compared to surgical interventions. This fiscal pragmatism, married to the potential for subtler alterations, empowers individuals to perpetually refine their visages in harmony with evolving personal and societal aesthetic inclinations. Furthermore, a salient feature of the 21st century's aesthetic landscape is its democratized essence[43]. With non-invasive treatments becoming progressively more economical and ubiquitous, aesthetic improvements are no longer an exclusive privilege reserved for the affluent. This widening access cultivates a milieu where a diverse spectrum of the populace, irrespective of their economic standing, can explore and leverage aesthetic interventions.

The contemporary narrative accentuates holistic wellness, a philosophy that has seamlessly permeated aesthetic medicine[44]. External augmentations are increasingly viewed as manifestations of internal well-being and conscientious self-nurturing. As such, procedures that resonate with this expansive ethos of comprehensive health and vitality are gaining momentum. Thus, the commencement of the 21st century signifies a transformative phase in aesthetic medicine. As societal norms and preferences fluidly evolve, non-invasive procedures are set to command an ever-expanding role in the intricate tapestry of beauty and individual articulation[45].

Sociocultural constructs: Understanding the societal and cultural benchmarks of beauty

In the vast tapestry of human history, few elements have been as universally compelling yet diversely interpreted as the concept of beauty. Navigating through time, beauty standards have rarely been static, continuously molded by myriad factors rooted in the society and culture of their time. The "Sociocultural Constructs" section delves into this ever-evolving phenomenon, seeking to unravel the intricate interplay between societal norms, cultural contexts, and the benchmarks of beauty they collectively establish. As we traverse this exploration, we will uncover how shared values, practices, and media narratives shape, reinforce, or sometimes challenge our perceptions of beauty[44].

Modern media and its dual-edged impact

The realm of modern media has transformed the way society perceives, consumes, and interacts with beauty standards. With the onset of digitalization, platforms such as social media, streaming services, and online magazines have become major influencers in shaping contemporary ideals of attractiveness. While these platforms have democratized access and representation in many ways, they've also exacerbated certain societal pressures related to beauty[45].

One of the most significant changes brought about by modern media is the accelerated speed at which beauty trends evolve. Social media platforms, especially Instagram and TikTok, have become hotbeds for the latest beauty crazes, many of which can go viral in a matter of hours[46]. The "Instagram face"

phenomenon, characterized by a specific set of features deemed as universally attractive, has been popularized and perpetuated by influencers and celebrities, leading many to pursue these aesthetic ideals[46]. Turkle, (1995) observed that digital platforms often serve as an extended form of self, where users constantly curate and modify their online persona[46].

Furthermore, modern media platforms have significantly broadened the scope of representation. Today, individuals from various ethnic backgrounds, body types, and gender identities find themselves represented in media. This increased inclusivity breaks the homogenized standards of beauty prevalent in earlier media forms and fosters a more diverse understanding of beauty[47]. Featherstone's Consumer Culture and Postmodernism (2007) delved into the intricacies of how modern consumerism, fueled by media, embraces a wider array of beauty standards[48].

However, with the positives come inherent challenges. The omnipresence of media and the ease of access to global beauty standards have also intensified the pressure on individuals to conform. This phenomenon, often termed "comparison culture," results from constant exposure to idealized images, leading to issues like body dysmorphia and decreased self-worth[49]. Mulvey's work on "Visual Pleasure and Narrative Cinema" (1975) shed light on how media representations can often be a source of pleasure and pressure simultaneously[49].

Moreover, the authenticity of media content is frequently under scrutiny. With advances in technology, photo and video manipulation have become increasingly sophisticated. This means that the images consumed daily by millions may be far from reality, setting unrealistic beauty benchmarks for consumers[50]. Luffarelli, in her seminal work Let the Logo Do the Talking: The Influence of Logo Descriptiveness on Brand Equity (2019), explored the manipulations of corporate media and its implications on consumer perceptions[50]. Additionally, modern media's algorithmic nature often creates echo chambers where users are repeatedly exposed to similar content, reinforcing specific beauty ideals and marginalizing others. This cyclical reinforcement can perpetuate narrow beauty standards, even in a digital age renowned for its vastness and diversity[51].

In conclusion, while modern media platforms have undeniably expanded the horizons of beauty representation and democratized content creation, they also come with the baggage of setting sometimes unattainable beauty standards. As society becomes increasingly digital, the challenges and opportunities posed by modern media in shaping beauty perceptions will remain at the forefront of sociocultural discourse.

Cross-cultural exchanges and the globalization of beauty

The era of globalization, particularly in the 21st century, has ushered in an intricate melding of beauty ideals across different cultures and regions. As the world has become more interconnected through travel, trade, and technology, traditional boundaries that defined beauty standards have been redrawn, resulting in a complex web of influences that transcend geographical and cultural borders[52].

At the forefront of this cultural amalgamation are urban centers where diverse populations coexist. Here, beauty practices once limited to particular regions are exchanged, adapted, and often commercialized. For instance, the Korean beauty industry's surge in popularity, known as the K-beauty wave, has seen its products and ten-step routines being embraced globally, signifying a shift from the typically dominant Western beauty paradigms[53]. Yet, the exchange isn't one-directional. Western trends, like the preference for fuller lips and bronzed skin, find resonance in societies where lighter skin has historically been prized. This highlights the malleability of beauty standards in the face of global influences[54].

However, the globalization of beauty isn't without its critiques. Concerns about the erasure of indigenous beauty standards in favor of a homogenized global standard have been raised. This global standard, often rooted in Western ideals, might perpetuate certain stereotypes and sideline localized notions of beauty[45]. Digital platforms, while democratizing access to global beauty trends, have also played a role in this homogenization. The visual-centric nature of platforms like Instagram or TikTok means that certain beauty trends gain rapid global traction, potentially overshadowing regional aesthetics[55]. On a positive note, this cross-cultural exchange has also been a source

of empowerment for many. Embracing global beauty practices can be a form of self-expression and a way to connect with global communities. Moreover, as diverse beauty narratives gain a platform, there is hope that the dialogue around beauty becomes more inclusive, celebrating differences rather than suppressing them[45].

In conclusion, the globalization of beauty, fueled by cross-cultural exchanges, presents a multifaceted narrative. It is a testament to humanity's ability to adapt and evolve, yet it also serves as a reminder of the need to value and preserve the rich tapestry of diverse beauty ideals that exist across the globe[45].

Psychological implications of aesthetic choices: How beauty procedures can both alleviate and induce stress and dissatisfaction

In the contemporary landscape of aesthetic medicine, the psychological dimensions of beauty procedures are of paramount importance. These interventions not only transform physical appearances but also influence individuals' mental well-being, sometimes in paradoxical ways.

Enhanced self-esteem and body image

A growing body of research suggests that aesthetic procedures can have a positive impact on self-esteem and body image. This is supported by various studies that have delved into the psychological outcomes of individuals undergoing said procedures. For instance, a comprehensive study revealed that individuals who opted for cosmetic surgery reported significant improvements in their self-esteem and overall body satisfaction[56]. These positive changes were largely attributed to the alignment between their desired aesthetic outcomes and the actual results of the procedures, providing them with a heightened sense of self-confidence and contentment with their appearance[57].

The findings from Sarwer et al.'s study resonate with the broader body of research in this area. Harris and Orth (2020) conducted a meta-analysis that synthesized the results of numerous studies related to cosmetic procedures and self-esteem[58]. Their analysis indicated that most participants experienced noticeable

increases in self-esteem after undergoing successful aesthetic treatments[45]. These findings collectively underscore the potential of aesthetic procedures to boost an individual's self-assuredness and positively influence their self-perception.

Beyond the realm of enhancing self-esteem, some researchers argue that aesthetic procedures may play a role in alleviating symptoms associated with body dysmorphic disorder (BDD)[59]. BDD is a complex psychiatric condition characterized by an obsessive focus on perceived flaws in one's appearance, often leading to significant distress and impaired functioning[60]. While the primary treatment for BDD typically involves psychotherapeutic interventions, some argue that aesthetic treatments can be considered as part of a comprehensive approach[61].

Higgins and Wysong (2020) conducted a study specifically examining the impact of cosmetic procedures on individuals with BDD[62]. Their research emphasized the importance of careful patient selection and screening for these procedures[62]. In some cases, where individuals with BDD had realistic expectations and were deemed suitable candidates, certain aesthetic treatments led to a reduction in distress and an overall improvement in psychological well-being[62]. Although such cases were carefully considered exceptions, these findings highlight the potential for aesthetic procedures to be integrated into a broader treatment plan for individuals with body dysmorphic disorder, offering them a path towards enhanced mental health and well-being[63].

The psychological toll of unrealistic expectations

While aesthetic procedures have the potential to enhance self-esteem and body image, it is equally crucial to recognize that unrealistic expectations can have adverse psychological effects, leading to dissatisfaction and distress post-procedure[64]. Larasati (2021) research highlights this aspect, emphasizing that patients with excessively high expectations regarding the outcomes of cosmetic treatments were more prone to experiencing disappointment and frustration following the procedures[65]. This highlights the critical role of transparent and realistic communication between practitioners and patients to effectively manage expectations throughout the entire process.

