

AESTHETICS: SHADE MATCHING

Integration of grey relational analysis and deep neural networks for optimized dental shade selection in aesthetic restorations [Accessible from the Wiley link on this page]	J Prosthodont 2026; online 4 March: jopr.70119
Photo-based color analysis in restorative dentistry: the role of artificial intelligence algorithms [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2025; online 20 Dec: jerd.70078
Clinical impact of targeted short-term color science training on shade matching accuracy of light-colored teeth [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2025; 37 (7): 1962-1970
Color match of single-shade versus multi-shade resin composites: A systematic review with meta-analysis	J Esthet Restor Dent 2025; 37 (6): 143-1451
Color comparison between intraoral scanner and spectrophotometer shade matching: a systematic review and meta-analysis	J Esthet Restor Dent 2025; 37 (2): 361-377
Effect of different instrumental techniques and clinical experience on shade matching	J Prosthodont 2025; 34 (6): 609-616
Tooth bleaching effects on colour matching of single-shade composite restorations	J Can Dent Assoc 2025; 91: p3
Coverage error and shade-match accuracy in three ceramic gingival systems	J Prosthet Dent 2025; 133 (1): 264-272
Bibliometric analysis of the 100 most-cited articles on the methods of shade-matching in dentistry [Review]	Clin Exp Dent Res 2024; 10 (6): e70037
Artificial intelligence systems in dental shade-matching: A systematic review [Accessible from the Wiley link on this page]	J Prosthodont 2024; 33 (6): 519-532
Accuracy of color determination by intraoral scanners in bleached and unbleached teeth: A clinical study (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Oper Dent 2024; 49(5): 507-518
Current trends in digital shade matching – A scoping review	Japan Dent Sci Rev 2024; 60: 211-219
Accuracy and precision of intraoral scanners for shade matching: A systematic review [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2024; 132(4): 714-725
Instrumental and visual evaluation of the chameleon effect of single-shaded composite resins (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Oper Dent 2024; 49(4): 432-442
Bridging instrumental and visual perception with improved color difference equations: A multi-center study	Dent Mater 2024; 40(10): 1497-1506

AESTHETICS: SHADE MATCHING

Comparing color match by conventional trial and error method with maxillofacial spectrophotometer method for the skin of Indian participants: A subjective and objective assessment [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2024; 132(4): 843.e1-843.e8
Comparing the color match of monolithic CAD-CAM dental ceramics with the VITA Classical shade guide [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2024; 132(3): 605-611
Assessing color mismatch in single-shade composite resins for enamel replacement [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2024; 132(3): 613.e1-613.e8
Graded silicone shade guide utilized for shade matching extraoral prostheses [Accessible from the Wiley link on this page]	J Prosthodont 2024; 33(6): 515-518
Effect of different instrumental techniques and clinical experience on shade matching	J Prosthodont 2024; online 13 June doi.org/10.1111/jopr.13894
Artificial intelligence systems in dental shade-matching: A systematic review [Accessible from the Wiley link on this page]	J Prosthodont 2024; 33(6): 519-532
Comparison between direct and indirect "digital image" dental visual shade matching considering the effect of clinical experience and gender [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2024; 36(6): 827-837
The evolving language of shade matching: From softwares to mobile apps [Editorial]	J Contemporary Dent Pract 2024; 25(5): 403-404
Analysis of shade-matching ability in dental students: a comparative study under clinical and correcting light conditions	BMC Med Educ 2024; 24: 169
In-vivo repeatability of three intra-oral spectrophotometers	J Esthet Restor Dent 2024; 36(3): 520-526
Three-dimensional representation of the Vita Toothguide 3D-Master: An in vivo clinical study	J Esthet Restor Dent 2024; 36(3): 421-428
Shade match comparison of CAD-CAM single crowns o a lithium disilicate crown [Accessible from the Wiley link on this page]	J Prosthodont 2024; 33 (3): 246-251
Ceramic veneer shade evaluation using a multicolored 3D-printed model—A case report [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2024; 36(3): 415-420
Exploring digital gingival shade matching in students [can be up accessed on DOSS free by logging in on this page]	Int J Prosthodont 2024; 37(2): 135-144
Influence of individual education and training on quality of color matching in dentistry [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2024; 36(1): 116-123

