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Proposal for Gloss/Haze study by the W1.1 team:

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Photographic quality prints are generally made through a process in which dyes are imagewise mordanted to a transparent receiving layer. This receiving layer in turn is generally coated on a polyethylene clad, smooth high quality paper base. The resulting image is generally very high in gloss (greater than 70 at 20 degrees) and because the dyes are transparent and molecularly dispersed, there are no differential gloss problems. Similarly, dye based inkjet printing can come close to achieving these gloss characteristics depending upon the material selection of the ink and paper.

During the last 5 years, there has been a growing interest in using pigments instead of dyes as the colorant for inkjet printing. Pigments have the advantage of much better lightfastness and water fastness, 2 issues which are technical challenges for dye based inkjet printing. However, one of the challenges that pigments have for inkjet printing on glossy papers is that the printed region does not have the 'perception' of gloss. Measurements of the printed region reveals that a lack of specular gloss is generally not the problem but rather the presence of haze (ie, scattering of light). Because the 3 different colored pigments scatter light differently, the various shades of color produce a range of glosses and haze and the resulting differentials significantly detract from the overall perception of gloss and uniformity.

As far as I know, there are no studies which correlate the objective measurements of gloss and haze of pigmented images with that of the perceptual ranking. Average gloss and haze and the standard deviation of the differentials is a reasonable starting point, but is still incomplete in describing the image quality.

My proposal would be to conduct a study of the gloss and haze characteristics of various pigmented images and in a similar fashion that the W1.1 team correlated the visual perception of gloss differentials to what can be determined objectively. I think this is a worthwhile study which will benefit establishing a standard for the image quality assessment of glossy, pigmented images.