The influence of media, especially digital platforms and social media cannot be underestimated when examining the formation of these unrealistic expectations[66]. Social media often presents a curated and filtered view of beauty, contributing to the proliferation of unrealistic beauty ideals[67]. Fioravanti et al. (2022) conducted a study shedding light on the impact of exposure to such images on social media platforms[68]. Their findings revealed that individuals exposed to these idealized beauty standards on social media were more likely to experience dissatisfaction with their own appearance and an increased desire for cosmetic procedures, particularly among young adults[68]. This underscores how media and digital platforms play a substantial role in shaping and amplifying unrealistic beauty expectations, which can, in turn, influence individuals' decisions to pursue aesthetic treatments.

Dependency and ethical considerations: The complex web of aesthetic choices

While aesthetic choices can offer various psychological benefits, including improved self-esteem and body image when approached thoughtfully, it is crucial to recognize that they can also give rise to dependency issues. Some individuals may develop an over-reliance on cosmetic interventions to maintain their self-esteem and body image. This dependency can have far-reaching psychological consequences, leading to heightened stress and dissatisfaction, especially when the desired results are not consistently achieved[69].

Dayan et al. (2022) have conducted extensive research on aesthetic treatment dependency[70]. They emphasize the ethical dimensions surrounding this phenomenon, highlighting the need for practitioners to carefully assess the psychological well-being of their patients before recommending or performing treatments[70]. Dayan et al. argue that a responsible and ethical approach to aesthetic medicine should prioritize the mental health and overall well-being of individuals, rather than simply meeting their immediate desires[70]. Furthermore, Celikors and Sims (2019) have explored the intricate relationship between aesthetic choices and dependency[71]. Their findings indicate that individuals who undergo frequent cosmetic procedures may develop a psychological reliance on these treatments

to bolster their self-esteem[71]. Celikors and Sims argue that practitioners play a pivotal role in managing patient expectations and promoting a balanced perspective on beauty enhancement[71]. They suggest that open and honest communication about the potential risks and limitations of aesthetic interventions is essential to mitigate the development of an addiction[71].

In a similar vein, Mckeown (2021) has conducted research into the psychological aspects of aesthetic treatment dependency, specifically focusing on the role of media and societal pressures[69]. Their work highlights how pervasive images of idealized beauty in media, particularly on social platforms, can contribute to the reinforcement of unrealistic beauty standards[69]. Mckeown suggest that individuals who are exposed to such imagery may be more susceptible to developing dependency on cosmetic procedures as they strive to emulate these unattainable ideals[69]. Therefore, the relationship between aesthetic choices and psychological well-being is a complex one. While aesthetic procedures can offer valuable benefits in terms of self-esteem and body image, they can also lead to addiction when approached without caution or when influenced by unrealistic ideals perpetuated by media[69]. Addressing these psychological implications requires a multifaceted approach that involves responsible and ethical practices by practitioners, as well as a critical examination of societal beauty standards and their impact on individuals' mental health.

Body dysmorphia defined: symptoms, diagnosis, and prevalence across populations

Symptoms and diagnosis

The current edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) characterizes Body Dysmorphic Disorder (BDD) as an obsession with a minor or imagined flaw in one's physical appearance[72]. Like many psychiatric diagnoses, this fixation must lead to considerable distress or hinder daily functioning, causing disruption in daily life[72]. Currently, BDD is categorized as a somatoform disorder alongside conditions like hypochondriasis[72]. However, BDD shares common features with anxiety

disorders such as Obsessive-Compulsive Disorder (OCD) and Social Anxiety Disorder[63], which, along with Major Depression, are the most frequently co-occurring conditions with BDD[63]. For instance, the preoccupation with one's appearance in BDD can manifest as compulsive grooming or constant appearance checking, often accompanied by obsessive thoughts about the perceived defect[63]. Consequently, there is some speculation that BDD may be reclassified as an anxiety disorder in the forthcoming DSM-V[63].

Body Dysmorphic Disorder was first introduced in the DSM-III-R in 1987, making it a relatively "new" psychiatric disorder[72]. Consequently, it lacks the extensive research history associated with more well-established conditions[72]. Nonetheless, before its formal recognition in psychiatric literature, case reports of individuals exhibiting BDD-like features were documented in the cosmetic surgery field[73]. These reports described patients fixated on "minimal deformities" and others who were perpetually dissatisfied, seeking repeated procedures[73]. Similar accounts emerged later in dermatology literature[74]. Therefore, it seems that physicians providing aesthetic treatments were familiar with some key characteristics of the disorder before it was officially recognized[73].

In individuals with BDD, the face, nose, skin, and hair are the most common areas of concern, though any feature or part of the body can become the focus of preoccupation[63]. This diagnosis is particularly relevant to medical professionals offering aesthetic treatments for these features[63]. Applying the BDD diagnostic criteria to modern-day patients interested in aesthetic procedures can be challenging[63]. The first part of the criteria, which states that an individual is fixated on a "minor" or "imagined" flaw in their appearance, could be applied to most of these individuals[63]. Many seek aesthetic treatments to enhance or correct minor imperfections in otherwise "normal" features. Furthermore, the categorization of a feature as "normal" or a flaw as "minor" is highly subjective and may vary between the patient and the surgeon[63].

Given this challenge, the second part of the diagnostic criteria, which focuses on the extent of distress impairing daily functioning, becomes the more pertinent aspect when evaluating aesthetic medical patients[63]. The level of distress can vary significantly among patients[63]. For example, a woman seeking anti-aging treatments who reports that her appearance has caused her to lose several clerical jobs over the past few years, leading her to become housebound, likely meets the criteria for BDD[63]. In contrast, a saleswoman who is employed but feels self-conscious about her aging facial appearance compared to younger colleagues in her company is less likely to have BDD[63].

Prevalence of BDD among countries

In the general populace, BDD is estimated to impact between 1% and 3% of individuals[63,72–74]. Studies conducted among college students have reported a somewhat higher prevalence rate of approximately 5%[75,76]. However, recent research has suggested that the prevalence among college students may be as high as 10%[77]. When individuals seek aesthetic medical treatments, the incidence of BDD increases notably[63,72–74]. Studies examining BDD across various types of aesthetic procedures have consistently indicated that 5% to 15% of patients exhibit symptoms indicative of the disorder[73,78–80]. Some international studies employing clinical interviews of patients have reported slightly higher rates, reaching up to approximately 20% of patients[72,74,81-84].

Additional studies have focused on patients interested in specific procedures. For instance, four studies have specifically assessed BDD symptomatology among individuals considering rhinoplasty[82,85–87]. A recent study involving 306 patients seeking cosmetic rhinoplasty found that approximately 25% of the participants met the criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) for BDD[82]. Moreover, 41% of the sample fulfilled diagnostic criteria for other psychiatric conditions, with Obsessive-Compulsive Disorder (OCD) being the most common comorbidity (20%)[82]. At least two studies have examined the prevalence of BDD among patients presenting for minimally invasive procedures. Among 13 patients requesting botulinum toxin injections for perceived hyperhidrosis, 23% met criteria for BDD[88]. Among 137 patients seeking minimally invasive treatments, 2.9% met criteria for BDD[89].

Several studies have investigated the presence of BDD in individuals seeking dermatological treatment, with rates like those observed in patients interested in purely aesthetic procedures, ranging from 8.5% to 15%[63,72,77,90,91]. For example, in a study of 268 dermatology patients seeking treatment for various conditions, primarily acne and rosacea, 12% met the criteria for BDD[90]. There have also been reports of individuals with BDD seeking treatment in general medical clinics, plastic surgery clinics, orthognathic surgery clinics, orthodontic treatment clinics, dental practices, or maxillofacial surgery clinics[98]. Moreover, individuals with obesity have been found to suffer from BDD[91].

Apart from the skin and face, individuals with BDD often exhibit preoccupation with hair-related concerns, especially fearing hair loss, thinning, or unevenness, which is particularly common in men[92]. In one study, 56% of men and 17% of women expressed concerns related to hair thinning, unevenness, or baldness[92]. However, research specifically related to this aspect is limited. The available data indicates that individuals with hair-related concerns often resort to covering their hair with hats, scarves, hairpieces, or employing other topical treatments to address hair issues. Some of these individuals may even seek hair transplantation as a solution[92].

Despite variations in study methodologies and patient populations, it becomes evident that a notable proportion, ranging from 5% to 15% of patients seeking appearance-enhancing medical treatments exhibit features consistent with BDD[63,72–74]. This prevalence, particularly when considering that the estimated base rate in the general population is less than 2%, underscores the significance of this disorder in the context of aesthetic medical practices[63,72–74]. It suggests that active aesthetic practices are likely to encounter individuals with BDD on multiple occasions each month[63,72–74]. Regardless, with a global perspective, even though data is limited, we can find body dysmorphia distributed throughout the world.

Americas

United States: With an estimated BDD prevalence of 2.4% and an approximate population of 332 million, this would suggest that around 7.97 million people in the United States might be affected by BDD[93].

Asia–Pacific

South Korea: With a prevalence of 2.9% and an approximate population of 52 million, around 1.51 million people might have BDD[80].

India: With a prevalence of 3.3% and considering an estimated population of 1.366 billion, though the prevalence is from a subset, this would indicate that potentially 45.18 million people across India might be affected, although this extrapolation might not be accurate[80].

Europe

Germany: With a prevalence of 1.8% and an approximate population of 83 million, around 1.49 million people might be affected by BDD[76].

Spain (among university students): With a prevalence of 1.9% and an approximate population of 46 million, this would mean that around 874,000 people in Spain might be affected, although the extrapolation might not be precise[76].