AESTHETICS: SHADE MATCHING

A step-by-step technique to create an ideal color match, form, and surface texture to all-ceramic restorations [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2024; 36(1): 65-77
Evaluation of shade reproducibility and mechanical properties of preshaded and manually shaded monolithic zirconia (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Oper Dent 2024; 49(1): 110-116
Color match of a universal-shade composite resin for restoration of non-carious cervical lesions: an equivalence randomized clinical trial (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Oper Dent 2024; 49(1): 43-51
Harmonizing color measurements in dentistry using translucent tooth-colored materials	BMC Oral Health 2024; 24: 173
Shade match comparison of CAD–CAM single crowns to a lithium disilicate crown [Accessible from the Wiley link on this page]	J Prosthodont 2024; 33(3): 246-251
A system for reliable composite shade matching: Custom shade tabs and an intra-oral mockup [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2023; 35(5): 787-795
Clinical tooth color matching: in vivo comparisons of digital photocolometric and spectrophotometric analyses (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Oper Dent 2023; 48(5): 490–499
Accuracy and reliability of smartphone virtual shade-matching technique: an in vitro study [can be up accessed on DOSS free by logging in on this page]	Int J Prosthodont 2023; 36 (3): 331-337
New digital approach to posterior tooth color reproduction in biomimetic adhesive restorations [can be up accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2023; 18 (1): 50-62
Chromatic compatibility of two gingival shade guides with human keratinized gingiva [can be up accessed on DOSS free by logging in on this page]	Int J Prosthodont 2023; 36 (1): 20-29
The role of intraoral scanners in the shade matching process: a systematic review	J Prosthodont 2023; 32 (3): 196-203
A practical, predictable, and reliable method to select shades for direct resin composite restorations [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2023; 35 (1): 19-25
The accuracies of three intraoral scanners with regard to shade determination: An in vitro study	J Prosthodont 2023; 32(5): e111-e117
Using artificial intelligence to predict the final color of leucite-reinforced ceramic restorations [Accessible from the Wiley link on this page]	J Esthet Restor Dent 2023; 35 (1): 105-115
Optimized digital shade calibration technology for the restoration of a single central incisor	J Prosthet Dent 2022; 128 (1): 1-3

AESTHETICS: SHADE MATCHING

[The role of intraoral scanners in the shade matching process: a systematic review](#)

J Prosthodont 2022; online 2 Aug
doi.org/10.1111/jopr.13576

Color match of composite resin and remaining tooth structure over a period of 28 days using spectrophotometer--a randomized clinical trial (request using <https://www.smartsurvey.co.uk/s/PJHMV/>)

Oper Dent 2021; 46 (6): 609-620

Evaluation of color-matching ability of a structural colored resin composite (request using <https://www.smartsurvey.co.uk/s/PJHMV/>)

Oper Dent 2021; 46 (3): 306-315

Determining color for the direct restorative approach [can be up accessed on DOSS free by logging in [on this page](#)]

Int J Esthet Dent 2021; 16 (4): 494-513

Assessment of a smartphone-based software application as a potential digital tool in tooth shade selection: a prospective clinical study [can be up accessed on DOSS free by logging in [on this page](#)]

Quintessence Int 2021; 52(7): 608-617

Impact of the ambient light illuminance conditions on the shade matching capabilities of an intraoral scanner [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2021; 33(6): 906-912

Evaluation of shade matching of a novel supra-nano filled esthetic resin composite employing structural color using simplified simulated clinical cavities [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2021; 33(6): 874-883

Efficacy of color discrimination tests used in dentistry [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2021; 33(6): 865-873

Accuracy and repeatability of different intraoral scanners on shade determination [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2021; 33(6): 844-848

Color match using instrumental and visual methods for single, group, and multi-shade composite resins [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2021; 33(2): 394-400

[Objective shade matching, communication, and reproduction by combining dental photography and numeric shade quantification](#)

J Esthet Restor Dent 2021; 33(1): 107-117

Impact of the ambient light illuminance conditions on the shade matching capabilities of an intraoral scanner [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2020 Sep 21

Analysis of the color matching of universal resin composites in anterior restorations [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2020 Sep 29

