

Rorschachiana

Journal of the International
Society for the Rorschach

Volume 42 / Issue 1 / 2021

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Volume 42, Issue 1, 2021

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Teaching the Rorschach Comprehensive System

Students' Difficulties With the Administration Process

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Abstract: The administration process of the Rorschach test is of utmost importance as it influences both the coding and the interpretative procedures. Performing it appropriately requires complex skills, knowledge, and solid training. The aim of the study is to describe students' interests in and difficulties with administering the Rorschach (Comprehensive System) for the first time. A two-phase methodology, including an analysis of questionnaire responses followed by a study of students' written narratives, using Iramuteq textual analysis software, was implemented with two different samples of third-year undergraduates (including 63 and 253 participants, respectively), recruited from a French psychology school. Our results show that students have a strong interest in understanding the test and wish to use it in their future practice. When administering the Rorschach for the first time, students find it difficult to cope with the complexity of the procedures at a technical, emotional, and relational level.

Keywords: administration process, emotional control, inquiry, relational dynamics, Rorschach test

The Rorschach Comprehensive System (CS; Exner, 1974, 2003) can be controversial but is still a frequently used evaluation method in clinical practice (Wright et al., 2017). It also continues to be refined in the research context (Smith et al., 2018).

Despite a decrease in the number of hours devoted to teaching projective methods in the training of clinical psychologists in faculty curricula (Evans & Finn, 2017), the Rorschach test is still appreciated by the directors of internships and is frequently a part of clinicians' assessment batteries (Ready et al., 2016). Currently, the Rorschach test ranks eight in the top 10 of the assessment measures used by practicing psychologists (Ready et al., 2016; Wright et al., 2017).

The Rorschach (CS) remains present in more than half of the training programs and, “In general...is the most popular non-self-report test of psychopathology” (Mihura et al., 2017, p. 10). The Rorschach test continues to be effectively used in psychopathology, forensic, inpatient and outpatient practices for diagnosis and treatment recommendations (Erdberg, 2019; Wright et al., 2017). There is also interest in new applications, for example, Finn’s model of therapeutic assessment in psychotherapy (2020), the differential diagnosis of unipolar versus bipolar depression (Le Chevanton et al., 2020), or the application to disabilities such as autistic disorders (Frigaux et al., 2020).

Thus, despite criticism, a reduction in the hours of training, or the influence of other measurement tools, the Rorschach test remains resilient, possibly due to its perceived clinical utility. Clinical psychologists report that the Rorschach test usefully enlightens their patients’ personality dynamics and diagnosis (Norcross & Rogan, 2013), and reveals the holistic dimensions of the individual (Frigaux et al., 2020).

Psychology students report being attracted to the Rorschach training experience as they appreciate the emphasis on authentic case studies in the training (Mouret, 2017) and expect the Rorschach to become a significant tool in their professional careers (Mihura & Weinle, 2002).

Mastering the use of the Rorschach test (CS) in the assessment process is difficult as it is a demanding, time-consuming, and multifaceted technique (Grønnerød & Hartmann, 2010). Appropriate care must be taken regarding factors such as administration, instructions, recording responses, and inquiry (Exner 1974, 2003; Weiner, 2004). Furthermore, coding and interpreting the Rorschach test require careful, disciplined behavior and thinking (Andronikof, 2004) to obtain valid protocols. Coding and interpreting the Rorschach test are strongly linked to the administration procedures (Exner, 1974, 2003), which, according to our teaching experience, seem to be the cornerstone of the Rorschach training.

Yet, in the international literature on Rorschach training, little has been reported about students’ perspective on administering the Rorschach test. The international literature focuses on three main themes related to: (1) the difficulties students experience when coding, especially with determinants, special scores, and FQ (Fouques et al., 2017; Hilsenroth et al., 2007; Viglione et al., 2017); (2) the place of the Rorschach training in faculty curricula (Lewey et al., 2019; Mihura et al., 2017) since the Rorschach training is generally offered in graduate programs; (3) the conditions required for efficient training, particularly number of hours and coding responses (respectively 21–35 hours of training and 50 coding responses according to Hilsenroth et al., 2007), supervision (Viglione et al., 2017), and teaching techniques, such as videorecording (Hilsenroth et al., 2007). The goal of this research is to ascertain students’ interests and impediments in administering the RCS

(Exner, 1974, 2003), thereby understanding their perceived difficulties with the process and improving the teaching of the test.

To fully achieve the research goal and broaden the understanding of the multi-faceted dimensions of the Rorschach learning process, we have selected a two-phase methodology including both quantitative and qualitative elements and have formulated the following research question: What are the typologies of the Rorschach administration difficulties and their prevalence among a population of undergraduate psychology students running the test for the first time? The first phase of the research aims to answer the research question through a survey, built upon an exploratory questionnaire, which is analyzed quantitatively. The second phase consists in exploring the students' narratives of their experiences of their first Rorschach (C.S.) administration. The study, as a whole, was approved by the Research Evaluation Committee of the Research Department of the Ecole de Psychologues Praticiens.

The First Phase: Analysis of the Questionnaire

Context of the Study: Teaching of the Rorschach

In our private school, the teaching of the Rorschach is progressive, starting in the third year with a study of the history of the test, from Hermann Rorschach to the CS (Exner, 1974, 2003), including epistemological issues (11 hr) and the coding techniques and structural summary completion (36 hr). In the fourth year, a structural summary interpretation is completed (36 hr) and advanced case studies are offered in the fifth and last year before graduation (24 hr).

At the end of the third year, as part of the students' professional education, they were asked, as a mandatory assignment, to administer a Rorschach test to a non-consulting adult participant, to score the protocol, and to carry out a critical analysis of their work. Students were asked to recruit a participant over the age of 18, whom they had never met before, who was neither a patient nor a student in psychology and who agreed to sign a participation consent form. They received a handout summarizing the procedures for administering the test in accordance with Exner's recommendations after classroom training (Exner, 1974, 2003).

For those students who agreed to participate, an anonymous questionnaire was independently proposed (there was no link made between the questionnaire and the mandatory work) and a consent form was signed. The survey respondents are therefore students in their third year of psychology studies.

Participants

The study was offered to 200 students. The participation rate was 31.5%. The research sample comprised 64 third-year volunteer students from a French private professional psychology school recruited from 2013 to 2015. The average age of the sample was 21.5 years ($SD = 2.4$), 84% of whom were women.

The attendance rate for the course was of 92%. Students were evaluated through two examinations: a theoretical one consisting of a multiple-choice questionnaire about the history of the test, and about the CS basis, as well as a coding one, in which students' ability to code a given protocol was evaluated. A score of "overall performance" was calculated (test theory: 30% + coding: 70%). The mean obtained was 11.8/20 ($SD = 2.7$), min = 8, max = 15, equivalent to "B minus" in Anglo-Saxon countries. The performance on the coding evaluation resulted in a mean of 11.9/20 ($SD = 2.6$; min = 7, max = 17) or "B minus."