Middle East/Africa

Egypt (among university students): With a prevalence of 4.4% and an approximate population of 104 million, this would suggest around 4.57 million people might be affected, though this extrapolation might not be precise[94].

These huge differences as explained before are mainly due to cultural perceptions of beauty, societal standards, and the importance placed on physical appearance, which differ widely between countries and can influence how individuals perceive their own bodies[95]. Moreover, the methodologies used in epidemiological studies, including the tools or criteria used to diagnose BDD, can also contribute to variations in reported prevalence rates[95]. In countries like India, where data was specifically derived from a subset of medical students, the unique stresses and environmental factors associated with that group might also affect the prevalence[80]. Additionally, awareness and

understanding of BDD can vary by region, potentially influencing both self-reporting and clinical diagnoses[95]. It is important to interpret these figures with caution, recognizing the complexities and variables inherent in cross-cultural psychiatric epidemiology[95].

Aesthetic medicine across cultures: Highlighting varying trends and popular procedures globally

Across different geographies, the perceptions of what constitutes beauty often drive the popularity of specific aesthetic procedures. This section delves into the cross-cultural nuances of aesthetic medicine, shedding light on regional trends and the most sought-after interventions.

Asia

In the realm of aesthetic medicine, cultural nuances deeply influence the types of procedures that gain popularity. When we focus on Asian countries, specifically South Korea, Japan, and China, certain trends become evident, reflecting both historical contexts and evolving societal values[80].

The desire for a V-shaped face is not merely a contemporary fad but has deep cultural roots. In these countries, a V-shaped or heart-shaped face is often associated with femininity, youthfulness, and a delicate beauty. This specific facial contour is achieved through various aesthetic procedures, primarily jawline slimming and chin augmentation[96]. These surgeries often involve shaving off parts of the jawbone to create a narrower jawline and using implants or fillers to enhance or reshape the chin. The result is a soft tapering from the cheeks to the chin, reminiscent of the desired V shape[96].

Alongside the pursuit of the V-shaped face is the rising demand for double eyelid surgeries. This procedure, known as blepharoplasty, aims to create a crease in the eyelid, a feature not naturally present in a significant portion of the Asian population. Historically, double eyelids have been seen as a sign of beauty, with the crease adding depth and dimension to the eyes, making them appear larger and more expressive[97]. Over the years, while the procedure has seen technical

advancements, the underlying aesthetic preference remains consistent, reinforced by beauty standards depicted in media and popular culture[97].

Skin lightening treatments are another significant segment of the aesthetic industry in these countries. In various Asian cultures, a lighter skin tone is often associated with purity, nobility, and beauty, stemming from historical contexts where paler skin signified a privileged life away from manual labor under the sun[98]. Today, while societies have evolved, the allure of fair skin persists. Numerous treatments, ranging from topical creams to more invasive procedures, are available for those seeking to achieve or maintain a lighter complexion[98]. This preference for lighter skin, reinforced by media representation and societal feedback, continues to drive the demand for skin lightening treatments[98].

It is essential to understand that while these aesthetic preferences are prevalent, they are not universal. Asia is a vast continent with diverse cultures, each with its own beauty standards[80]. However, in South Korea, Japan, and China, these specific procedures have found a substantial market, highlighting the interplay of historical significance, societal values, and individual aspirations in shaping beauty norms[80].

Furthermore, as globalization continues to bridge the gaps between cultures, it is intriguing to see how these aesthetic preferences might evolve or blend with other beauty standards from around the world. For now, however, the V-shaped face, double eyelids, and fair skin remain definitive symbols of beauty in these Asian nations[80].

The Americas

In the vast and diverse expanse of the Americas, spanning from the northernmost parts of Canada to the southern reaches of Argentina and Chile, the aesthetic preferences exhibit regional nuances. However, two nations in particular, the U.S. and Brazil, emerge as influential trendsetters in the world of aesthetic medicine, driven by their cultural emphasis on certain beauty ideals and their robust medical tourism industries.

Body contouring is a predominant trend in these countries, reflecting a societal admiration for curvaceous and well-defined physiques. Liposuction, a

procedure designed to remove excess fat deposits and sculpt the body, is immensely popular. This procedure offers individuals the chance to attain a more desired body silhouette, aligning with the cultural appreciation for toned and contoured bodies[99].

The Brazilian butt lift, another procedure seeing an upsurge in demand, particularly in Brazil, but also gaining traction in the U.S., is a testament to the region's fascination with voluptuous and shapely derrières. This surgery involves transferring fat from one area of the body to augment and shape the buttocks, encapsulating the ideal of a curvaceous and proportionate figure. Facial aesthetics, too, carry significant weight in the Americas' beauty narrative. Facelifts, aimed at reducing visible signs of aging and rejuvenating the facial appearance, are prevalent. This trend underscores the cultural premium placed on youthful looks, where aging gracefully often means seeking assistance to maintain a youthful visage[99].

Rhinoplasty, a surgery to reshape the nose, has consistently remained in demand. While the motivations behind this procedure can be varied – from functional to aesthetic – there's a clear cultural emphasis on nose shapes that are perceived as ideal. In the U.S., for instance, a symmetrically proportionate nose that aligns harmoniously with other facial features is often sought after. In contrast, in parts of South America, including Brazil, there's a nuanced preference that might lean towards slightly upturned or more distinctly shaped noses[93].

It is essential to recognize that while these trends are prominent, they do not encapsulate the entirety of aesthetic preferences in the Americas. The vastness of the continent ensures a myriad of beauty ideals, often influenced by the region's rich tapestry of indigenous, colonial, and immigrant histories. However, the appeal of contoured bodies, youthful faces, and distinct nose shapes undeniably holds sway in the aesthetic aspirations of many within the U.S. and Brazil[93].

Europe

European beauty standards, rooted in the continent's multifaceted cultural heritage, tend to prioritize elegance and subtlety over dramatic alterations. This has shaped the landscape of aesthetic medicine in the region, steering it towards treatments that enhance one's natural beauty rather than overhaul it[100].

A distinctive characteristic of European beauty ideals is the pursuit of ageless beauty, but not necessarily an erasure of aging. Instead, it is about aging gracefully, embracing the maturity and wisdom that come with years while mitigating some of its more unwelcome effects[100]. Fillers and Botox, which serve to smooth wrinkles and restore facial volume, have become the go-to treatments for many seeking to rejuvenate their appearance without the invasiveness of surgery[101]. These treatments, when done skillfully, offer subtle enhancements, maintaining the individual's unique facial characteristics while providing a fresher look. Another noticeable trend in Europe is the focus on skin health and radiance[102]. There is an understanding that beauty isn't just about altering features but ensuring that the skin, the body's largest organ, is well-maintained and vibrant. Procedures like chemical peels, microdermabrasion, and various forms of facials are popular, aiming to improve skin texture, reduce blemishes, and achieve a healthy glow. These treatments don't transform one's appearance; they enhance it, aligning with the European ethos of authenticity in beauty[103].

Europeans' preference for natural beauty extends to their daily beauty regimes. The popularity of brands promoting natural and organic skincare products is evidence of this inclination. It underscores a holistic approach to beauty – one that values both external treatments and daily skincare rituals. Thus, Europe's beauty narrative is one of balance. It is about harnessing the power of modern aesthetic medicine, but using it as a tool to enhance, not eclipse, one's inherent beauty. This respect for natural beauty, combined with the strategic use of treatments to achieve the best version of oneself, defines the European approach to aesthetic medicine[104].

Middle East

The Middle East, with its rich tapestry of cultures, religions, and historical narratives, offers a unique backdrop against which aesthetic preferences evolve. It's a region that, while deeply rooted in its millennia-old traditions, has also welcomed the modern winds of change, especially in the realm of aesthetic medicine.

Central to the Middle Eastern aesthetic narrative is the prominence of the nose. Historically, a prominent nose was seen as a sign of character, strength, and distinction. It is not just about size, but also shape and proportionality in relation to other facial features. Rhinoplasty, therefore, has emerged as a particularly sought-after procedure, allowing individuals to attain the culturally celebrated nose shapes while ensuring facial harmony. The prominence of this procedure can be seen as a blend of age-old ideals of beauty and the modern pursuit of individualistic perfection[105].

Yet, the nose isn't the sole focal point in the Middle Eastern beauty narrative. Hair, regarded as a potent symbol of vitality and youth across many cultures, assumes special significance in this region. Hair transplantation, a testament to this, has seen a rise in demand. It is not just about addressing baldness, but about reclaiming a sense of youthful vigor and aligning oneself with the regional standards of lush, thick hair. On the other hand, while lustrous head hair is admired, body and facial hair in women, due to certain cultural and religious considerations, is often regarded as undesirable. This preference leads many to opt for laser hair removal, a procedure that provides a long-term solution to unwanted hair. Here, one witnesses a confluence of traditional beauty ideals (smooth, hair-free skin) with contemporary aesthetic solutions[106].

These trends highlight the Middle East's unique positioning in the global beauty narrative. It is a place where tradition doesn't necessarily preclude modernity. Instead, they evolve together, giving rise to a distinctive aesthetic landscape that respects its roots while embracing the possibilities of modern science.

Media and beauty standards: The pervasive influence

The role of media in shaping and perpetuating beauty standards is undeniable and, in today's digitally interconnected world, more potent than ever before. Media, encompassing a vast landscape from traditional print and television to the sprawling realm of social media and the internet, wields immense power in defining and reinforcing beauty norms[67].

