International Journal of Innovative Technologies in Social Science

e-ISSN: 2544-9435

Operating Publisher
SciFormat Publishing Inc.
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW,
Calgary, Alberta, T3E0A7,
Canada
+15878858911
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ARTICLE TITLE	SMILE AESTHETICS PERCEPTION ACROSS POPULATIONS: A NARRATIVE REVIEW OF CULTURAL AND PSYCHOLOGICAL INFLUENCES
DOI	https://doi.org/10.31435/ijitss.3(51).2026.5935
RECEIVED	28 May 2026
ACCEPTED	24 August 2026
PUBLISHED	31 August 2026
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SMILE AESTHETICS PERCEPTION ACROSS POPULATIONS: A NARRATIVE REVIEW OF CULTURAL AND PSYCHOLOGICAL INFLUENCES

Maria Torchalska *(Corresponding Author, Email: mariatorchalska@gmail.com)*
Medical Center of the Medical University of Warsaw, Poland
ORCID ID: 0009-0006-5175-6053

Martyna Smogór
Independent Researcher, Warsaw, Poland
ORCID ID: 0009-0002-6473-9472

Monika Maria Szerszeń
Independent Researcher, Warsaw, Poland
ORCID ID: 0009-0005-3145-8326

ABSTRACT

Objectives: The aim of this narrative review was to synthesize the determinants of smile aesthetics perception across different populations, with special emphasis on cultural, psychological, social, and individual influences.
Methods: A narrative literature review was conducted using full-text scientific publications retrieved from the PubMed, Scopus, and Google Scholar databases. Studies published between 1981 and 2026 concerning topics like smile aesthetics, facial attractiveness, aesthetic perception, cultural differences, psychological factors, and social perception were analyzed and organized into thematic categories.
Key Findings: The reviewed literature demonstrated that smile aesthetics perception is influenced not only by objective anatomical parameters but also by observer-related factors. Although tooth symmetry, proportions, smile line curvature, and gingival display remain important determinants of attractiveness, their perception is strongly modulated by cultural background, education, personality traits, self-esteem, and previous experiences. Major differences were observed between dental professionals and laypersons, as well as among populations representing different cultural and ethnic backgrounds. Social media also increasingly shaped expectations regarding the "ideal smile" and contributed to growing interest in cosmetic dental procedures.
Conclusions: Smile aesthetics perception is a complex phenomenon resulting from interactions between biological, psychological, social, and cultural factors. Contemporary aesthetic dentistry should adopt individualized and culturally adapted approaches that integrate objective anatomical analysis with patients' subjective expectations and psychosocial context.

KEYWORDS

Smile Aesthetics, Facial Attractiveness, Aesthetic Perception, Social Perception, Cultural Differences, Cross-Cultural Perception, Psychological Factors, Self-Perception, First Impression, Quality of Life

CITATION

Maria Torchalska, Martyna Smogór, Monika Maria Szerszeń. (2026) Smile Aesthetics Perception Across Populations: a Narrative Review of Cultural and Psychological Influences. *International Journal of Innovative Technologies in Social Science*. 3(51). doi: 10.31435/ijitss.3(51).2026.5935

Introduction

The smile is a very important element of the human face. It serves not only an aesthetic function but also plays a significant role in interpersonal communication. Through smiling, people express emotions, connect with others, and build social bonds. Studies show that smile aesthetics influence social perception from an early age, as children are capable of judging which smile appears "more attractive" and tend to attribute more positive personality traits to individuals with attractive smiles [1-3]. The smile is also an important factor in socialization and the formation of interpersonal relationships [4]. Improvement of an unaesthetic smile may promote better social functioning, increase self-confidence, and indirectly reduce the risk of negative social experiences during childhood, such as rejection or bullying [5].

In adulthood, the smile also remains an important aspect of social life and may even influence first impressions. First impressions of a newly encountered person are formed within fractions of a second [6]. This process is largely automatic and involves not only attractiveness but also assumptions regarding personality traits. People tend to over-interpret facial features, including the smile, and often attribute more positive characteristics to individuals with attractive faces. These first 100 milliseconds may influence social decisions, interpersonal relationships, and even perceptions of competence [7]. However, that appearance alone is not everything - verbal communication may strengthen or weaken the effect of appearance. Smile aesthetics and facial attractiveness influence first impressions, yet their effects are dynamically modulated by verbal behaviors, highlighting the multidimensional nature of social perception [8].

Self-perception of one's smile also influences self-image. Perception of one's own smile plays an important role in psychological well-being, and studies indicate that subjective evaluation of smile aesthetics is a predictor of self-esteem and may have a greater impact than objective dental conditions [9,10].