Measures

An exploratory questionnaire was developed, informed by a literature review and our relevant teaching experience. The thematic fields were acknowledged after a deductive-inductive qualitative analysis. Deductively, authors identified themes based on the framework of Ritzler and Gaudio (1976) and of Ritzler and Alter (1986); inductively they developed new themes through an iterative process based on a reading and analysis of the notes and observations of three Rorschach teachers. Themes were further grouped into categories to construct the questionnaire.

Questions were divided into four categories:

- (1) The administration process including perceived general technical skill (e.g., "I could write everything down").
- (2) Interpersonal dynamics including perceived relational skill (e.g., "I managed to maintain the framework").
- (3) Emotional experience including the management of emotions (e.g., "I was tense").
- (4) Professional stance including the perception of the test as a possible tool in professional practice (e.g., "I want to continue administering Rorschach tests").

The questionnaire comprised 36 items covering the four categories, randomly distributed, rated on a 6-point Likert scale (from *not at all* to *totally*) without the possibility of a neutral response and allowing for a continuous and dichotomous treatment of the items (*yes/no*). A total of 19 items were reversed. Reliability analysis revealed a Cronbach's α of .84, which demonstrates good internal consistency.

In order to assess the administration quality, two teachers (first and last authors) conducted a consensual evaluation of the protocols. They identified the lack of prompting after the first response, possible problems of sequencing of the responses, which both led to erroneous numbers of protocol responses (R); and the quality of the enquiry: correct questions asked, misformulated ones, or lack of questions.

Data Analysis

Statistical Analysis

For each item, distributions were analyzed and a categorical classification was made. When participants rated a 0, 1, or 2, a “no” score was coded. When 3, 4, or 5 were chosen, a “yes” was coded. In this way, we were able to analyze proportion tendencies for each question and compute percentages. Since each question is independent and mandatory, the sum of the “yes” percentages obtained for each question may exceed 100.

Bivariate Analysis

To test possible links between continuous variables, correlation coefficients (Pearson) were performed. To test possible links between categorical variables, a chi-square analysis was used. Statistical analyses were performed with Jamovi software.

Results

The complete results of the questionnaire are available in the table in Electronic Supplementary Material 1 (ESM 1).

The Administration Process – Technical Aspects

In general, 75% declared that the task was difficult but 92% estimated that they had managed the situation well. Overall, 73% overestimated their performance since they perceived their collected protocols as valid according to the administration instructions, but according to their teachers few were valid, because of administration and enquiry mistakes. Of the sample, 33% needed to refer to their documents during the administration and 20% encountered difficulties in notetaking.

During the response phase, only 5% of the sample declared that it was difficult to master the task and 41% experienced difficulties in separating responses. Moreover, 20% of the whole sample made a mistake on R (according to first and fourth authors' evaluations) and among these, more than one-third (8% of

the whole sample) did not seem to recognize the mistake as they did not find it difficult to separate responses even though they obviously had trouble in doing so.

The inquiry phase task was perceived as more difficult than the first one, with 45% declaring not having mastered it. Overall, 67% of the sample acknowledged not having asked enough questions; 42% declared having worded the questions poorly (e.g., using “why” instead of “how” or forgetting to question keywords). Of the sample, 70% believed they had made mistakes during this phase.

Thus, fewer than half of the sample declared having less control during the inquiry phase than during the response phase. A comparison of these opinions with the teachers’ evaluation of the protocols reveals that 30% were not fully aware of their shortcomings. Difficulties included: not asking enough questions, formulating them poorly, or, more importantly, forgetting to question keywords.

Interpersonal Dynamics – Relationship With the Participants

The interpersonal aspects of the task were experienced as difficult for 36% of our sample. Although 27% felt too close to the subject and 8% too distant, 94% declared that they were at the right distance. The most surprising results were that 98% of the whole sample declared they were able to set a framework, and 91% believed that they were able to maintain it.

We further analyzed this result and found that among the 94% of the students who considered themselves proficient, none of them felt they were too distant. Of the respondents, 73% felt that they were too close. Reasons for this might include: The testers were young and inexperienced; they were not working in an institution; the assessment was not done for clinical reasons, or requested by the participants (who were informed that they would not receive any feedback).

The Emotional Experience – Management of Emotions

Of the respondents, 61% declared they were sometimes anxious during the exercise, 41% felt like laughing and 20% were embarrassed by some of the participants’ responses. Despite that, emotional reactions did not alter the level of overall satisfaction, as 92% enjoyed the exercise.

Another result emerged when we compared the responses for two items: “I felt comfortable” and “I was tense during the exercise.” Coherent answers were given by 48.4%, indicating that they were comfortable, without tension, while 51.6% gave ambivalent responses, indicating they were at ease and tense or not tense but not at ease. None of the participants provided the “tense and uncomfortable” response. However, after dividing the sample into two groups – “at ease” versus

“ambivalent” – no significant differences were found in the rest of our data (according to the chi-square analysis).

The Professional Stance – The Use of the Rorschach in Professional Settings

All the respondents declared they wished to improve their mastery of the Rorschach test. Of these, 95% wish to carry on with the Rorschach test administration and training and 92% reported that they would probably use it in their future practice.

Rorschach Technical Mastery – Theoretical and Technical Learning

Academic performances are positively linked to the feeling of comfort during administration and to the perceived technical mastery during the inquiry phase. Correspondingly, feelings of embarrassment are negatively linked to academic performance (as shown in the table in ESM 2). We observed that better performance in coding is linked to mastery of the inquiry, and vice versa.

To summarize the findings of the questionnaire, we can assert that:

The Rorschach test is of interest to undergraduate psychology students, who imagine using it as a clinical tool in their professional practice. However, unless students thoroughly understand the real clinical value of the test, one cannot exclude the possibility that a desirability bias has inflated this result.

The administration process is flawed by the lack of mastery of the inquiry process and by the interpersonal dynamics. We speculate that in the “at ease group,” some students must have felt too self-confident considering the quality of the protocols. In the “ambivalent group,” some students probably had to deal with contradictory emotions, which may have restricted their learning progress or resulted in an indication of too little self-confidence.

Improving the test training of students in administration of the Rorschach is vital to help them evaluate their performance correctly, progress in their inquiry methods, improve their coding skills, and better manage their relationship with the participants.

The Second Phase: Exploring Students' Perceptions

On the basis of the analysis of the questionnaire, from a theoretical, ontological position (Zou et al., 2014), we implemented a second phase. Our aim was to comprehensively explore the subjective perceptions of a population of psychology undergraduates regarding their difficulties in learning the administration of the Rorschach test.