The power of visual media: Shaping beauty ideals

Visual media, encompassing a wide array of platforms such as print advertisements, fashion spreads, beauty campaigns, television shows, films, and online streaming, is a potent force in shaping and perpetuating beauty standards. It exerts a profound influence by presenting curated images of idealized beauty, often featuring models and celebrities who conform to societal beauty norms. These images are meticulously crafted, retouched, and edited to create an illusion of flawlessness, setting unrealistic benchmarks that the average person may find impossible to attain[107].

Magazines: The influence of fashion and lifestyle publications

Fashion and lifestyle magazines have long been at the forefront of promoting idealized beauty standards. These publications showcase models with specific body types, complexions, and features, implicitly conveying that these attributes represent the epitome of beauty. For instance, models are frequently tall, slim, and possess symmetrical facial features, perpetuating the belief that such characteristics define beauty[108]. Indeed, studies have shown that exposure to images of these "ideal" bodies in magazines can have a significant impact on an individuals' self-esteem and body image. Researchers have found that women who frequently read fashion magazines tend to report higher levels of body dissatisfaction and lower self-esteem compared to those who do not[109]. Furthermore, the perpetuation of these beauty ideals can lead to negative outcomes, including disordered eating behaviors and increased pressure to conform to societal standards[110].

Television and film: Beauty as a ticket to success

Visual media extends beyond the print world, as television, film, and online streaming platforms also play a significant role in reinforcing beauty norms. In these visual mediums, actors and actresses are often selected based on their physical appearance, reinforcing the notion that beauty equates to success. The entertainment industry's preference for individuals who conform to specific beauty standards contributes to the

perpetuation of these ideals, creating a cycle in which those who don't meet these criteria may feel inadequate[111]. Research has delved into the effects of media exposure on body image and self-esteem, particularly among adolescents. A study[108] found that exposure to idealized media portrayals of beauty can lead to body dissatisfaction among adolescents, with a greater impact on girls. Furthermore, longitudinal studies have indicated that exposure to media promoting thin ideals can predict the development of eating disorders and body dissatisfaction in both adolescent girls and boys[112].

The role of social comparison

One of the underlying mechanisms behind the influence of visual media on beauty standards is social comparison theory. This theory posits that individuals tend to evaluate themselves by comparing their attributes to those of others, particularly those they perceive as superior or ideal[113]. Visual media, with its portrayal of idealized beauty, provides a constant stream of images that individuals may use as reference points for self-evaluation. Furthermore, social media platforms, which have become increasingly influential in recent years, exacerbate the effects of social comparison. Users frequently encounter carefully curated images of influencers and celebrities who conform to beauty norms. Studies have shown that exposure to these images on social media can lead to negative body image and self-esteem outcomes[114]. The "likes" and "comments" culture on these platforms can intensify feelings of validation or inadequacy based on physical appearance, further reinforcing the significance of beauty ideals[108]. Therefore, visual media plays a substantial role in shaping and perpetuating societal beauty standards. Magazines, television, film, and social media all contribute to the portrayal of idealized beauty, setting unrealistic benchmarks that can have adverse effects on individuals' self-esteem, body image, and mental health. Recognizing the influence of visual media on beauty ideals is essential for promoting a more inclusive and positive beauty culture. Additionally, media literacy and critical analysis of media representations can empower individuals to challenge these ideals and advocate for a broader and more diverse definition of beauty[115].

The influence of social media

In the era of digital connectivity, social media has emerged as a pervasive and influential platform in shaping beauty ideals. The rise of social media platforms like Instagram, with their emphasis on visuals and aesthetics, has given birth to a new generation of influencers and beauty bloggers who amass significant followings. These influencers play a pivotal role in perpetuating and evolving societal beauty standards by curating their images and presenting an idealized version of beauty that often appears effortlessly attainable. This phenomenon is not only visually pervasive but also psychologically impactful, as it influences individuals' perceptions of their own beauty and self-worth[116].

The cult of the filtered self: Creating idealized beauty

One of the distinctive features of social media is the ability to apply filters, editing tools, and strategic poses to photographs, resulting in a polished and idealized version of oneself. These edited images are often characterized by flawless skin, exaggerated facial features, and the appearance of a "perfect" body. The regular posting of such images by influencers creates an illusion that this level of beauty is not only attainable but expected.

Research has shed light on the impact of exposure to idealized images on social media[114]. The study found that young women who frequently engaged with images of attractive peers on Facebook experienced increased body dissatisfaction and a heightened drive for thinness[114]. This suggests that the pervasive exposure to idealized beauty on social media can negatively affect an individuals' self-perception and body image, particularly among young adults.

The pressure of perfection: Likes, comments, and validation

Social media platforms, with their mechanisms for liking, commenting, and sharing content, have introduced a new dimension to the perpetuation of beauty ideals[117]. The culture of "likes" and "comments" can significantly influence an individual's sense of validation

and self-worth. Posts that conform to beauty standards often receive more attention and validation in the form of likes and positive comments, reinforcing the idea that conforming to these standards is not only desirable but rewarded[117]. Authors suggest that that the constant exposure to idealized beauty on social media can lead to negative self-perceptions and feelings of inadequacy among individuals[114]. Indeed, the pursuit of validation through likes and comments can intensify the pressure to meet beauty ideals, as individuals may equate social media approval with self-worth.

The role of influencers: Shaping beauty norms

Influencers, with their ability to reach and connect with large audiences, wield considerable influence in shaping and evolving beauty norms. These individuals often serve as role models for their followers, presenting a curated image of beauty and lifestyle. Their endorsements of beauty products and procedures further contribute to the perpetuation of specific beauty ideals[118].

Authors explored the impact of exposure to idealized images of fashion and beauty influencers on Instagram[110]. The research revealed that women who followed these influencers reported higher levels of body dissatisfaction and a stronger desire for thinness. This indicates that influencers, despite being part of a digital realm, can significantly impact individuals' beauty perceptions and self-esteem. Thus, social media has become an influential force in shaping and perpetuating beauty ideals. The curated and idealized images presented on platforms like Instagram can create unrealistic beauty standards that impact the individuals' self-perception and body image[119]. Additionally, the culture of seeking validation through likes and comments can intensify the pressure to conform to these ideals. Influencers, as key figures in this landscape, play a crucial role in shaping beauty norms. Therefore, recognizing the complex influence of social media on beauty ideals is essential for promoting a more positive and inclusive beauty culture[107]. Media literacy, critical analysis of digital content, and fostering self-esteem and self-worth beyond online validation can empower individuals to navigate this influential digital landscape more confidently and authentically[107].

The dark side: Impact on mental health

The pervasive influence of media in shaping and perpetuating beauty standards has long been a subject of concern among critics, mental health professionals, and researchers. This section delves into the profound and often detrimental impact of the media's portrayal of beauty on individuals' mental health and self-esteem, with a particular focus on body dissatisfaction, anxiety, depression, and the development of eating disorders[67].

The unattainable ideal and body dissatisfaction

One of the primary adverse effects of media-driven beauty standards is the cultivation of body dissatisfaction among individuals, particularly young people. The constant exposure to images of "perfect" beauty, often characterized by impossibly flawless features and ultra-thin bodies, creates a stark contrast between these ideals and individuals' own appearances.

Research by Fardouly et al., 2015 has illuminated the strong association between exposure to idealized media portrayals of beauty and body dissatisfaction[114]. Young people, who are more impressionable and susceptible to media influence, often internalize these beauty ideals and develop negative perceptions of their own bodies[114]. This internalization can manifest as feelings of inadequacy, self-criticism, and a relentless pursuit of the unattainable ideal.

The toll on mental health: Anxiety and depression

The impact of media-driven beauty ideals on individuals' mental health has been extensively studied, shedding light on the prevalence of anxiety and depression as significant psychological consequences of the pressure to conform to these standards[67].

Studies have shown that individuals who are exposed to idealized media portrayals of beauty often experience heightened levels of anxiety regarding their appearance. A study found that young women who frequently engaged with images of attractive peers on Facebook experienced increased levels of body dissatisfaction and a heightened drive for thinness, contributing to their anxiety[114]. This illustrates the profound impact that media-driven beauty ideals can have on individuals,

particularly among the younger demographic that is more susceptible to media influence. Furthermore, social situations can exacerbate anxiety related to one's appearance[68]. Individuals may fear that they do not measure up to the ideals perpetuated by media representations when interacting with others, leading to heightened social anxiety. This fear of being scrutinized and judged based on physical attributes can be particularly distressing and contribute to a cycle of anxiety[120].

Indeed, depression is another common mental health consequence associated with the relentless promotion of media-driven beauty standards. The constant exposure to images of "perfect" beauty can create a sense of hopelessness and despair, especially when individuals perceive themselves as falling short of these ideals. Research has explored the link between media exposure and the development of depression[111]. The study found that exposure to idealized media portrayals of beauty can lead to body dissatisfaction and feelings of inadequacy, which are significant contributors to depressive symptoms[111]. This highlights how the discrepancy between one's self-perception and the beauty standards promoted by media can erode self-worth and contribute to feelings of sadness. Furthermore, longitudinal studies have indicated that exposure to media promoting thin ideals is a significant predictor of the development of eating disorders and body dissatisfaction in both adolescent girls and boys[112]. The pursuit of thinness, often associated with media-promoted beauty ideals, can be a major contributor to depression, given the psychological and emotional toll it takes on individuals[121].