What, then, constitutes an attractive smile? An attractive smile is a complex composition resulting from harmonious relationships among dental, gingival, and soft tissue components. Key elements include proper tooth proportions and symmetry, correct midline alignment, tooth shape and size, smile line curvature, degree of gingival display, and congruence between the incisal edge curvature and the contour of the lower lip. Overall integration of these components with facial features is also essential; it determines whether the smile is perceived as natural and aesthetic [11]. Assessment of smile attractiveness is, at the same time, subjective and largely holistic - observers generally do not analyze individual features in isolation but perceive the smile as an integrated whole, while minor deviations from ideal norms may remain unnoticed or socially acceptable. An attractive smile is not defined by a single universal standard but rather by a balance between objective anatomical parameters and subjective aesthetic perception [12,13].

Therefore, there is no single, completely universal standard of an "attractive smile"; its evaluation also depends on subjective perception. Such perception may be influenced by cultural, social, and individual factors. A study by Sadrhaghighi showed that individuals outside the dental profession from different cultures and ethnic groups revealed notable variation in their evaluation of smile attractiveness, particularly regarding tooth color, symmetry, and gingival display [14]. Social factors and educational levels also influence perception - individuals associated with dentistry exhibit greater sensitivity to aesthetic details than laypersons [15,16]. Individual factors such as personality traits, self-esteem, and personal aesthetic experiences are also important [17,18]. Nowadays, consumerism and social media increasingly influence perceptions of smile attractiveness by promoting specific aesthetic standards and shaping patients' expectations regarding their appearance [19-21].

Despite the dynamic development of research on smile aesthetics, the available literature mainly focuses on selected isolated aspects of the topic, such as anatomical features, cultural differences, or aesthetic perception in specific groups. There remains a lack of a comprehensive model integrating the multiple determinants of smile attractiveness perception. Interactions among cultural and psychological factors, healthcare systems, increasing personalization of treatment, and the influence of modern consumer behaviors, and social media remain insufficiently explored. This fragmentation limits comprehensive understanding of the mechanisms shaping smile aesthetics perception.

The aim of the present study is to synthesize the multidimensional determinants of smile aesthetics perception, with particular emphasis on cultural, psychological, social, and individual factors, as well as their interrelationships across different populations.

Methodology

The present study was conducted as a narrative literature review based on full-text scientific publications available in the PubMed, Scopus, and Google Scholar databases. The literature search used keywords: smile aesthetics, facial attractiveness, aesthetic perception, social perception, cultural differences, cross-cultural perception, psychological factors, self-perception, first impression, and quality of life, combined with the Boolean operators AND and OR. The analysis included publications from 1981 to March 2026. Studies were selected through title and abstract screening, followed by full-text evaluation. Inclusion criteria covered research addressing biological, cultural, psychological, and perceptual aspects of smile aesthetics.

The collected data were analyzed using qualitative descriptive methods and synthesized into thematic categories reflecting the multidimensional nature of smile aesthetics perception.

Results

Anatomical Determinants of Smile Aesthetics

An aesthetic smile is largely based on objective anatomical characteristics. The most important include tooth proportions and symmetry, proper dental midline positioning, tooth shape and size, smile line curvature, and the degree of gingival display [11]. The relationship between the curvature of the incisal edge and the contour of the lower lip also plays a substantial role in determining whether a smile is perceived as natural [22]. Smile aesthetics are additionally influenced by buccal corridor width [23] and more subtle features such as incisal embrasures [24].

Studies indicate that minor deviations in smile anatomical parameters are often socially acceptable and do not significantly affect aesthetic evaluation, whereas larger abnormalities may reduce perceived attractiveness. This phenomenon is well illustrated by midline diastema - a small diastema may be accepted, while increasing its width is associated with a decline in aesthetic ratings [25,26]. However, tolerance toward deviations also depends on the observer's subjective perception [13].

Subjectivity of Perception, Social and Educational Determinants

Despite the key role of anatomical parameters, smile aesthetics assessment is clearly subjective and depends on observer-related characteristics. Numerous studies reveal notable differences in perception between professionals and non-professionals - dentists and orthodontists exhibit greater sensitivity to subtle aesthetic deviations and approach smile evaluation in a more analytical way, whereas laypersons rely more on overall visual impressions [15,27-29]. These differences have been consistently observed across different populations and cultural contexts, suggesting a universal pattern; similar findings have been reported in Latin American, Middle Eastern, and Indian populations [28,30,31].