Method

Participants

The participants were 301 undergraduate students in their third year of psychology, enrolled in the same private professional psychology school as the questionnaire respondents of the first phase. They were asked, as a mandatory exercise at the end of their first Rorschach course, to proceed with a Rorschach test administration (CS) in non-consulting settings (as in the first phase). To diminish potential “desirability bias,” the design was modified. This exercise did not involve any coding or work on the protocols collected at this stage. Students were instructed to answer the following question in writing: “What are the difficulties I met during this clinical sequence?” The word “clinical” might come as a surprise in a non-consulting environment. But students were instructed to understand it as a professional act that was to meet the ethical requirements of any professional encounter. A total of 235 narratives were collected from 2015 to 2017.

Because of the complete anonymity of the narratives, the average age or sex ratio of this sample could not be computed. However, thanks to an excellent participation rate (78%), we can assume that the demographics are very close to those of the third-year student population in this French psychology school (between 21 and 23 years old; 89% were women).

Data Analysis

The collected narratives were processed using Iramuteq lexicometric software (Ratinaud, 2012) based on the Reinert method (1983, 2008). The Iramuteq textual analysis aims to ascertain how participants talk about their difficulties when administering the Rorschach test. The algorithm used by the Iramuteq program is based on a hierarchical bottom-up classification and the calculation, through the χ^2 , of word occurrence in a text. The Reinert method consists of four steps (for a detailed description of the four steps of the lexicometric analysis, see Reinert, 1983, 2008).

Ethics

All narratives were anonymous. The students previously gave their written consent for the use of their written feedbacks for research purposes.

Results

The lexicometric analysis revealed five word-classes as shown in Figure 1 (85.86% of classified text segments that were identified by the Iramuteq software). For each word class, the words to be interpreted were those whose χ^2 of association with the class was greater than 10. Tool words (prepositions, articles, adverbs)

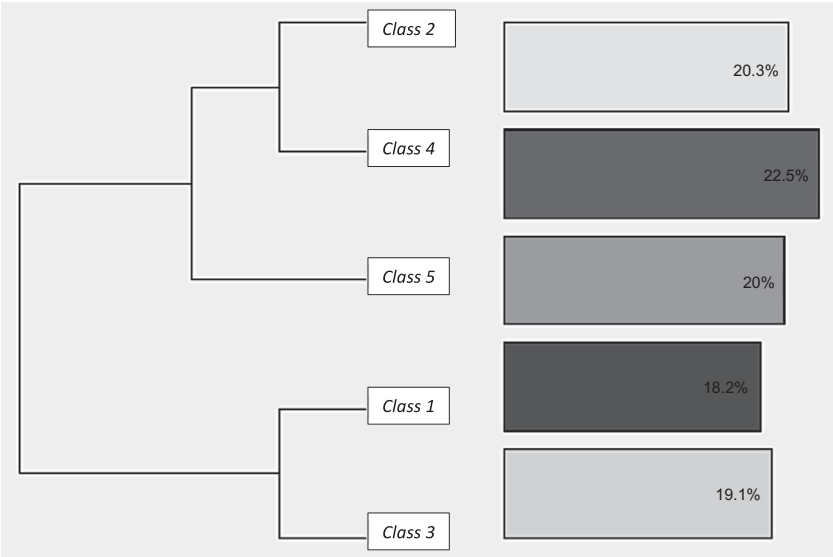


Figure 1. Lexicometric analysis: Classificatory analysis dendrogram of the corpus. Dendrogram representing the distribution of the corpus.

and 210 polysemic words (that cannot be clearly interpreted, used in different contexts, such as “to go,” “to take,” etc.) were excluded from the interpretation of the results. The size of the class is indicated by the percentage of the classified corpus (e.g., Class 2 represents 20.3% of the entire corpus).

A description of the words in the five classes and the χ^2 of association with the classes are provided in the tables in ESM 3.

Class 1 included 18.25% of the classified text segments. The lexical field of Class 1 is associated with the *description of the administration of the Rorschach* test from a technical point of view.

Students described the test administration process as an interesting and instructive exercise, allowing them to understand the real value of the test. They perceived their experience as an additional preparation for their degree and for their self-confidence. For example: “The administration exercise is interesting, enriching, and positive and requires a lot of training.”

The administration situation could make them feel anxious or intimidated. They mentioned their lack of experience and practice but were optimistic, declaring that difficulties would decrease with experience and training: “The administration process is somehow anxiety inducing but to do it was really good.”

Moving from theory to practice allowed the students to identify hitches related to their actions and reactions in the interpersonal situation. It also rendered the knowledge acquired during the course concrete and better understood: "It is exciting to switch from theory to practice and to see all the unexpected difficulties emerge."

Class 2 included 20.26% of the classified text segments. The lexical field of Class 2 is associated with the *description of the Rorschach test and more precisely with the cards and the participants' answers*.

Students were concerned with the number of given responses, had difficulties in getting the participant to verbalize or in dealing with a detailed answer: "I was anxious to have enough responses." They interpreted the participants' long moments of silence as a refusal to participate or as the expression of unease within the relationship: "When moments of silence are too long, I fear the subject's refusal to go on, and feel uneasy."

The students expressed doubts over the administration rules (e.g., turning the card, removing the card), wondering whether they had the right "to do that to the participant." Finally, students discussed the neutral attitude that must be adopted during the test and the need to master their own thoughts, urges to laugh, or interventions: "When the participant's responses are like those studied in class, I cannot prevent myself from interpreting or laughing."

Class 3 included 19.07% of the classified text segments. The lexical field of Class 3 is associated with the description of the relationship between the student and the participant.

Students described the role of the future psychologist that they tried to embrace, sometimes with difficulty, as being uncomfortable. Their goal was to investigate the psychological functioning of the participants through a relationship within which they strive to embody benevolent neutrality by making sure that their emotions are not manifest and by finding the right posture and emotional distance in order to reassure the participant. This exercise allowed them to gain confidence, regulate their nervousness, and control the situation, even if amusing or unexpected responses made this attitude difficult to maintain.

Sometimes students had difficulties in establishing a framework of trust with the participant, as they had to manage their requests, account for everything they said and did, and, ultimately, manage their own emotions. The students felt the weight of the relationship dynamics and their difficulties in controlling the feelings shared by the participants: "I feared like opening a door in the participant's life that must not be opened."

The students experienced a conflict between the need for interaction with the participant (for the sake of the relationship) and the need for recording all the given responses verbatim (for the sake of the protocol validity). As such, they

emphasized the necessity for intensive test administration training to experience different participant reactions and to learn how to avoid being overwhelmed by the participant's emotional state: "It is the training that will empower us and enable us to control over all the parameters of the communication situation, the reactions we ourselves might have, and the way they might influence the participant."

Class 4 included 22.46% of the classified text segments. The lexical scope of Class 4 is associated with *the questions asked by students during the enquiry*.