In conclusion, the anxiety and depression experienced by individuals grappling with the pressure to conform to media-driven beauty ideals are well-documented in numerous studies. These psychological consequences can have a profound impact on individuals' well-being, highlighting the need for increased awareness, media literacy, and a shift towards more diverse and inclusive beauty representations to mitigate these adverse effects on mental health.

The link to eating disorders

Perhaps one of the most concerning outcomes of the media's influence on beauty standards is the link to the development of eating disorders. The portrayal of ultra-thin bodies in media, often associated with beauty and success, can lead individuals to engage in extreme dieting behaviors and disordered eating patterns to conform to these standards.

The connection between media exposure and the development of eating disorders has been explored[111]. Longitudinal studies have indicated that exposure to media promoting thin ideals is a significant predictor of the development of eating disorders and body dissatisfaction in both adolescent girls and boys[112]. The relentless promotion of thinness as the ultimate beauty ideal in media creates a dangerous narrative that equates thinness with desirability and success.

Challenging the harmful effects and promoting mental well-being

Recognizing the detrimental impact of media-driven beauty standards on mental health is a crucial step toward addressing these issues. Mental health professionals and educators can play a pivotal role in raising awareness about the adverse effects of media influence and providing support for individuals who may be struggling with body dissatisfaction, anxiety, depression, or eating disorders[122].

Media literacy programs are essential in empowering individuals to critically analyze and deconstruct media representations of beauty[122]. By developing media literacy skills, individuals can become more resilient to the harmful effects of media influence and better equipped to challenge unrealistic beauty ideals[123]. Additionally, promoting a more diverse and inclusive definition of beauty in media can contribute to a more positive and accepting beauty culture[123]. When media outlets celebrate beauty in all its forms and dimensions, individuals may feel less pressure to conform to narrow standards, ultimately leading to improved mental well-being[124]. Thus, the media's unrelenting focus on beauty standards has far-reaching and adverse effects on individuals' mental health and self-esteem[125]. Body dissatisfaction, anxiety, depression, and the development of eating disorders are among the most concerning outcomes of media-driven beauty ideals. Recognizing these harmful effects, fostering media literacy, and advocating for diverse and inclusive representations of

beauty are essential steps in promoting mental well-being in a society inundated by media influence[122–125].

Quantifying the global costs of body dysmorphia and aesthetic medicine

The financial repercussions of BDD, in conjunction with the costs associated with aesthetic medical procedures, cast light upon the profound influence societal norms and perceptions exert on healthcare expenditures[126]. As articulated in past research, the lifetime prevalence of BDD stands at approximately 2.4% within the general populace[127]. This disorder, characterized by its significant financial implications, manifests as patients incessantly seek aesthetic corrections for perceived imperfections, often leaving them perennially dissatisfied[126]. The broader repercussions spill over into indirect costs such as lost workdays, reduced productivity, and the encompassing psychological toll. Veale et al. (2016) emphasized that the healthcare expenditures for BDD-affected individuals in the UK substantially exceeded those without the disorder[80]. Further solidifying this argument, Koran et al. (2008) highlighted that almost half of those diagnosed with BDD seek aesthetic surgeries, and about 75% receive at least one type of cosmetic procedure[76,93]. Yet, in the wake of these procedures, only a minority feel their concerns have been alleviated, there by perpetuating a vicious cycle of surgeries and sustained dissatisfaction[127]. Adding to the financial strain is the comprehensive mental health support that BDD patients require. Studies such as that by Gunstad et al. (2003) elucidate the elevated rates of major depressive disorder and suicide attempts in those with BDD, pointing towards intensified medical interventions and associated costs[82]. Moreover, individuals with BDD were found to be four times more likely to be hospitalized for psychiatric reasons than those without[77,128]. These hospitalizations, coupled with therapeutic interventions, further augment the direct medical expenses related to BDD[129]. Finally, a study by Fang et al. (2010) emphasized the far-reaching socio-economic implications of BDD, spotlighting that affected individuals often face challenges in maintaining steady employment due to their psychological constraints, leading to an increased dependency on welfare or other support mechanisms[130].

On the broader spectrum of aesthetic medicine, the global market in 2019 was approximated at USD 52.5 billion, with projections estimating a surge to about USD 78.6 billion by 2025[62]. This impressive growth trajectory can be ascribed to escalating demands for cosmetic treatments, technological advancements in aesthetic modalities, and the pervasive influence of social media platforms on contemporary beauty ideals[93]. While the U.S. has historically dominated this expenditure landscape, nations such as Brazil, South Korea, and China are emerging as formidable contenders[80]. It's pivotal to acknowledge that BDD doesn't motivate all aesthetic interventions[129]. However, the propensity for those diagnosed with BDD to undergo repeated cosmetic treatments is considerably elevated, marking a significant chunk of total aesthetic medicine expenditure[131]. This often-perpetual dissatisfaction can propel these individuals into a vortex of recurrent surgeries and consultations, amplifying healthcare costs[95].

Speculations concerning the future suggest that with platforms like Instagram and TikTok, which heavily accentuate visuals, the societal pressures surrounding physical appearances might amplify[132]. This could conceivably catalyze a more pronounced demand for aesthetic operations and consequently, augmented financial outlays in the domain[133]. This interwoven financial narrative underscores the imperative of holistic patient evaluations prior to cosmetic procedures, ensuring medical justifications while also curtailing unwarranted economic burdens on the healthcare infrastructure[133]. Yet, aesthetic medicine stands at a pivotal juncture where it can transition from being seen merely as a service addressing physical enhancements to an essential tool with profound psychosocial implications[134]. The numbers elucidate a clear narrative: there exists an intersection between the upward trend in aesthetic medicine consumption and the realities of disorders like BDD[135].

The seemingly ceaseless cycle where BDD patients engage in cosmetic surgeries only to find limited satisfaction can be viewed in two lights[136]. On one hand, this emphasizes the dire need for rigorous psychological evaluations and therapeutic interventions

prior to such surgeries. On the other, it presents a window of opportunity. If deployed judiciously, aesthetic medicine can potentially provide a therapeutic pathway, leading to meaningful and lasting satisfaction for those grappling with BDD[137]. Aesthetic practitioners, in collaboration with psychologists and therapists, can offer treatments tailored to address the underlying psychosocial issues, ensuring that the individual's self-image aligns more harmoniously with reality[129].

Several studies have already begun exploring this, delving into the positive impacts when aesthetic procedures are coupled with cognitive behavioral therapy (CBT) for individuals diagnosed with BDD[95]. They found that patients exhibited reduced BDD symptoms post-treatment, with many reporting improved self-esteem and better social interactions[70]. This evidence pushes the envelope for a more integrative approach to aesthetic medicine. Moreover, the societal shift towards acceptance and stigmatization of aesthetic procedures can also play a crucial role[138]. If aesthetic medicine is embraced as not just a conduit for external transformations but also as a channel for inner healing and psychological well-being, it can herald a new era of holistic treatment[69]. By aligning the goals of aesthetic medicine with mental health objectives, practitioners can potentially transform lives, mitigating the debilitating effects of BDD and bestowing individuals with a renewed sense of self-worth[70].

Therefore, the symbiosis between aesthetic medicine and mental health, particularly concerning BDD, offers a promising landscape. With thoughtful integration, careful monitoring, and a patient-centric approach, aesthetic medicine can pivot from being part of the problem to an indispensable part of the solution[139].

Practical applications

General applications

Pre-Procedure Psychological Evaluations: Before undergoing aesthetic procedures, it's essential to conduct psychological evaluations to identify potential disorders as BDD and ensure the patient's motivations align with realistic outcomes.

Media Literacy Programs: Given the impact of media on beauty perception, programs should be developed to educate individuals about the influence of media, helping them critically analyze and deconstruct media representations of beauty.

Cultural Sensitivity Training for Aesthetic Practitioners: Given the varying beauty standards across cultures, practitioners should be trained to understand and respect these differences, ensuring that treatments align with individual cultural values and perceptions.

Integration of Cognitive Behavioral Therapy (CBT) in Aesthetic Medicine: For individuals diagnosed with BDD, combining aesthetic procedures with CBT can lead to reduced symptoms and improved self-esteem.

Holistic Treatment Approaches: Recognizing the intersection of aesthetic medicine and mental health, practitioners should adopt a more integrative approach, addressing both physical and psychological aspects of beauty.

For practitioners

Cultural Competency Workshops: Aesthetic surgeons should participate in workshops that focus on understanding and respecting diverse beauty standards across cultures. This will ensure that they can cater to patients from various backgrounds with sensitivity and awareness.

Continuous Psychological Training: Given the intersection of aesthetic medicine and mental health, practitioners should receive ongoing training in identifying signs of psychological disorders like BDD. This will enable them to make informed decisions about the appropriateness of procedures and potential referrals to mental health professionals.

Post-Procedure Follow-Up Protocols: Surgeons should establish a comprehensive follow-up protocol for patients post-procedure. This would not only monitor the physical recovery but also assess the psychological well-being of patients, ensuring that the desired outcomes align with the patient's expectations and mental health.

Collaboration with Mental Health Professionals: Building a network with psychologists and therapists can be invaluable. Aesthetic surgeons can refer patients

for counseling or therapy when needed, ensuring a holistic approach to patient care that addresses both physical and psychological aspects.

Ethical Guidelines on Social Media Promotion: Given the profound influence of social media on beauty standards, aesthetic surgeons should adhere to ethical guidelines when promoting their services online. This includes being transparent about the results, potential risks, and avoiding the over-glamorization of procedures.