Educational level and clinical experience are also important modifying factors. Studies among dental students show that as education progresses, the ability to identify subtle aesthetic irregularities increases while acceptance of these deviations decreases [32–34]. Similar tendencies have been observed among individuals with orthodontic treatment experience, who display greater aesthetic awareness and a more critical approach to smile assessment [35].

It is also worth emphasizing that smile aesthetics perception is shaped not only by knowledge and experience but also by individual psychological characteristics. Factors such as personality traits and personal aesthetic preferences may influence interpretation of the same morphological features, leading to variability in evaluations even within similar social groups [36]. The evaluator's gender may also affect smile perception [35].

Cultural and Ethnic Factors

Smile aesthetics perception differs considerably depending on culture and ethnic background. Many studies confirm that certain aesthetic norms (for example facial symmetry or white teeth) may be relatively universal, but local differences remain dominant in practice. Analysis of cosmetic advertisements demonstrated that Western countries (USA, Latin America, Australia) tend to prefer models with darker, tanned skin and fuller lips, whereas East Asian countries (China, Korea, Japan, Thailand) promote pale "milky" skin and smaller lips [37]. A survey study conducted in China revealed that Chinese participants most frequently preferred oval face shapes, tapered jawlines, and full lips with a pronounced Cupid's bow [38]. Despite these differences, rankings of facial attractiveness performed by Chinese and American orthodontists were relatively consistent, with highly correlated evaluations and only minor differences in mean ratings [39]. Cultural differences also emerge in emotional perception - Americans reacted more strongly to contextual cues, perceiving smiles displayed in negative situations as less genuine compared with Chinese observers [40].

Other comparative studies highlight that observers from different cultural backgrounds vary in their tolerance toward deviations from the smile aesthetic norm. For example, Americans were more tolerant of diastema and enlarged buccal corridors than Iranians [41]. In several West African countries broad diastemas (2-4 mm) are considered attractive - 95% of respondents regarded them as beautiful, and some individuals even considered artificial creation or re-establishment of a diastema following orthodontic treatment [42]. In Western countries, on the contrary, diastemas are generally considered unattractive and corrected whenever possible [43]. Comparisons between Latvian and Uzbek populations revealed that Uzbek participants were significantly more satisfied with their smiles than Latvians [44]. Liang et al. also reported anatomical differences between Chinese and Caucasian populations - individuals of Chinese origin more frequently presented the so-called "commissure smile" and different upper lip curvature, suggesting the necessity of considering ethnic characteristics during aesthetic treatment planning [45]. Similar conclusions were drawn by Kowalski et al., who demonstrated cross-country differences in objective oral aesthetic and health parameters among smokers from Italy, Poland, Moldova, and Indonesia. In particular, differences were observed in tooth whiteness index (WID) and oral hygiene parameters, with the highest aesthetic values found in the Italian population and the lowest in the Indonesian population, indicating an important contribution of behavioral and cultural factors to objective smile aesthetics [46].

The collected evidence clearly suggests that both subjective evaluation and objective aesthetic parameters of the smile are strongly modulated by cultural, ethnic, and behavioral determinants, which should be considered during aesthetic treatment planning in different populations.

Psychological and Individual Factors

Studies confirm that smile aesthetics perception may partly depend on personality traits and individual attitudes. Al-Bitar et al. (2025) revealed that individuals with higher agreeableness and conscientiousness preferred smiles without diastema, whereas openness was associated with greater tolerance toward minor disproportions and higher ratings of smiles with moderate gingival display. Extraverted individuals generally perceived smiles as more attractive, even when they contained minor imperfections [36]. On the other hand, the authors emphasized that the strength of these associations was relatively weak, suggesting that personality constitutes only one of many factors influencing smile attractiveness perception [36].

Piscoche-Rodríguez et al. (2025) confirmed an association between personality traits and subjective evaluation of one's own smile - individuals who were more open, sociable, and kind reported greater satisfaction with their smiles compared with those presenting opposite characteristics [17]. In contrast, smile repeatability across repeated facial expressions was not associated with higher or lower attractiveness ratings [47].

Demographic and individual factors also modulate smile perception. Mannaa (2023) demonstrated that sex, age, and marital status influence self-perception of the smile [48]. In the same study, women more frequently believed that the evaluator's sex influenced smile assessment, whereas men more commonly believed in the existence of an "ideal smile" [48]. In a study by Tin-Oo et al. (2011) 52.8% of patients reported dissatisfaction with the appearance of their teeth, with women more likely to dislike tooth color and perceive their teeth as excessively protrusive [49]. Vallittu et al. (1996) showed that patients with lower educational levels preferred whiter teeth compared with patients with higher educational attainment [50].