Students seemed to be reassured by not having to score the collected protocols because of the large number of difficulties encountered during the administration process. They acknowledged that awkwardness could lead to invalid or incomplete protocols (e.g., asking too few or too many questions). Students expressed doubts over the right determinants to be scored (especially shadings but also form, movement, and color), over the keywords to be asked, to clarify a response, and over the need to question the participant when all the information had already been given in the response phase: "I am sure that I missed a lot during the inquiry phase and did not further investigate other aspects."

Class 5 included 19.96% of the classified text segments. The lexical field of Class 5 is associated with *notetaking during the Rorschach test*.

Students stated that they were tense when taking notes to record all the answers and that this exercise required a high degree of concentration. The difficulty stemmed from the need to be quick, and at the same time, write what the participant was saying, the response location, and think about words that require more explanation. The difficulties were also linked to the difficulty of finding the right balance between observing, listening, and writing and the risk of missing or forgetting important aspects of the process. A student summarized most of the difficulties encountered as follows: "It is difficult to observe the participant's gestures and attitudes at the same time, to refocus on their discourse about the card when a digression becomes too important and to appear as relaxed as possible, despite a hand cramp."

To summarize the findings of the qualitative phase we can assert that: The results obtained in the second phase (five lexicometric classes) overlap the four categories described in the first phase. Thus, from the analysis of students' narratives, the following difficulties in the Rorschach administration process can be discerned:

- (1) Technical aspects of the administration process including management of practicalities (Class 1 and 2), the inquiry process (Class 4), and comprehensive notetaking (Class 5). The administration process was perceived to be difficult because of its complexity: From the practicalities of notetaking

or time control to the subtleties of the inquiry, the undergraduates were lost in the middle of the simultaneous management of all these tasks.

- (2) Relational dynamics (Class 3) were dominated by students' difficulties in regulating emotions, in building a working frame, and in setting limits with the participant. As a coping strategy, some avoided being overwhelmed emotionally by not paying attention to the participant but focusing on note-taking and on their inner world (Class 5).
- (3) Emotional experience (class 2) includes anxiety in coping with one's own emotions and avoiding any negative bias or sharing emotions with the participant.
- (4) Professional stance (Class 2) comprises the struggle that students experience to maintain the assessment frame within a professional interaction. The correct professional stance is difficult to achieve at this level of training, but students were aware of their shortcomings and willing to improve through more training.

Overall, the Rorschach test aroused great interest in students, who found it enriching for their professional development (Class 1) and experienced the administration process as a "step into real life!"

General Discussion: Synthesizing Findings From Phase 1 and Phase 2

The two surveys yielded similar findings: All the respondents in both phases held positive views of the Rorschach and considered using it in their future clinical practice, which is a trend that has not faded through the decades (Mihura & Weinle, 2002).

The Rorschach administration process was appreciated as it provides an initial authentic professional experience, despite generating some anxiety and trepidation (Miller, 2009). Most of our sample students felt that their classes had prepared them well for the administration process, but this was contradicted by their initial practices, as their ability to structure the administration process was not yet mastered and their proficiency either under- or overestimated. The feeling of being well prepared might stem from the clarity of the administration instructions. The latter do not require much decision-making and are not difficult to learn, thus allowing students to focus on their proficiency in coding (Exner 1974, 2003).

The main difficulty expressed by our students was coping with the complexity of these procedures at a technical and interpersonal level. Students were required to

juggle: mastery of the system's practicalities; the appropriateness of inquiry interventions; the uniqueness of the professional relationship; and the regulation of their emotional state while being alone in an unknown context. It was evident that when confusion or anxiety arose during the Rorschach administration process, students focused on notetaking, for the sake of the protocol validity, and thus tried to cope by avoiding the relationship with the participant. Avoidance helped students to complete the whole administration process but probably hindered viewing the Rorschach administration as an interactive process (Handler, 2013). On the contrary, students who are better prepared theoretically were more aware of their attitudes and relational difficulties during the Rorschach administration process.

We can compare the difficulties encountered within the Rorschach administration process with those involving coding Cognitive Special Scores, Determinants, and coding Form Quality for objects that were not listed (Viglione et al., 2017), because these tasks are intimately linked and require observation, logical thinking, organization, knowledge, and cognitive flexibility in adjusting concepts to the uniqueness of the participant's perceptions.

We can reasonably assume that feelings of mastery and ease with the Rorschach administration will improve as competency in coding develops along with the clinical experience, continuing education, and supervision (Viglione et al., 2017).

Strengths and Limitations of the Study

One of the strengths of the study is the focus on a relatively under-researched topic, which draws attention to the difficulties arising during the Rorschach administration process. Another is the combined quantitative and qualitative elements of the methodology that facilitate the exploration of a complexity of experiences.

This study had some limitations. First, the samples: our participants were not randomly selected, and the samples were not of the same size. The timing for the two phases was not designed to be simultaneous, and thus the same subjects did not respond to the same research design. Our sample is context-bound (a private French school of psychology); therefore, the findings might not represent a wider population of Rorschach students and cannot be generalized. The sample also has a gender imbalance; however, the predominance of women studying psychology in this group is consistent with the distribution in the general French population (Schneider & Mondière, 2017). Second: The survey questionnaire did not undergo a strict psychometric validation. Third: Despite the

anonymization procedure, a possible desirability bias may have influenced some results because the researchers were also the teachers of the students.

Conclusion

The Rorschach test must continue to develop at a professional and academic level. On a professional level, internship training directors (as well as numerous interns) confirm that competency in projective assessment is a desired skill for professional practice (Joy, 2020) as it harbors unique clinical value in providing rich data that can foster potential working hypotheses for psychotherapy (Piotrowski, 2015).

Proficiency in the test is most likely the key to resilience and viability. For that purpose, teachers and clinical instructors must take the time to explain procedures and answer questions, to enable students to acquire more didactic and practical experience (Mihura & Weinle, 2002) and develop interpretive skills that will serve them well in standard clinical practice (Joy, 2020). For this reason, we believe that starting to learn the Rorschach in the undergraduate years is an opportunity to prepare *readiness internship competency* (American Psychological Association, n.d.) by developing: First, an awareness of the strengths and limitations of administration, scoring, and interpretation is created (the basic foundations of the test are acquired through at least 2 years of intensive courses of 36 hr/year). Second, self-awareness and reflexivity in clinical practice are reinforced by the ongoing training and theoretical recall in the following years. Third, interpersonal skills in establishing professional relationships and frame-keeping are developed. The learning is progressive and includes technical skills, reflectivity, and mindfulness.

In our curricula, the third year of the undergraduate psychology studies corresponds to a transition from theoretical courses to more applied ones like psychometrics, Wechsler's scales, the Thematic Apperception Test (TAT), the helping relationships, and an introduction to research methodology. The third year is also the beginning of the professional path, because students must complete 300 hr of observational internship under the supervision of a senior psychologist. The Rorschach test might be part of those observational assignments.

