

# ***The Statistical Evaluation of Two Shade Guide Systems***

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## **Objective:**

The purpose of this study was to measure the accuracy and confidence of clinician evaluators to reproduce their shade choices with the two shade guide systems.

## **Methods:**

The Vident 3D-Master Shade guide system (3D-MSGs) was compared to the Vident Classic Shade guide system (CSGS) by 22 clinician evaluators for selecting the matching tooth shade in 3 patient subjects (n=132 observations). The McGill visual analog evaluation scale was used to measure the confidence level of correct matching shade selection by assigning a numerical assurance value factor (AVF) to the subjective shade choice of each clinician (n=132 matching observations). The raw AVF data was evaluated statistically using Analysis of variance (ANOVA), and Chi-square (P values) tests. The clinician group consensus (majority agreement) of shade selection for each patient was deemed to be the correct matching shade for statistical analysis.

## **Results:**

The consensus correct matching shade selection for the CSGS was 33.3%, compared to 34.8% with the 3D-MSGs. The use of the 3D-MSGs was associated with an increased confidence of evaluators in selecting the proper shade when compared to the CSGS (ANOVA,  $P < 0.0001$ ). The mean improvement in evaluator AVF for all 3 patients was 13.8%. The AVF of the evaluator appeared to be correlated to their ability to select a shade conforming to the group consensus (Chi-square,  $P < 0.0420$ ).

## **Conclusions:**

An evaluator with a high AVF would be more likely to select a shade conforming to the group consensus for the correct matching shade, than an evaluator with a low AVF. The use of the 3D-MSGs increased the correct matching shade consensus, and AVF of clinician evaluators when compared to the CSGS. The low matching shade consensus among evaluators suggests that improved shade guide systems are required to more accurately match shade selection.