Color match of high translucency monolithic zirconia restorations with different thicknesses and backgrounds [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2020; 32(6): 615-621

Color match using instrumental and visual methods for single, group, and multi-shade composite resins [Accessible from the Wiley link [on this page](#)]

J Esthet Restor Dent 2020 Aug 25

AESTHETICS: SHADE MATCHING

Color determination with no-match-templates using two different tooth color scales – An in vitro evaluation	J Esthet Restor Dent 2020; 32(6): 593-600
Comparison of visual analog shade matching, a digital visual method with a cross-polarized light filter, and a spectrophotometer for dental color matching [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2020 Mar 17
Effect of ceramic thickness and cement type on the color match of high-translucency monolithic zirconia restorations (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Int J Prosthodont 2020 Jan 28
Perceptibility and acceptability of surface gloss variations in dentistry (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Op Dent 2020; 45(2): 134-142
A yellowness index for use in dentistry [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2019; (91): 103244
The accuracy of dental shade matching using cross-polarization photography [can be accessed on DOSS free by logging in on this page]	Int J Computerized Dent 2019; 22(4): 343-351
A comparison between visual, intraoral scanner, and spectrophotometer shade matching: A clinical study [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2019; 121(2): 271-275
Effects of luting composites on the resultant colors of ceramic veneers to intended shade tab [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2019; (28): 327-331
Variability of color matching with different digital photography techniques and a gray reference card [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2019; (121): 333-339
Analysis of shade matching in natural dentitions using intraoral digital spectrophotometer in LED and filtered LED light sources [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2019; (28): e68-e73
Color differences between pink veneering ceramics and the human gingiva [can be accessed on DOSS free by logging in on this page]	Int J Periodontics Restorative Dent 2018; 38 (Suppl.): s59-s65
Dental shade guide variability for hues B, C, and D using cross-polarized photography [can be accessed on DOSS free by logging in on this page]	Int J Periodontics Restorative Dent 2018; 38 (Suppl.): s113-s118
Evaluation of colorimetric indices for the assessment of tooth whiteness [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2018; (76): 132-136

AESTHETICS: SHADE MATCHING

Gingival shade guides: Colorimetric and spectral modelling [can be accessed on DOSS free by logging in on this page]	J Esthet Restor Dent 2018; 30: E31-E38
Effects of a shade-matching light and background color on reliability in tooth shade selection [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2018; 13(2): 198-206
Effect of porcelain shade and application time on shade reproduction [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2018; 27: 227-31
Technique to match gingival shade when using pink ceramics for anterior fixed implant prostheses [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2018; 27: 311-13
Natural tooth color estimation based on age and gender [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2017; (26): 107-114
Tooth colour and whiteness: a review [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2017; 67: S3-S10
Reliability of visual and instrumental color matching [can be accessed on DOSS free by logging in on this page]	J Esthet Restor Dent 2017; 29: 303-308
Changes of tooth color in middle and old age: a longitudinal study over a decade [can be accessed on DOSS free by logging in on this page]	J Esthet Restor Dent 2017; 29: 459-463
Functional pink Al₂O₃: Mn pigments applied in prosthetic dentistry [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2017; 118: 771-777
Appearance differences between lots and brands of similar shade designations of dental composite resins [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2017; 29(2): e6-e14
Comparison of visual shade matching and electronic color measurement device [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2017; 12(3): 396-404
The development of a novel shade selection program for fixed shade translucent dental materials [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2017; (62): 81-64
The effectiveness of a shade-matching training program on the dentists' ability to match teeth color [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2017; 29(2): e33-e43
eLABor_aid: A new approach to digital shade management [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2017; 12(2): 186-202
Performance of dental students in shade matching: impact of training [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2017; 29(2): e24-e32