To reach this goal it might be useful to adapt the test-teaching methods to the students' needs and faculty constraints. We suggest addressing the concern that students under- or overestimate their skills, by providing a systematic presentation of the administration process and coding, along with practical exercises including modeling and recorded role playing with instructors' feedback (Hilsenroth et al., 2007; Mihura et al., 2017). For example, the teacher could play the role of a participant and the student do the inquiry and code. The coding can then be

discussed and evaluated. As progress is made with practicalities, interpersonal difficulties could be introduced into the role play. Alternatively, peer role-play, under the teachers' supervision, can be organized where students alternate, playing the roles of interviewer and participant, to gain insight into both experiences.

The provision of a role model by a teacher is an important component of efficient Rorschach training (Hilsenroth et al., 2007). Students need identificatory models on which to project themselves in the future (Mouret, 2017). In our private school, Rorschach teachers (CS) are appropriately trained by a certified clinician, undergo supervision for at least 3 years (in coding and interpreting), and are required to update their knowledge regularly through continuing education. As such, they can fulfill three important functions: practice, research, and student supervision. They are able to introduce their students to the significance and use of the test while motivating and encouraging them to improve.

In addition, we believe that the same Rorschach teacher must be able to link the content of their teaching to other courses, essential to the comprehension and use of the test, namely, psychometry, psychopathology, and psychotherapy, which comprehensively introduce students to the complexity of the clinical work.

The supervision of Rorschach administration process and coding is necessary to:

- (1) Empower students in the management of clinical relationships with diverse clients (consultants or non-consultants) and understand the fundamentals of clinical helping relationships;
- (2) Adjust students' self-evaluation as Rorschach users, to balance inappropriate feelings of anxiety or over evaluation and build self confidence in testing skills; and
- (3) Help them to integrate the complexity of the Rorschach test, which contains in all its aspects the quintessence of the clinical work – a form of “clinical psychology in a nutshell.”

All these steps will lead students to be, “Good examiners who exercise good judgment in the process of administering the test, and deal with their subjects in a tactful, sensitive and very human manner” (Exner & Erdberg, 2005, p. 82).

Electronic Supplementary Materials

The electronic supplementary material is available with the online version of the article at <https://doi.org/10.1027/1192-5604/a000138>

ESM 1. Table showing the questionnaire (French and English version) and the results of Phase 1

ESM 2. Table showing the correlations between theoretical test knowledge, coding mastery, and administration process self-evaluation

ESM 3. Tables showing the words of the five classes of the lexicometric analysis

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History

Received June 29, 2020

Revision received November 29, 2020

Accepted December 15, 2020

Published online March 18, 2021

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Summary

Qualified psychologists and students appreciate the Rorschach Test for its originality and the insights it can offer. To be effective, this test must be understood theoretically and mastered clinically. This begins with the integration of the administration process, on which its validity and interpretability depend. The administration process involves subtle and complex procedures on a technical, cognitive, and emotional level. The objective of this study was to describe and analyze the difficulties experienced by psychology students during their first administration of the Rorschach. Suggestions are offered to adjust the teaching to the specific needs of students. The methodology consisted of two distinct phases: first, the analysis of a questionnaire constructed for the purpose of the research, aimed at identifying and classifying the students' difficulties. It was based on the answers of 64 participants, 18–24 years old, mostly women, in their third year in a

French school of psychology. The second phase aimed to deepen the understanding of the results obtained from the questionnaire. Written responses were collected from 235 third-year students, recruited from the same school, in answer to the question: "What difficulties did I encounter in taking the Rorschach test for the first time?" Data analysis was carried out using Iramuteq software, based on the Reinert method. The results highlighted four main classes of difficulties related to the administration of the Rorschach, which include: (1) technical management aspects, (2) management of the relational dynamics with the participant, (3) control of students' emotions, and (4) maintenance of the professional framework with the participant. Despite these difficulties, all respondents stated that they appreciated the exercise of administering the Rorschach test, which they perceived as a first step toward clinical practice. Based on these results, pedagogical suggestions are formulated to help students learning the Rorschach test to overcome them as quickly as possible and to invest themselves with pleasure and interest in the test administration process.

Résumé

Les psychologues cliniciens et les étudiants en psychologie apprécient le test de Rorschach pour son originalité et les pistes de réflexion qu'il peut offrir. Pour donner toute sa mesure, ce test doit être compris théoriquement et maîtrisé cliniquement. Cela commence par l'intégration du processus d'administration, dont dépendent sa validité et son interprétabilité. Le processus d'administration comporte des procédures subtiles et complexes au niveau technique, cognitif et émotionnel. L'objectif de cette étude est de décrire et d'analyser les difficultés et intérêts rencontrés par les étudiants en psychologie lors de leur première administration du Rorschach en Système Intégré. Des suggestions sont proposées pour adapter l'enseignement aux besoins spécifiques des étudiants. La méthodologie se compose de deux phases distinctes : premièrement, l'analyse d'un questionnaire construit pour les besoins de la recherche, visant à identifier et classer les difficultés des étudiants. L'analyse est basée sur les réponses de 64 sujets, âgés de 18 à 24 ans, majoritairement des femmes, en troisième année dans une école française de psychologie. La deuxième phase vise à approfondir la compréhension des résultats obtenus à partir du questionnaire. Des réponses écrites sont recueillies auprès de 235 élèves de troisième année, recrutés dans la même école, en réponse à la question : « Quelles difficultés ai-je rencontrées en passant le test de Rorschach pour la première fois? ». L'analyse des données a été réalisée à l'aide du logiciel Iramuteq, basée sur la méthode Reinert. Les résultats ont mis en évidence quatre grandes classes de difficultés liées à l'administration du Rorschach qui comprennent : (1) les aspects de gestion technique (2) la gestion de la dynamique relationnelle avec le participant (3) le contrôle des émotions des étudiants et (4) le maintien du cadre professionnel avec le participant. Malgré ces difficultés, tous les répondants ont déclaré apprécier l'exercice d'administration du test de Rorschach, qu'ils ont perçu comme un premier pas vers la pratique clinique. Sur la base de ces résultats, des suggestions pédagogiques sont formulées pour aider les étudiants apprenant le test de Rorschach à les surmonter le plus rapidement possible et à s'investir avec plaisir et intérêt dans le processus d'administration du test.

Resumen

Los psicólogos y estudiantes aprecian la prueba de Rorschach por su originalidad y la información que puede ofrecer. Para ser eficaz, esta prueba debe entenderse teóricamente y dominarse clínicamente. Esto comienza con la integración del proceso de administración, del cual dependen su

validez e interpretabilidad. El proceso de administración implica procedimientos sutiles y complejos a nivel técnico, cognitivo y emocional.

