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[\[PDF \(320K\)\]](#) [\[References\]](#)**The effect of resin shades on microhardness, polymerization shrinkage, and color change of dental composite resins**[Tae-Sung JEONG^{1\)}](#), [Ho-Seung KANG^{1\)}](#), [Sung-Ki KIM^{1\)}](#), [Shin KIM^{1\)}](#), [Hyung-II KIM^{2\)}](#)
and [Yong Hoon KWON^{2\)}](#)

1) Department of Pediatric Dentistry, College of Dentistry, Pusan National University

2) Department of Dental Materials, College of Dentistry and Medical Research Institute, Pusan National University

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Abstract:

The present study sought to evaluate the effect of resin shades on the degree of the polymerization. To this end, response variables affected by the degree of polymerization were examined in this study — namely, microhardness, polymerization shrinkage, and color change. Two commercial composite resins of four different shades were employed in this study: shades A3, A3.5, B3, and C3 of Z250 (Z2) and shades A3, A3.5, B3, and B4 of Solitaire 2 (S2). After light curing, the reflectance/absorbance, microhardness, polymerization shrinkage, and color change of the specimens were measured. On reflectance and absorbance, Z2 and S2 showed similar distribution curves regardless of the resin shade, with shade A3.5 of Z2 and shade A3 of S2 exhibiting the lowest/highest distributions. Similarly for attenuation coefficient and microhardness, the lowest/highest values were exhibited by shade A3.5 of Z2 and shade A3 of S2. On polymerization shrinkage, no statistically significant differences were observed among the different shades of Z2. Similarly for color change, Z2 specimens exhibited only a slight ($\Delta E^* = 0.5-0.9$) color change after immersion in distilled water for 10 days, except for shades A3 and A3.5. Taken together, results of the present study suggested that the degree of polymerization of the tested composite resins was minimally affected by resin shade.

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