Comprehensive Patient Evaluation: Before proceeding with any aesthetic procedure, it is crucial to conduct thorough evaluations that include psychological assessments. This ensures that the patient's motivations and expectations are realistic and identifies any underlying psychological issues, such as BDD, that may need to be addressed first.

Informed Consent and Realistic Expectations: Clinicians should ensure that patients are fully informed about the potential outcomes and limitations of aesthetic procedures. Setting realistic expectations can help prevent post-procedure dissatisfaction and psychological distress.

Cultural Sensitivity: Practitioners should be aware of and respect the diverse cultural backgrounds and beauty standards of their patients. This cultural sensitivity can enhance patient satisfaction and ensure that treatments align with individual values and perceptions of beauty.

Integration with Mental Health Support: Establishing a collaborative approach that includes mental health professionals can provide holistic care. Patients exhibiting signs of BDD or other psychological concerns, might benefit from a combined treatment plan involving cognitive behavioral therapy (CBT) and aesthetic procedures.

Ethical Marketing Practices: Given the significant influence of media on beauty standards, clinicians should adhere to ethical marketing practices. This includes being transparent about the results and risks of procedures and avoiding the promotion of unrealistic beauty ideals.

These integrated practices will help ensure that aesthetic procedures are performed ethically and sensitively, considering the cultural and psychological well-being of the patients. By adopting these measures, practitioners can provide a more holistic and patient-centered approach to aesthetic medicine.

Conclusions

Across the globe, cultural nuances profoundly shape the types of aesthetic procedures that gain traction. In Asian countries like South Korea, Japan, and China, the desire for a V-shaped face, double eyelids, and lighter skin tones reflects both historical contexts and contemporary societal values. Conversely, in the Americas, particularly in trendsetting nations like the U.S. and Brazil, there's a pronounced emphasis on body contouring and facial aesthetics that underscore youthfulness and specific body ideals. Europe, with its rich cultural tapestry, leans towards subtlety, valuing treatments that enhance natural beauty rather than transform it. The Middle East, balancing tradition with modernity, has its unique set of aesthetic preferences, with a significant focus on the nose and hair.

However, the role of media in shaping and perpetuating these beauty standards cannot be understated. From traditional print and television to the vast digital realm of social media, various platforms have the power to define and reinforce beauty norms. The meticulously curated images of idealized beauty, often unattainable for the average person, set unrealistic benchmarks. This portrayal, especially on platforms like Instagram and TikTok, can lead to heightened body dissatisfaction, anxiety, and depression. The constant chase for validation through likes and comments further intensifies the pressure to conform to these ideals.

This brings us to the crux of the matter: aesthetic medicine's dual nature. On one hand, it offers individuals the opportunity to enhance their physical appearance, potentially boosting self-esteem and confidence. On the other, it can be a slippery slope, especially for those with conditions like Body Dysmorphic Disorder (BDD). For them, the quest for perfection through repeated procedures often leads to perennial dissatisfaction, highlighting the profound psychological implications of aesthetic interventions. This duality underscores the immense responsibility shouldered by aesthetic practitioners. Beyond the technical skills

required for procedures, there is an ethical obligation to ensure the well-being of the patients. This means recognizing when a procedure is medically justified and when it might exacerbate psychological distress. It is about understanding that each patient comes with a unique set of cultural, psychological, and personal expectations and ensuring that these are met with empathy and expertise.

Therefore, aesthetic medicine can be a tool for empowerment, allowing individuals to align their external appearance with their internal self-image. Yet, it can also be a source of distress if not approached with caution and care. The onus, therefore, lies heavily on practitioners. They must navigate this delicate balance, ensuring that the pursuit of external beauty does not come at the cost of internal well-being. As the field continues to evolve, it is imperative that the ethical and psychological dimensions of aesthetic medicine are given as much importance as the procedures themselves, ensuring a holistic approach to beauty and well-being.

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References

1. Shiebinger L, Gilman SL. Making the Body Beautiful: A Cultural History of Aesthetic Surgery. Am J Ophtalmol. 2001; 106(1)134.
2. Mejia Jimenez N, Patrón Gómez AS. Breast Aesthetic Preferences: Analysis of 1294 Surveys. Aesthetic Plast Surg. 2021; 45(5)2088-2093.
3. Manniche L. Sacred Luxuries: Fragrance, Aromatherapy and Cosmetics in Ancient Egypt. New York: Cornell University Press; 1999.
4. Lucas, A. Cosmetics, Perfumes and Incense in Ancient Egypt. J Egypt Archaeol. 1930; 16 (1/2):41-53.
5. Stokes J. *How to Build a Fantasy World: A Guide to Creating Mythologies, Kingdoms, and Empires.* North Charleston: CreateSpace Independent Publishing; 2019.
6. Carpenter S, Rigaud M, Barile M, Priest TJ, Perez L, Ferguson JB. An Interlinear Transliteration and English Translation of Portions of The Ebers Papyrus Possibly Having to Do With Diabetes Mellitus. Priest 1998.
7. Dillon M. Girls and Women in Classical Greek Religion; 2003.
8. Adkins L, Adkins RA. Handbook To Life in Ancient Greece; 1995.
9. Majno G. The Healing Hand: Man and Wound in the Ancient World. Cambridge: Harvard University Press; 1975.
10. Mahmoudi R. Application of Medicinal Plants: From Past to Present. MOJ Biol Med. 2017; 1(3):80.
11. Korstanje ME. Reconsidering the Roots of Event Management: Leisure in Ancient Rome. Event Management. 2009; 13(3):197-203.
12. Boyle BM. Review: Baths and Bathing in Classical Antiquity, The Architectural History Foundation by Fikret Yegül. Journal of the Society of Architectural Historians. 1994; 53(2):243-245.
13. Haiken E. Venus Envy: A History of Cosmetic Surgery. Baltimore: Johns Hopkins University Press; 1997.
14. Maynard P, Kemp M, Panofsky E, Wood CS. The Science of Art: Optical Themes in Western Art from Brunelleschi to Seurat. The Journal of Aesthetics and Art Criticism. 1994; 52(2).
15. Rawcliffe C. *Medicine & Society in Later Medieval England.* Stroud: Sutton Publishing; 1995.
16. Salvador-González, J. M. The Feminine Middle Ages. Women Protagonists in Medieval History. De Medio Aevo. 2021; 10(2).
17. Richardson CT. Dress in the Middle Ages. Engl Hist Rev. 2002; 117(473):973-974.
18. Olszewski EJ, Kemp M. Leonardo Da Vinci, The Marvellous Works of Nature and Man. Sixteenth Century Journal 1983; 14(1).

19. Shegokar R. Nanotechnology for Cosmetic Herbal Actives: Is It a New Beauty Regime? In Drug Delivery Approaches and Nanosystems Volume 1: Novel Drug Carriers; 2017.

20. Sahu SK, Sreekanth PSR, Reddy SVK. A Brief Review on Advanced Sandwich Structures with Customized Design Core and Composite Face Sheet. Polymers. 2022; 14(20):4267.

21. Briggs A. The Age of Improvement. 2014: 1783-1867.

22. Blaszczyk RL. Beauty imagined: a history of the global beauty industry. Bus Hist. 2013; 55(2):313-325.

23. Fissell ME. Medical Conflicts in Early Modern London: Patronage, Physicians, and Irregular Practitioners (Review). Bull Hist Med. 2006; 80(1):1550-1640.

24. Cortés Quesada JA, Barceló Ugarte T, Fuentes Cortina G. Audio-visual consumption of millennials and generation z: preference for snackable content. Doxa Comunicacion. 2023; 36:303-320.

25. Zorlu Y, Zorlu F. Investigation of The Relationship Between Preservice Science Teachers' 21st Century Skills and Science Learning Self-Efficacy Beliefs with Structural Equation Model. Journal of Turkish Science Education. 2021; 18(1):1-16.

26. Carruthers J, Carruthers A. BOTOX use in the mid and lower face and neck. Semin Cutan Med Surg. 2001; 20(2): 85-92.

27. Peters W. The Evolution of Breast Implants. Canadian Journal of Plastic Surgery. 2002; 10 (5):223-226.

28. Friedell E. A Cultural History of the Modern Age: The Crisis of the European Soul; 2017.

29. Traube EG, Stacey J. Star Gazing: Hollywood Cinema and Female Spectatorship. Contemp Sociol. 1995; 24(4):404.

30. Łopaciuk A, Łoboda M. Global Beauty Industry Trends in the 21st Century. Knowledge Management & Innovation Knowledge and Learning 2013.

31. Frank AW, Synnott A. The Body Social: Symbolism, Self and Society. Can J Sociol. 1995; 20:(4).

32. Gilman SL. *Making the Body Beautiful: A Cultural History of Aesthetic Surgery*. Princeton: Princeton University Press; 1999.

33. Sumarsono I. Fetishism Reflected in Sam Mendes's American Beauty. World Journal of English Language. 2022; 12(5).

34. The Beauty Myth: How Images of Beauty Are Used against Women. Choice Reviews Online 1992; 29(05).

35. Peiss K. Hope in a Jar: The Making of America's Beauty Culture; 2011.

36. Marwick AE. Instafame: Luxury Selfies in the Attention Economy. Public Culture. 2015; 27 (1 (75)):137-160.

37. Nakray K. The global beauty industry, colorism, racism and the national body. J Gend Stud. 2018; 27(7):1-2.

38. Swift A, Remington K. BeautiPHIcation™: a global approach to facial beauty. Clin Plast Surg. 2011; 38(3): 347-77.

39. Boixeda P, Feltes F, Santiago JL, Paoli J. Future prospects in dermatologic applications of lasers, nanotechnology, and other new technologies. Actas Dermosifiliogr. 2015; 106(3):168-79.

