

Psychometrics of Art: Validation of RizbA, a quantitative rating instrument for pictorial expression

Kerstin Schoch

Although art has been subject to research for some time, in quantitative research the artwork itself received little attention. This is probably in part due to the lack of objective, reliable and validated measurements in this field. The rating instrument for two-dimensional pictorial works (RizbA) fills this gap by providing a tool for formal picture analysis. It covers aspects such as shaping, spatiality, representation, colour intensity, pictorial elements and composition.

The presented study validates the questionnaire on 294 images (drawings, paintings, collages and mixed techniques in between) created by 147 non-artists. In a randomized online test-retest study the material was rated by 880 (T1) and 475 (T2) experts using RizbA. Statistical quality criteria, principal component analysis and indices of factor similarity were computed.

The overall test's capacity of differentiation yields a partial eta-squared of .28 (T1) and .33 (T2). Test-retest reliability is .93. PCA reveals an eight-factors solution. Tucker's coefficients of congruence range between |0.82| and |1.00|. Intraclass correlation coefficients are .81 (T1) and .84 (T2).

Results indicate generalizability to amateurs' works. This methodical tool is especially of interest in art therapy research. As the first reliable and validated tool for picture analysis allowing inferential statistics, RizbA enables a more detailed examination of art and its correlates, such as differential or clinical constructs. For instance, art therapy's inherent hypothesis – the artwork being connected to its creator's inner representations – could be empirically tested.

The questionnaire is freely available in terms of open methodology and can be applied by researchers as well as art practitioners.

Biography

Kerstin Schoch is an artist, art therapist and psychologist based in Berlin. Studied at Nürtingen University for Art Therapy and University of Mannheim. Since 2008, free-lance work as kunsthochzwei. Since 2016, PhD candidate at Witten/Herdecke University, Department Psychology and Psychotherapy. Since 2016, research assistant at HKS – University of applied sciences and arts in Ottersberg. Science communication as co-founder of the Pop-up Institute: Reducing stigma by means of Creative Arts Therapies. Mentor at the Open Science Fellows Program by Wikimedia Germany. Blogs on art therapy, psychology and Open Science.

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Recent publications and conference presentations

Publications:

Schoch, K. (2020). Psyche, Kreativität und Bildlicher Ausdruck: Ein quantitatives Ratinginstrument zur Formalen Bildanalyse (RizbA) [Psyche, creativity and pictorial expression: A quantitative rating instrument for formal image analysis (RizbA)]. In Franzen, G., Hampe, R., & Wigger, M. (2020). *Zur Psychodynamik kreativen Gestaltens: Künstlerische Therapien in klinischen Arbeitsfeldern [On psychodynamics and creativity. Creative Arts Therapies in clinical fields of work]*. Karl Alber Verlag.

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Schoch, K. (2019). Psychotrauma und transkulturelle Unterschiede in Bildern: Ein quantitatives Ratinginstrument für zweidimensionale bildnerische Arbeiten (RizbA) [Psychotrauma and transcultural differences in pictures: A quantitative rating instrument for two-dimensional pictorial works (RizbA)]. In Krueger, C., Stellbrink-Kesy, B., Widdascheck, C., & Hamberger, C. (Eds.). *Kunsttherapie in Migration [Art therapy in migration]*. Köln: Richter. <https://doi.org/10.5281/zenodo.3573848>

Schulze-Stampa, C., & Schoch, K. (Eds.) (2019). [In/ter/ven/tion: in mit durch Kunst](https://zenodo.org/record/3952403) [In/ter/ven/tion: in with through art]. *Publication series art + research, No. 5*. Ottersberg: HKS – University of Applied sciences and arts in Ottersberg. <https://zenodo.org/record/3952403>

Schoch, K. (2018). Jenseits von gut und schön: Entwicklung eines quantitativen Ratinginstruments für zweidimensionale bildnerische Arbeiten (*RizbA*) [Beyond good and beautiful: Development of a quantitative rating instrument for two-dimensional pictorial works (*RizbA*)]. *Musik-, Tanz- und Kunsttherapie: Zeitschrift für Künstlerische Therapien im Bildungs-, Sozial- und Gesundheitswesen*, 28(2), 131-138. <https://doi.org/10.5281/zenodo.1479716>

Schoch, K., Gruber, H., & Ostermann, T. (2017). Measuring art: Methodical development of a quantitative rating instrument measuring pictorial expression (*RizbA*). *The Arts in Psychotherapy*, 55, 73-79. <https://doi.org/10.1016/j.aip.2017.04.014>

Presentations:

2019: Empirische Bildanalyse: Validierung von RizbA an bildnerischen Arbeiten erwachsener Laien [Empirical picture analysis: Validating RizbA on pictorial works of adult amateurs] Symposium of the German Scientific Society for Creative Arts Therapies (WFKT): Creative Arts Therapies work, but how? On the state of mechanist studies in the Creative Arts Therapies. SRH University of Applied Sciences Heidelberg (GER)

2019: Measuring art: RizbA, a quantitative rating instrument assessing pictorial expression Inaugural International Art Therapy Practice/ Research Conference, Queen Mary University of London (GB)

2019: Objectivity in pictorial expression: RizbA, a quantitative rating instrument for formal picture analysis.

Speaking Through Art: Languages of Art Therapy in Europe
European Federation of Art Therapy (EFAT) Vienna meeting 2019 (AT)

2019: What children's pictures can tell us: Development of a psychometric test for measuring pictorial expression (*RizbA*)

XXXVI. DGKJP Conference, German Society for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy, Mannheim (GER)

2018: Kunsttherapie und Wissenschaft: Erprobung eines quantitativen Ratinginstruments zur Bildanalyse (*RizbA*) [Art therapy and science: Testing of a quantitative ratinginstrument for picture analysis (*RizbA*)]

Psychodynamics of Creativity – Creative Arts Therapies in clinical fields of work – Annual conference of the international Society For Art, Design And Therapy (IGKGT)
Sigmund Freud Private University, Berlin (GER)