Finally, satisfaction with smile appearance and treatment outcomes also has a psychological dimension. Feldmann (2014) showed that final satisfaction with orthodontic treatment depended substantially on subjective feelings of care and experienced discomfort, rather than solely on the aesthetic result itself. Patients reported greater satisfaction when they felt well informed and adequately cared for, whereas pain and discomfort negatively affected treatment satisfaction [51].

Overall, these findings indicate that beyond objective smile characteristics, individual determinants - including personality, self-esteem, sex, and sociocultural context - play a major role in shaping aesthetic perception.

Influence of Media and Consumer Behaviors

Today, media (including the internet and social media platforms) and associated consumer trends play an important role in shaping patients' aesthetic expectations. A literature review by Ruiz et al. showed that as many as 85% of analyzed studies confirmed the influence of media messages on patients' perceptions of dental treatment [21], while a study by Samman et al. revealed that most individuals learned about new "miracle" procedures (for example inexpensive "snap-on smile" appliances) primarily through social media content [19]. Media hype contributes to increasing demand for cosmetic procedures, often disproportionate to actual clinical

needs - patients pursue the "perfect" smile through both traditional procedures (orthodontic appliances, veneers, whitening) and inexpensive products marketed as a rapid route to a "Hollywood smile" [19-21].

Smile Aesthetics and Psychosocial Functioning

Smile aesthetics considerably influence social functioning. An attractive smile promotes positive social perception, affects first impressions, and may influence judgments regarding competence, trustworthiness, and likability [7,8]. Furthermore, disturbances in smile aesthetics, such as malocclusion, may negatively affect quality of life and psychosocial functioning, potentially leading to reduced self-esteem and difficulties in interpersonal relationships [52].

Summary of Results

The analyzed studies imply that smile aesthetics perception is multifactorial and results from interactions between objective anatomical characteristics and subjective observer evaluation. Although parameters such as symmetry, tooth proportions, and gingival display are notable parts in smile attractiveness assessment, their perception is modulated by cultural, psychological, social, and individual factors. Significant differences in perception were observed between professionals and laypersons, as well as among populations representing different cultural and ethnic backgrounds. Personality traits, self-esteem, and previous aesthetic experiences also play important roles. Additionally, contemporary media and consumer trends influence expectations regarding the "ideal" smile, often increasing aesthetic pressure and interest in cosmetic procedures. The collected data highlight the need for individualized aesthetic treatment planning and consideration of the psychosocial and cultural context of smile perception in clinical practice.

Discussion

The conducted literature review provides evidence that smile aesthetics perception is a multidimensional phenomenon that cannot be described solely on the basis of objective anatomical parameters. Features such as tooth symmetry, clinical crown proportions, gingival display, and smile line curvature remain important determinants of attractiveness [11], but the analyzed studies also demonstrate that their significance is modulated by psychological, cultural, social, and individual factors [14-17, 26-31, 36-44]. This means that smile aesthetics are not entirely universal but rather result from interactions between biological facial characteristics and the observer's interpretation of them.

The results of the present review show that people evaluate attractiveness primarily in a holistic manner rather than through analysis of isolated morphological features. This explains why minor deviations from ideal parameters - small asymmetries, slight diastemas or subtle differences in gingival exposure - often remain socially acceptable and do not substantially affect smile attractiveness ratings. Only more pronounced abnormalities lead to clear reductions in aesthetic evaluations [12]. At the same time, the threshold of tolerance for such deviations appears variable and dependent on the observer's individual characteristics [13].

Differences between professionals and laypersons are particularly evident. Dentists and orthodontists are more sensitive to subtle aesthetic irregularities and assess smiles more analytically than individuals not professionally related to dentistry [15-16, 26-31]. As dental education progresses, acceptance of minor deviations from aesthetic norms decreases [32-34]. This phenomenon has important clinical implications, as it may lead to discrepancies between clinicians' treatment expectations and patients' perceptions. The findings therefore suggest the need to place greater emphasis on patients' subjective expectations during aesthetic treatment planning and to ensure effective communication regarding realistic therapeutic needs.

Analysis of cross-cultural studies also points to the fact that smile attractiveness assessment strongly depends on sociocultural context. Although certain features appear relatively universal, individual populations differ in their tolerance toward specific aesthetic characteristics. One example is the perception of diastema, which is generally regarded as undesirable in Western cultures [43], whereas in some West African countries it is considered attractive and socially desirable [42]. These differences emphasize that aesthetic norms are partly cultural constructs and should not be uncritically standardized in clinical practice. Contemporary aesthetic dentistry increasingly requires consideration of cultural differences, ethnic background, local beauty standards, and individual patient preferences.