40. Aust MC, Fernandes D, Kolokythas P, Kaplan HM, Vogt PM. Percutaneous collagen induction therapy: An alternative treatment for scars, wrinkles, and skin laxity. Plast Reconstr Surg. 2008; 121(4):1421-1429.

41. Marwick AE. The Algorithmic Celebrity: The Future of Internet Fame and Microcelebrity Studies. In Microcelebrity Around the Globe: Approaches to Cultures of Internet Fame; 2018.

42. Vleggaar D. Soft-tissue augmentation and the role of poly-L-lactic acid. Plast Reconstr Surg 2006; 118(3 Suppl): 46S-54S.

43. Lothian A. Landscape and the Philosophy of Aesthetics: Is Landscape Quality Inherent in the Landscape or in the Eye of the Beholder? Landsc Urban Plan. 1999; 44(4)177-198.

44. Sundaram H, Signorini M, Liew S, et al. Global Aesthetics Consensus: Botulinum Toxin Type A - Evidence-Based Review, Emerging Concepts, and Consensus Recommendations for Aesthetic Use, Including Updates on Complications. Plast Reconstr Surg. 2016; 137(3):518e-529e.

45. Rohrich RJ, Pessa JE. The fat compartments of the face: anatomy and clinical implications for cosmetic surgery. Plast Reconstr Surg. 2007; 119(7):2219-2227.

46. Turkle S. Life on the Screen: Identity in the Age of the Internet. 1995; 6.

47. Lin N. An art museum in every mall? Persuasive spaces for contemporary art in China. J Vis Art Pract. 2022; 21(3): 217-240.

48. Featherstone M. Consumer Culture and Postmodernism; 2007.

49. Mulvey L. Visual Pleasure and Narrative Cinema. Screen (London) 1975; 16(3):6-18.

50. Luffarelli J, Mukesh M, Mahmood A. Let the Logo Do the Talking: The Influence of Logo Descriptiveness on Brand Equity. Journal of Marketing Research. 2019; 56(5).

51. Pariser E. *The Filter Bubble: What the Internet Is Hiding from You*. New York: Penguin Press; 2011.

52. Amadi L. Globalization and the Changing Liberal International Order: A Review of the Literature. Research in Globalization. 2020; 2(100015).

53. Domaradzka A. Urban Social Movements and the Right to the City: An Introduction to the Special Issue on Urban Mobilization. Voluntas. 2018; 29(4):607-620.

54. Warren E. The Dream of Beauty. Christianity and Literature. 1975; 24(2).

55. Yoo Y, Boland RJ, Lyytinen K, Majchrzak A. Organizing for Innovation in the Digitized World. Organization Science. 2012; 23(5):1398-1408.

56. Sarwer DB. Body image, cosmetic surgery, and minimally invasive treatments. Body Image 2019; 31:302-308.

57. Sharp G, Maynard P, Hudaib AR, et al. Do Genital Cosmetic Procedures Improve Women's Self-Esteem? A Systematic Review and Meta-Analysis. Aesthet Surg J. 2020; 40(10)1143-1151.

58. Harris MA, Orth U. The link between self-esteem and social relationships: A meta-analysis of longitudinal studies. J Pers Soc Psychol. 2020; 119(6):1459-1477.

59. Niveau N, New B, Beaudoin, M. Self-Esteem Interventions in Adults – A Systematic Review and Meta-Analysis. J Res Pers. 2021; 94.

60. Malcolm A, Labuschagne I, Castle D, Terrett G, Rendell PG, Rossell SL. The relationship between body dysmorphic disorder and obsessive-compulsive disorder: A systematic review of direct comparative studies. Aust N Z J Psychiatry. 2018; 52(11):1030-1049.

61. Castle D, Beilharz F, Phillips KA, et al. Body dysmorphic disorder: a treatment synthesis and consensus on behalf of the International College of Obsessive-Compulsive Spectrum Disorders and the Obsessive Compulsive and Related Disorders Network of the European College of Neuropsychopharmacology. Int Clin Psychopharmacol. 2021; 36(2):61-75.

62. Higgins S, Wysong A. Cosmetic Surgery and Body Dysmorphic Disorder – An Update. Int J Womens Dermatol. 2017; 4(1):43-48.

63. McCloskey D. Other Things Equal - Economical Writing: An Executive Summary. East Econ J. 1999; 25(2)239-242.

64. Asimakopoulou E, Zavrides H, Askitis T. PLASTIC SURGERY ON BODY IMAGE, BODY SATISFACTION AND SELF-ESTEEM. Acta Chir Plast. 2020; 61(1–4):3-9.

65. Larasati I. Analisis Pengaruh Kualitas Layanan Terhadap Kepuasan Dan Loyalitas Pengguna Menggunakan Metode Servqual Dan Expectation Confirmation Model (ECM), 2021.

66. Steinert S, Dennis MJ. Emotions and Digital Well-Being: On Social Media's Emotional Affordances. Philos Technol. 2022; 35(2).

67. Laughter MR, Anderson JB, Maymone MBC, Kroumpouzos G. Psychology of Aesthetics: Beauty, Social Media, and Body Dysmorphic Disorder. Clin Dermatol. 2023; 41 (1):28-32.

68. Fioravanti G, Bocci Benucci S, Ceragioli G, Casale S. How the Exposure to Beauty Ideals on Social Networking Sites Influences Body Image: A Systematic Review of Experimental Studies. Adolescent Research Review. 2022; 7:419-458.

69. McKeown DJ. Impact of Minimally Invasive Aesthetic Procedures on the Psychological and Social Dimensions of Health. Plast Reconstr Surg Glob Open. 2021; 9(4) e3578.

70. Dayan S, Rivkin A, Sykes JM, et al. Aesthetic Treatment Positively Impacts Social Perception: Analysis of Subjects from the HARMONY Study. Aesthet Surg J. 2019; 39(12):1380-1389.

71. Celikors E, Sims CR. The Relationship between Aesthetic Choices, Ratings, and Eye-Movements. In Advances in Intelligent Systems and Computing; 2018.

72. Lawson AK, Wright CV, Fitzgerald LF. The evaluation of sexual harassment litigants: reducing discrepancies in the diagnosis of posttraumatic stress disorder. Law Hum Behav. 2013; 37(5):337-347.

73. Sarwer DB, Wadden TA, Pertschuk MJ, Whitaker LA. The psychology of cosmetic surgery: a review and reconceptualization. Clin Psychol Rev. 1998; 18(1):18-22.

74. Long JA, Gutta R. Orbital, periorbital, and ocular reconstruction. Oral Maxillofac Surg Clin North Am. 2013; 25(2):151-66.

75. Gibson CF, Mandelaris GA. Restoration of the Anterior Segment in a Cleft Palate in Conjunction with Surgically Facilitated Orthodontic Therapy: An Interdisciplinary Approach. Dent Clin North Am. 2015; 59(3):733-53.

76. Rief W, Buhlmann U, Wilhelm S, Borkenhagen A, Brähler E. The prevalence of body dysmorphic disorder: a population-based survey. Psychol Med. 2006; 36(6):877-85.

77. Wilhelm S, Otto MW, Zucker BG, Pollack MH. Prevalence of body dysmorphic disorder in patients with anxiety disorders. J Anxiety Disord. 1997; 11(5):499-502.

78. Harris DL, Carr A. T. Prevalence of concern about physical appearance in the general population. Br J Plast Surg. 2001; 54(3):223-6.

79. Buhlmann U, Glaesmer H, Mewes R, et al. Updates on the prevalence of body dysmorphic disorder: a population-based survey. Psychiatry Res. 2010; 178(1):171-5.

80. Veale D, Gledhill LJ, Christodoulou P, Hodsoll J. Body dysmorphic disorder in different settings: a systematic review and estimated weighted prevalence. Body Image. 2016; 18:168-86.

81. Mansfield AK. Genital manifestations of body dysmorphic disorder in men: a review. Fertil Steril. 2020; 113(1):16-20.

82. Gunstad J, Phillips KA. Axis I Comorbidity in Body Dysmorphic Disorder. Compr Psychiatry. 2003; 44(4): 270-276.

83. Cotterill JA. Dermatological non□disease: a common and potentially fatal disturbance of cutaneous body image. Br J Dermatol. 1981; 104(6):611-9.

84. Schneier FR, Feusner J, Wheaton MG, et al. Pilot study of single-dose psilocybin for serotonin reuptake inhibitor-resistant body dysmorphic disorder. J Psychiatr Res. 2023; 161:364-370.

85. Enoch D, Puri BK, Ball H. Ekbom's Syndrome (Delusional Infestation) and Body Dysmorphic Disorder. In Uncommon Psychiatric Syndromes; 2020.

86. Dufresne RG, Phillips KA, Vittorio CC, Wilkel CS. A screening questionnaire for body dysmorphic disorder in a cosmetic dermatologic surgery practice. Dermatol Surg. 2001; 27(5):457-62.

87. Ipser JC, Sander C, Stein DJ. Pharmacotherapy and psychotherapy for body dysmorphic disorder. Cochrane Database Syst Rev. 2009; 2009(1):CD005332.