El objetivo de este estudio es describir y analizar las dificultades experimentadas por los estudiantes de psicología durante su primera administración del Rorschach. Se presentan sugerencias para ajustar la enseñanza a las necesidades específicas de los estudiantes. La metodología consta de dos fases diferenciadas: en primer lugar, el análisis de un cuestionario construido con el objetivo de la investigación, dirigido a identificar y clasificar las dificultades de los estudiantes. Se basa en las respuestas de 64 sujetos, de 18 a 24 años, en su mayoría mujeres, en su tercer año en una escuela francesa de psicología.

La segunda fase tiene como objetivo profundizar en la comprensión de los resultados obtenidos en el cuestionario. Se recopilan respuestas escritas de 235 estudiantes de tercer año, reclutados en la misma escuela, en respuesta a la pregunta: “¿Qué dificultades encontré en la utilización de la prueba de Rorschach por primera vez?”

El análisis de datos se realizó mediante el software Iramuteq, basado en el método Reinert. Los resultados destacaron cuatro clases principales de dificultades relacionadas con la administración del Rorschach que incluyen: (1) aspectos técnicos de gestión (2) gestión de la dinámica relacional con el participante (3) control de las emociones de los estudiantes y (4) mantenimiento del contexto profesional con el participante. A pesar de estas dificultades, todos los encuestados manifestaron que aprecian el ejercicio de administrar la prueba de Rorschach, que perciben como un primer paso hacia la práctica clínica. Con base en estos resultados, se formulan sugerencias pedagógicas para ayudar a los estudiantes que están aprendiendo la prueba de Rorschach a superarlos lo más rápido posible y a participar con placer e interés en el proceso de administración del examen.

要約

資格を持った心理学者や学生ロールシャッハテストの独創性とそこから得られる洞察を高く評価している。このテストが理論的に理解され、臨床的に習得されなければ、それは効果的ではなくなってしまいます。これは、その有効性と解釈可能性に依存する手続き過程を統合することから始まる。手続き過程には、技術的、認知的、感情的なレベルでの微妙で複雑な手順が含まれている。この研究の目的は、心理学を専攻する学生が初めてロールシャッハを受けた時に経験した困難を示し、分析することであった。学生の特定のニーズに合わせて指導を調整するための提案が提供されている。方法論は、2つの異なる段階から構成されている。1つ目は、調査の目的で作成されたアンケートの分析で、学生の困難を特定して分類することを目的としている。これはフランスの心理学部の3年生で、18歳から24歳の女性を中心とした64名の参加者の回答に基づいている。2つ目は、アンケートから得られた結果の理解を深めることを目的とした。同じ学校から募集した3年生235名から、「ロールシャッハを初めて受ける際に、どのような困難に直面しましたか」という質問に対する回答を書面で回収した。データ分析は、Reinert法に基づいて、Iramuteq ソフトウェアを用いて行われた。その結果、ロールシャッハ実施に関連した4つの主要な困難が浮き彫りになった。(1) 技術的な管理、(2) 参加者との関係力動的管理、(3) 学生の感情コントロール、(4) 参加者との専門的な枠組みの維持、である。これらの困難にも関わらず、すべての回答者は、ロールシャッハテストを実施したことを評価しており、臨床実習への第一歩であると認識していた。これらの結果に基づいて、ロールシャッハテストを学習する学生が、できるだけ早くこの困難を克服し、テストの実施過程に喜びと興味を持って研鑽を積むことができるような教育的な提案を行った。



How Reliably Can Examiners Make Form Quality (FQ) Judgments in the Absence of the Form Quality (FQ) Tables?

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Abstract: Form Quality (FQ) scores are well-validated measures of the accuracy of perceptive processes, of reality testing, and of the severity of psychological disturbance. Research studies reveal that inter-rater reliability of FQ scoring is good when visualized objects are available in the FQ tables. However, many visualized objects are not found in the FQ tables so that scoring must rely on one's individual judgment. Thus, a major question remains unsolved: How reliably can examiners make FQ judgments in the absence of the FQ tables? To address this question, we used the Rorschach Performance Assessment System (R-PAS) method. We asked 21 graduate students from our research labs to rate Form Accuracy (FA) and FQ for 86 objects from a subset of four Rorschach card (I, III, VI, and VIII). The results clearly reveal that FQ judgments made by individual examiners without using the FQ tables are not reliable. When scoring FQ, one should carefully scrutinize the empirically supported FQ tables and base the FQ score on these rather than personal judgments.

Keywords: Form Accuracy (FA), Form Quality (FQ), R-PAS, Rorschach

Form Quality (FQ) is an essential variable that has been recognized for its importance since the development of the Rorschach Inkblot test (Rorschach, 1921) and refers to the “goodness of fit” of objects¹ involved in a response to the area of the blot used by the examinee. In other words, whether the object or image seen by the respondent looks like the area where it is seen in the blot. Exner (1974, 2003), while developing the Comprehensive System (CS), identified four types of FQ: (1) *Superior-overelaborated* (+), unusually well-articulated form responses; (2) *Ordinary* (o), a high frequency response in which an object fits the blot contours; (3) *Unusual* (u), an uncommon response in which the blot contours are appropriate; (4) *Minus* (–), are of two types: Responses reported usually with low frequencies that are not congruent with the contours of the blot, and those which involve

1 In this article we use the word “object” to refer to images seen by respondents and the word “entry” to refer to the words listed in the table.

creating contours that do not exist in the blot, often called “arbitrary lines.” FQ was not assigned to responses without any structure. To establish the thresholds between FQo and FQu, Exner utilized the frequency distribution of 7,500 protocols (162,427 responses), so that objects that were reported in at least 2% (150 or more) of the records in whole (W) or detail (D) areas or by at least 50 subjects in unusual detail (Dd) areas were coded as FQo, and objects with lower frequencies were coded as FQu.

Subsequently, the authors of the Rorschach Performance Assessment System (R-PAS; Meyer et al., 2011), by using a specific algorithm, combined three different sources of data to determine the R-PAS FQ codes: (1) fit, which refers to the degree to which objects reported in a specific area fit to the blot contours; (2) frequency, which refers to how often objects have been spontaneously reported by examinees at that location; and (3) the FQ coding retrieved from the most recent CS tables. Thus, FQ is operationally defined as the degree to which the reported objects are common and fit the blot area. Moreover, objects were classified as ordinary (FQo), unusual (FQu), and distorted (FQ-), and responses without any structure were classified as “none” (FQn). Overall, the R-PAS FQ tables have approximately 34.3% of minus (FQ-), 45.2% of unusual (FQu), and 20.5% of ordinary (FQo) objects.