Psychological factors also represent an important aspect of the discussed phenomenon. The analyzed studies suggest that personality traits, self-esteem, and previous orthodontic treatment experiences may influence both self-evaluation of one's own smile and perception of other individuals' smiles [17,35,48-51]. More extraverted or open individuals tended to evaluate smiles containing minor imperfections more positively, whereas higher conscientiousness and agreeableness were associated with a preference for more "ideal" aesthetic parameters [36]. Although these associations were not particularly strong, they suggest that aesthetic

perception is not purely a visual process but is also partially related to the observer's psychological characteristics. At the same time, subjective evaluation of one's own smile demonstrates a strong association with psychological well-being and self-esteem, confirming the psychosocial importance of dental aesthetics [17].

The review findings also highlight the growing role of social media and contemporary consumer culture in shaping aesthetic expectations. The internet and social media promote specific ideals of the "perfect smile," often associated with extremely white teeth, perfect symmetry, and an unnaturally high level of aestheticization. This may contribute to increased social pressure and greater interest in cosmetic procedures that are not always clinically justified. This phenomenon appears particularly important among younger patients, who more frequently obtain information regarding aesthetic treatment from social media rather than professional sources [19-21]. Consequently, dentists increasingly face the challenge of balancing patients' aesthetic expectations with principles of minimally invasive and biologically justified treatment.

Another important conclusion of the present study concerns the psychosocial consequences of smile aesthetics. An attractive smile may influence first impressions, perceived competence, trustworthiness, and interpersonal attractiveness, while also promoting better social functioning and higher self-esteem [1-4]. Conversely, disturbances in smile aesthetics may lead to reduced quality of life, social limitations, and increased risk of negative psychosocial experiences [5]. This confirms that dental aesthetics are not merely a cosmetic issue but may constitute an important component of patients' psychological and social well-being.

It is worth noting that the present study has certain limitations. First, the narrative nature of the review entails a risk of subjectivity in literature selection and lacks quantitative analysis of the findings. The analyzed studies also exhibited considerable methodological heterogeneity, differing in study populations, methods of aesthetic evaluation, and research tools used. This limits direct comparison of results and the formulation of unequivocal conclusions. Additionally, some available studies focused on selected populations or isolated aspects of smile aesthetics, making it difficult to establish a universal model of smile perception.

Despite these limitations, the conducted analysis implies that smile aesthetics perception results from complex interactions among biological, psychological, social, and cultural factors. In clinical practice, this implies the necessity of individualized approaches to aesthetic treatment and abandonment of rigid, universal models of the "ideal smile." Contemporary aesthetic dentistry should take into account not only objective anatomical parameters but also patients' subjective expectations and cultural backgrounds. Future studies should focus on developing more comprehensive models integrating biological and psychosocial factors and on evaluating the impact of rapidly evolving digital media on smile aesthetics perception across different populations.

Conclusions

Smile aesthetics perception is a complex and multifactorial phenomenon resulting from interactions between objective anatomical characteristics and the observer's subjective evaluation. Although parameters such as symmetry, tooth proportions, smile line curvature, and gingival display play major roles in attractiveness assessment, their perception is strongly modulated by cultural, psychological, social, and individual factors.

The analyzed studies indicate that smile aesthetics perception differs between professionals and laypersons, and also among populations representing different cultural and ethnic environments. Personality traits, self-esteem, previous aesthetic experiences, and the influence of contemporary social media and consumer trends are also important. Moreover, smile aesthetics affect psychosocial functioning, influencing first impressions, interpersonal relationships, self-esteem, and quality of life.

The obtained findings emphasize the necessity of individualized aesthetic treatment planning and consideration of the psychosocial and cultural context of smile perception in clinical practice. Contemporary aesthetic dentistry should be based not only on analysis of anatomical parameters but also on understanding patients' subjective expectations and needs. Further research integrating biological, psychological, and social determinants of smile aesthetics is necessary, particularly in the context of the dynamically changing influence of digital media and globalization of aesthetic standards.

Author's contribution:
Research concept and design - Maria Torchalska, Martyna Smogór
Data collection and/or compilation - Maria Torchalska, Monika Szerszeń
Data analysis and interpretation - Martyna Smogór, Monika Szerszeń
Writing - Maria Torchalska, Martyna Smogór, Monika Szerszeń
Supervision, project administration - Maria Torchalska

Funding statement: This research received no external funding.
Conflict of interest statement: The authors declare no conflict of interest.

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