88. Phillips KA, Gunderson CG, Mallya G, McElroy SL, Carter W. A comparison study of body dysmorphic disorder and obsessive-compulsive disorder. J Clin Psychiatry. 1998; 59(11):568-75.

89. Manna V, Martucci N, Agnoli A. Double-Blind controlled study on the clinical efficacy and safety of

fluoxetine vs clomipramine in the treatment of major depressive disorders. Int Clin Psychopharmacol. 1989; 4 Suppl 1:81-8.

90. Pereira RT, Malone CM, Flaherty GT. Aesthetic journeys: a review of cosmetic surgery tourism. J Trav Med. 2018; 25(1).

91. Conroy M, Menard W, Fleming-Ives K, Modha P, Cerullo H, Phillips KA. Prevalence and Clinical Characteristics of Body Dysmorphic Disorder in an Adult Inpatient Setting. Gen Hosp Psychiatry. 2008; 30(1):67-72.

92. Black Looks: Race and Representation. Choice Reviews Online 1992, 30 (04).

93. Koran LM, Abujaoude E, Large MD, Serpe RT. The prevalence of body dysmorphic disorder in the united states adult population. CNS Spectr. 2008; 13(4):316-22.

94. El-Khayyat MA, El-Fakahany HM, Latif FA, Abdel-Fadeel NA. Body Dysmorphic Disorder in Females Seeking Aesthetic Dermatology Minimally Invasive Cosmetic Procedures. Egyptian Journal of Hospital Medicine. 2022; 88(1):2798-2804.

95. Salari N, Kazeminia M, Heydari M, et al. Body Dysmorphic disorder in individuals requesting cosmetic surgery: A systematic review and meta-analysis. J Plast Reconstr Aesthet Surg. 2022; 75(7):2325-2336.

96. Jin HR. Aesthetic Plastic Surgery of the East Asian Face; 2016.

97. Huynh PP, Ishii M, Juarez M, et al. Exploring Patient Motivations and Impact of Asian Blepharoplasty. Facial Plast Surg. 2020; 36(3)242-248.

98. Li EPH, Min HJ, Belk RW, Kimura J, Bahl S. Skin lightening and beauty in four Asian cultures. In Advances in Consumer Research; 2008; 35.

99. Orpheu SC, Coltro PS, Scopel GP, Saito FL, Ferreira MC. Body contour surgery in the massive weight loss patient: three year-experience in a secondary public hospital. Rev Assoc Med Bras. 2009; 55(4):427-33.

100. Dimitrov D, Kroumpouzos G. Beauty perception: A historical and contemporary review. Clin Dermatol. 2023; 41(1): 33-40.

101. Thomas MK, D'Silva JA, Borole AJ. Facial sculpting: Comprehensive approach for aesthetic correction of round face. Indian J Plast Surg. 2012; 45(1):122-127.

102. Tottoli EM, Dorati R, Genta I, Chiesa E, Pisani S, Conti B. Skin Wound Healing Process and New Emerging Technologies for Skin Wound Care and Regeneration. Pharmaceutics. 2020; 12(8):735.

103. Sisti A, Aryan N, Sadeghi P. What is Beauty? Aesthetic Plast Surg. 2021; 45(5):2163-2176.

104. Goyal N, Jerold F. Biocosmetics: technological advances and future outlook. Environ Sci Pollut Res Int. 2023; 30(10):25148-25169.

105. Jafferany M, Franca K. Psychodermatology: Basics Concepts. Acta Derm Venereol. 2016; 96(217):35-7.

106. Niechajev I. Noses of the Middle East: Variety of Phenotypes and Surgical Approaches. J Craniofac Surg. 2016; 27(7):1700-1706.

107. Appel G, Grewal L, Hadi R, Stephen A. T. The future of social media in marketing. J Acad Mark Sci. 2020; 48(1).

108. Perloff RM. Social Media Effects on Young Women's Body Image Concerns: Theoretical Perspectives and an Agenda for Research. Sex Roles. 2014; 71(11–12):363-377.

109. Stice E, Maxfield J, Wells T. Adverse effects of social pressure to be thin on young women: an experimental investigation of the effects of "fat talk." Int J Eat Disord. 2003; 34(1):108-17.

110. Tiggemann M, Slater A. NetGirls: the Internet, Facebook, and body image concern in adolescent girls. Int J Eat Disord. 2013; 46(6):630-3.

111. Harrison K. Television viewers' ideal body proportions: the case of the curvaceously thin woman. Sex Roles. 2003; 48(5–6):255-264.

112. Field AE, Camargo CA, Taylor CB, Berkey CS, Roberts SB, Colditz GA. Peer, parent, and media influences on the development of weight concerns and frequent dieting among preadolescent and adolescent girls and boys. Pediatrics. 2001; 107(1):54-60.

113. Festinger L. A Theory of Social Comparison Processes. Human Relations. 1954; 7(2).

114. Fardouly J, Diedrichs PC, Vartanian LR, Halliwell E. Social comparisons on social media: the impact of facebook on young women's body image concerns and mood. Body Image. 2015; 13:38-45.

115. Mahon C, Hevey D. Processing Body Image on Social Media: Gender Differences in Adolescent Boys' and Girls' Agency and Active Coping. Front Psychol. 2021; 12: 626763.

116. Brubaker R. Digital hyperconnectivity and the self. Theory Soc. 2020; 49(5–6):771-801.

117. Kaur W, Balakrishnan V, Rana O, Sinniah A. Liking, Sharing, Commenting and reacting on Facebook: User behaviors' impact on sentiment intensity. Telematics and Informatics. 2019; 39:25-36.

118. Tafesse W, Wood BP. Followers' engagement with instagram influencers: The role of influencers' content and engagement strategy. Journal of Retailing and Consumer Services. 2021; 58:102303.

119. McComb SE, Mills JS. Young women's body image following upwards comparison to instagram models: The role of physical appearance perfectionism and cognitive emotion regulation. Body Image. 2021; 38:49-62.

120. Constantinou E, Purves KL, McGregor T, et al. Measuring fear: association among different measures of fear learning. J Behav Ther Exp Psychiatry. 2021; 70:101618.

121. Marks RJ, De Foe A, Collett J. The pursuit of wellness: Social media, body image and eating disorders. Children and Youth Services Review. 2020; 119:105659.

122. Walker CE, Krumhuber EG, Dayan S, Furnham A. Effects of social media use on desire for cosmetic surgery among young women. Current Psychology. 2021; 40(7): 3355-3364.

123. Zafer Can Ugurhan Y, Kumtepe EG, Kumtepe AT, Saykili A. From Media literacy to new media literacy: a lens into

open and distance learning context. Turkish Online Journal of Distance Education. 2021; 21(Special):135-151.

124. Polanco-Levicán K, Salvo-Garrido S. Understanding Social Media Literacy: A Systematic Review of the Concept and Its Competences. Int J Environ Res Public Health. 2022; 19(14):8807.

125. Cho H, Cannon J, Lopez R, Li W. Social media literacy: A conceptual framework. New Media Soc. 2022; 26(2).

126. Krebs G, De La Cruz LF, Mataix-Cols D. Recent advances in understanding and managing body dysmorphic disorder. Evid Based Ment Health. 2017; 20(3):71-75.

127. McGrath LR, Oey L, McDonald S, Berle D, Wootton BM. Prevalence of body dysmorphic disorder: A systematic review and meta-analysis. Body Image. 2023; 46:202-211.

128. Malcolm A. Body Dysmorphic Disorder: Links with Eating Disorders and Gender-Related Factors. In Eating Disorders. 2023:1305-1326.

129. Sun MD, Rieder EA. Psychosocial issues and body dysmorphic disorder in aesthetics: Review and debate. Clin Dermatol. 2022; 40(1):4-10.

130. Fang A, Hofmann SG. Relationship between Social Anxiety Disorder and Body Dysmorphic Disorder. Clin Psychol Rev. 2010; 30(8):1040-1048.

131. Bowyer L, Krebs G, Mataix-Cols D, Veale D, Monzani B. A critical review of cosmetic treatment outcomes in body dysmorphic disorder. Body Image. 2016; 19:1-8.

132. Feldkamp J. The Rise of TikTok: The Evolution of a Social Media Platform During COVID-19. 2021:73-85.

133. Townsend C, Shu SB. When and how aesthetics influences financial decisions. Journal of Consumer Psychology. 2010; 20(4):452-458.

134. Tejero P. Aesthetic Medicine: Trends, Patients' Needs. In Regenerative Medicine Procedures for Aesthetic Physicians. 2019:9-14.

135. Fabi S, Alexiades M, Chatrath V, et al. Facial Aesthetic Priorities and Concerns: A Physician and Patient Perception Global Survey. Aesthet Surg J. 2022; 42(4): NP218-NP229.

136. Lai CS, Lee SS, Yeh YC, Chen CS. Body dysmorphic disorder in patients with cosmetic surgery. Kaohsiung J Med Sci. 2010; 26(9):478-82.

137. Mortada H, Seraj H, Bokhari A. Screening for body dysmorphic disorder among patients pursuing cosmetic surgeries in Saudi Arabia. Saudi Med J. 2020; 41(10): 1111-1120.

138. Boen M, Jerdan K. Growing impact of social media in aesthetics: Review and debate. Clin Dermatol. 2022; 40(1):45-48.

139. Sugier E, Firlej E, Sokołowska A, Janiszewska M. Aesthetic medicine in the context of mental health and ethics. Aesth Cosmetol Med. 2020; 9(4):411-416.

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