FQ scores are a well-validated measure of perception accuracy, reality testing, and severity of psychological disturbance (e.g., Meyer et al. 2011; Mihura et al., 2013; Su et al., 2015). Evaluating FQ validity in the CS, Mihura et al. (2013) reported that Conventional ($X + \%$) and Distorted ($X - \%$) Form variables were significantly related to external criteria such as DSM diagnoses or observer ratings (respectively, $r = .48$, $p < .001$, and $r = .49$, $p < .001$) and that $X - \%$ appropriately differentiated patients with psychosis from other patients with distorted perceptions (e.g., borderline and schizotypal PD). As for the R-PAS FQ scores, Su and colleagues (2015) reported on the incremental validity of the R-PAS FQ- $\%$ and variables to which the FQ codes are crucial subcomponents (i.e., TP-Comp and EII-3) over the CS counterpart (i.e., $X - \%$, PTI, and EII-2), suggesting that improvements in the R-PAS FQ tables have enhanced the interpretive validity of the FQ codings.

Despite the good-to-excellent support for FQo and FQ-, different studies have shown lower inter-rater reliabilities for FQu codes compared with the other codes. Considering CS variables, Acklin et al. (2000) reported moderate reliabilities at response level for nonpatient ($\kappa = .521$) and clinical ($\kappa = .585$) protocols, respectively, whereas kappa values for FQo and FQ- were higher than .70 for both non-clinical and clinical protocols. Moreover, at a protocol level of analysis, intraclass correlation coefficients (ICC) for Xu% were poor (ICC = .156) for nonpatient protocols and fair (ICC = .483) for clinical protocols. Meyer et al. (2002) also reported

lower, although excellent, reliability values for FQu (ICC = .93) compared with FQo (ICC = .98) and FQ- (ICC = .96). Considering R-PAS variables at protocol level, Viglione et al. (2012) found that R-PAS FQu% showed good reliability (ICC = .64) but lower than reliabilities of FQo% (ICC = .84) and FQ-% (ICC = .81). Recently, Pignolo et al. (2017) reported an excellent reliability for the FQo% (ICC = .82), and fair reliability values for both the FQu% (ICC = .59) and FQ-% (ICC = .53). As for response-level reliabilities, Kivisalu and colleagues (2016, 2017) reported the same pattern, with a lower value for FQu (κ = .59) than reliabilities of FQo (κ = .77) and FQ- (κ = .62). Consistently, Lewey et al. (2019), examining response-level, inter-rater reliability values between coders who had only R-PAS training and coders who had both CS and R-PAS training, found that the poorest inter-rater reliability coefficients were for FQu (R-PAS group: AC = .63, κ = .53; CS and R-PAS group: AC = .72, κ = .62). Thus, it seems that higher inter-rater reliabilities have been reached for FQo codes, followed by FQ- codes, and that raters had more difficulties to code FQu objects reliably.

From teaching experience and from previous studies, one of the difficulties with which students struggle the most is coding FQ when objects are not listed in the FQ tables (Viglione et al., 2017). To reduce examiner errors, the R-PAS manual (Meyer et al., 2011) provides a step-by-step method to code FQ. The *Preliminary Step* involves reviewing the response location in the FQ tables to match the response object in its entirety. If the object is not found, examiners should extrapolate the object's FQ going through the following steps. First, examiners should search objects with *Like Shapes* in the same area (*Step 1*) or the same object in *Like Areas* (*Step 2*), and then examiners should look at subcomponents of objects (*Step 3*). In *Step 4* examiners should *Review the Accumulated Information to Make an FQ Judgment*. Although the R-PAS manual strongly suggests giving more weight to evidence from the aforementioned steps, the examiner's judgments may be made carelessly or with errors.

Although many studies have investigated the validity and inter-rater reliability of FQ codings from both response- and protocol-level perspectives, a major question remains unsolved: How reliably can individuals make FQ judgments in the absence of the FQ tables? The answer to this question has implications for the individual examiner's ratings of FQ with individual records. As such, the aim of the present study was to shed light on the ability of Rorschach examiners to code FQ in the absence of the FQ tables and to evaluate the extent to which they agree with each other in evaluating the FQ and FA of response objects, in the absence of the FQ tables. The results of this study may help explain how examiners would code the FQ when objects are not listed in the FQ tables.

Method

Raters

Because our aim was to evaluate the extent to which examiners could code FQ correctly in the absence of the FQ tables, 21 graduate students in the authors' research laboratories (i.e., research collaborators) from the United States and Italy served as raters. All raters were trained in R-PAS coding and had completed at least one semester of Rorschach instruction. Thus, they were well-acquainted with FQ determination and because they had not been exposed to CS coding, were not affected by previous scoring systems or systematic errors in the coding of FQ. All ratings were completed in English. This manuscript should be considered to be an inter-rater reliability lab exercise among researchers in training. Because objects rated by the raters were listed in the FQ tables and were not taken from responses given by human participants, there are no ethical aspects to disclose.

The Survey

The survey was developed to investigate how raters rated both the FA and FQ of objects without using the FQ tables. As for the FA ratings, we replicated the procedure used by R-PAS authors in developing the R-PAS FQ tables. Raters examined the fit and provided FA ratings for a list of objects and gave an evaluation based on a 5-point Likert scale, that is: 1 = *No. I can't see it at all. Clearly, it's a distortion*; 2 = *Not really. I don't really see that. Overall, it does not match the blot area*; 3 = *A little. If I work at it, I can sort of see that*; 4 = *Yes. I can see that. It matches the blot pretty well*; 5 = *Definitely. I think it looks exactly or almost exactly like that*. To identify the thresholds to divide FA values in categories that reflected the traditional FQ categories (i.e., -, u, and o), we applied the same cut scores as reported in the R-PAS manual, so that objects with a mean rating of 2.4 or less were evaluated as FA-; objects with a mean rating between 2.5 and 3.4 were evaluated as FAu; objects with a mean rating of 3.5 or more were evaluated as FAo. Moreover, among the three categories of FQ (i.e., FQ-, FQu, and FQo), some objects seem to be more easily classified into each FQ categories than others, so that it is possible to distinguish prototype objects from objects that are considered on the threshold between two categories (Meyer et al., 2011). The division between prototype and threshold objects was made by referring to FA values. FA values lower than 1.75 indicate FQ- prototypes, FA values between 2.85 and 3.05 indicate FQu prototypes, and FA values higher than 4.15 indicate FQo prototypes. As for the thresholds, FA values between 1.90 and 2.20 indicate threshold objects between FQ- and FQu, whereas FA values between 2.55 and 2.75 indicate threshold objects between FQu and FQo.

For the Rorschach, one administers five black and gray cards, two black, gray, and red cards, and three multi-colored cards. Consistent with this relative frequency, we selected two black and gray cards (I and VI), one black and red card (III), and one multi-colored card (VIII) for our survey. Within each card, we selected commonly used, individual locations because they provide enough FQ table entries to populate the prototype and threshold FA values noted in the paragraph above. Indeed, variability in the number of FQ entries across cards for prototypes and thresholds is due to fluctuations in frequencies across locations in the FQ tables. Accordingly, uncommon details (Dd) were not used. Since the frequency per record of whole (W, mean = 9.6) and common details (D, mean = 10.7) are about equal, we included two W and two D locations.