AESTHETICS: SHADE MATCHING

Influence of gender on visual shade matching in dentistry [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2017; 29(2): e15-e23
Influence of light source, polarization, education, and training on shade matching quality	J Prosthet Dent 2016; (116): 91-97
Evaluation of dental shade guide variability using cross-polarized photography [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	Int J Periodontics Restorative Dent 2016; (36): e76-e81
Lightness, chroma and hue differences on visual shade matching [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	Dent Mater 2016; (32): 1362-1373
Lighting conditions used during visual shade matching in private dental offices [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2016; (115): 469-474
Influence of personality on tooth shade selection [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2016; 11(1): 126-137
Dentin translucency and color evaluation in human incisors, canines, and molars [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2016; (115): 475-481
Color correlations among six types of permanent anterior teeth [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2016; 28(S1): S5-S13
Dental color matching: a comparison between visual and instrumental methods	Dent Mater J 2016; 35(1): 63-69
The use of a standardized gray reference card in dental photography to correct the effects of five commonly used diffusers on the color of 40 extracted human teeth [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2016; 11(2): 246-259
Evaluation of reliability and validity of three dental color-matching devices [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2016; 11(1): 110-124
Proposed shade guide for attached gingiva – a pilot study [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2015; (24): 182-187
Esthetic anterior composite resin restorations using a single shade: step-by-step technique [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2015; (114): 9-12
Colour parameters and shade correspondence of cad-cam ceramic systems [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Dent 2015; (43): 726-734
Influence of coloring procedure on flexural resistance of zirconia blocks [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2015; (114): 98-102

AESTHETICS: SHADE MATCHING

Shade-matching performance using a new light-correcting device [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2015; 27(5): 285-292
In vitro comparison of instrumental and visual tooth shade determination under different illuminants [free to members on Science Direct. If you do not have a login email library@bda.org to request one]	J Prosthet Dent 2015; (114): 848-855
Color-matching strategies for non-vital discolored teeth: part 1. Laboratory ceramic veneer fabrication solutions [can be accessed on DOSS free by logging in on this page]	J Esthet Restorative Dent 2014; 26(4): 240-246
Shade evaluation of ceramic laminates according to different try-in materials (request using https://www.smartsurvey.co.uk/s/PJHMV/)	General Dentistry 2014; Nov/Dec: 32-5
Comparison between visual and instrumental methods for natural tooth shade matching (request using https://www.smartsurvey.co.uk/s/PJHMV/)	General Dentistry 2014; Nov/Dec: 47-9
Contributions of dental colour to the <i>physical attractiveness stereotype</i> [can be accessed on DOSS free by logging in on this page]	J Oral Rehab 2014; 41: 768-82
Color-matching strategies for non-vital discolored teeth: part 1. Laboratory ceramic veneer fabrication solutions [can be accessed on DOSS free by logging in on this page]	J Esthet Restor Dent 2014; 26 (4): 240-246
Evaluation of color changes in the Vitapan Classical Shade Guide after disinfection (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Operative Dent 2014; 39 (3): 317-24
Correlation between subjective and objective evaluation of peri-implant soft tissue color [can be accessed on DOSS free by logging in on this page]	Clin Oral Implant Res 2014; 25: 992-6
Composite shade guides and color matching [can be accessed on DOSS free by logging in on this page]	Int J Esthet Dent 2014; 9 (2): 164-182
Influence of ceramic color and translucency on shade match of CAD/CAM porcelain veneers [can be accessed on DOSS free by logging in on this page]	Int J Prosthodont 2014; 9 (1): 90-97
Shade correction technique for freehand bonded restorations [can be accessed on DOSS free by logging in on this page]	Quintessence Int 2014; 45 (1): 53-55
Repeatability and reliability of human eye in visual shade selection [can be accessed on DOSS free by logging in on this page]	J Oral Rehab 2013; (40): 958-964
Color variation between matched and fabricated shades of different ceramics [can be accessed on DOSS free by logging in on this page]	J Prosthodont 2013; (22): 472-477
Comparison of the efficiency of photography-assisted shade selection to visual shade selection (request using https://www.smartsurvey.co.uk/s/PJHMV/)	Gen Dent 2013; 61 (4): 19-23

AESTHETICS: SHADE MATCHING

Evaluation of two different approaches to learning shade matching in dentistry [can be accessed on DOSS free by logging in [on this page](#)] Acta Odontol Scand 2012; (70): 83-88

Color stability of ten resin-based restorative materials [can be accessed on DOSS free by logging in [on this page](#)] J Esthet Restor Dent 2012; 24 (3): 185-199

In vitro and *in vivo* evaluations of three computer-aided shade matching instruments (request using <https://www.smartsurvey.co.uk/s/PJHMV/>) Oper Dent 2012; 37 (3): 219-227