The Analysis of the Use of Color in Pandemic Artwork Using Digital Quantifications

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Art has been an essential record in reflecting societal values and experiences. During great strife as in the case of pandemics, many used art to encapsulate the collective memory of the dire times at hand. While the gaunt subject matter of a pandemic may offer an elementary understanding of a painting, further examination of the use of colors associated with death and disease, specifically green, yellow, and black (GYK), may offer further insight into the past. To determine if artists depicting pandemics utilized associated colors to a greater extent, pandemic paintings from online sources uploaded into Adobe Photoshop were analyzed for their RGB and CMYK color values. Paintings from the following artists were studied: Böcklin, Bruegel, Schiele, Munch, Klimt, Dyck, Lieferinxe, Arpo, Haring, and Rosa. Complementary artworks from each artist during non-pandemic times were used as a control. In all, 1336 points of color were obtained using Photoshop, input into Excel, and analyzed through a paired t-test in R. Results revealed that pandemic paintings had a statistically significant higher GYK color ratio when compared to control paintings, with a mean difference of 0.0540 ($p=0.0166$), concreting that artists use colors associated with death and disease more when depicting pandemics. This quantification of qualitative aspects of paintings may be used by art historians to further analyze paintings. Additionally, this process may provide a unique way to categorize unidentified paintings by topic. Furthermore, finding connections within artist choices may provide an enhanced recording and understanding of historical events.

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