Thus, we selected four locations from four different cards: W Location for Cards I and VIII, D1 for Card VI, and D2 for Card III. In selecting the entries from the FQ tables, we divided them into prototypes and thresholds according to the R-PAS Manual (Meyer et al., 2011). Prototypes had FA < 1.75 for FQ- (e.g., Card I, W, Bear, FA = 1.55), FA between 2.85 and 3.05 for FQu (e.g., Card III, D2, Hook, FA = 2.95), and FA > 4.15 for FQo (e.g., Card I, W, Insect or Bug (Winged), FA = 4.17). We established two different thresholds between FQ- and FQu: The first threshold for FQ- had FA values between 1.90 and 2.20 (e.g., Card VIII, W, Jacket, FA = 1.98), whereas the second threshold for FQu had FA values between 2.55 and 2.75 (e.g., Card VI, D1, Urn, FA = 2.61). Then, we randomly selected 86 entries that fell within the ranges indicated from the R-PAS manual (Table 1): 23 response objects for both Card I (W) and Card VIII (W), and 20 objects for both Card III (D2) and Card VI (D1).

Raters were asked to look at the relevant Rorschach card and response location and rate the fit of each object according to the 5-point FA scale used by the authors of R-PAS in developing the FQ tables, knowing that, generally, FA values of 1 and 2 represent FQ- codes, an FA value of 3 corresponds to FQu codes, whereas FA values of 4 and 5 are considered FQo. They were also asked to decide on whether they would code FQo, FQu, or FQ-, knowing that 10% of the objects should be coded FQo, about 45% FQu, and about 45% FQ-. The raters could not use the FQ tables, so they rated each entry relying only on their ability to see the objects.

Data Analysis

In the first step, we considered the FQ classifications made by the raters without looking at the FQ tables in the manual. Because we selected entries from the FQ

Table 1. Form Quality (FQ) entries listed in the survey

	Card				Total
	I	III	VI	VIII	
FQo	4	2	0	2	8
Prototypes	4	2	0	2	8
FQu	10	9	10	11	40
Prototypes	6	5	5	6	22
Thresholds	4	4	5	5	18
FQ–	9	9	10	10	38
Prototypes	3	5	5	4	17
Thresholds	6	4	5	6	21
Total	23	20	20	23	86
Prototypes	13	12	10	12	47
Thresholds	10	8	10	11	39

Note. FQo = Form Quality Ordinary; FQu = Form Quality Unusual; FQ – = Form Quality Minus.

tables, we were able to determine the degree of convergence between raters’ classifications and the R-PAS FQ tables. In other words, we examined how individual examiners would code a specific entry when left to rely only on their ability to see the objects. Thus, to evaluate whether the raters coded each entry listed in the survey correctly, we computed correct classification and Cohen’s kappa values comparing the codes of the raters with those reported in the R-PAS FQ tables. For Cohen’s kappa values, we considered the following cut-offs: kappa values between .20 and .40 = fair, kappa values between .41 and .60 = moderate, kappa values between .61 and .80 = good, and kappa values above .80 = very good (Altman, 1991; Landis & Koch, 1977).

Second, given that in the development of the FQ tables FA ratings were used to evaluate the degree to which each object fits with the contour of the inkblot, we examined average FA ratings produced by the raters. We were particularly interested in evaluating whether raters would be able to agree with each other on the degree of fit to the inkblot of the selected entries. To do that, we computed two-way random Intraclass Correlations (ICC) between average FA values by the raters and those used by R-PAS authors in developing the R-PAS FQ tables. For ICC values, we considered the following cut-offs: ICCs < .40 = poor reliability, ICCs between .40 and .59 = fair reliability, ICCs between .60 and .74 = good reliability, and ICCs of .75 or above = excellent reliability (Cicchetti, 1994; Shrout & Fleiss, 1979).

Table 2. FQ correct classifications and Cohen’s kappa between raters and R-PAS manual

		Overall		Card I		Card III		Card VI		Card VIII	
	# of ratings	CC%	κ	CC%	κ	CC%	κ	CC%	κ	CC%	κ
FQ–	798	68.1		71.3		69.8		60.4		71.3	
FQu	840	46.2		43.8		48.1		42.0		50.6	
FQo	168	74.3		72.6		85.4		–		66.7	
Total	1806	58.5	.338	59.6	.375	61.6	.392	51.2	.200	61.0	.366
Prototype											
FQ–	357	75.8		85.7		73.3		69.5		79.5	
FQu	462	48.7		51.6		45.2		43.3		53.2	
FQo	168	74.3		72.6		85.4		–		66.7	
Total	987	62.9	.439	66.0	.488	63.6	.454	56.5	.277	64.2	.454
Threshold											
FQ–	441	61.8		64.0		65.5		51.0		65.9	
FQu	378	43.2		32.1		51.8		40.8		47.6	
Total	819	53.2	.156	51.2	.032	58.7	.233	45.9	.122	57.6	.217

Note. CC% = correctly classified %: refers to the % of ratings that identified the correct FQ level.

Results

Correct classifications consisted of the percentage of correct FQ classifications of all the 86 entries by the 21 raters (Table 2). The overall hit rate was 58.5% and the percentage of correct classification was low for FQu objects (46.2%), higher for FQ– entries (68.1%), and the highest for FQo entries (74.3%). Correct classifications of each card closely reflect the overall correct classification (Table 2). With regard to each card, Card VI obtained the lower overall hit rate (51.2%), whereas the highest value was obtained for Card III (61.6%). As for the highest FQ classification by card, 71.3% of FQ– entries from Card I and Card VII were recognized by the raters, 50.6% of FQu entries were correctly classified in Card VIII, and 85.4% of FQo entries were correctly classified in Card III. However, less than 50% of FQu entries from Cards I, III, and VI were correctly classified by the raters. In general, Cohen’s kappa was fair ($\kappa = .338$), ranging from .200 for Card VI to .392 for Card III.

As for Prototype and Threshold entries, Table 2 shows that hit rates of Prototype entries were generally higher than of Threshold entries. The overall correct classification for Prototype entries was 62.9%, with 75.8% for FQ– entries, 48.7% for FQu entries, and 74.3% for FQo entries, whereas the correct classification for Threshold objects was 53.2%, with 61.8% of FQ– entries and 43.2% of FQu entries being correctly classified. Interestingly, considering Prototypes, 23

Table 3. Descriptive statistics of FA ratings and ICCs ($R = 1,806$)

		FQ–		FQu		FQo		ICC
		<i>M</i>	<i>DS</i>	<i>M</i>	<i>DS</i>	<i>M</i>	<i>DS</i>	
Overall	86	1.99	0.95	2.96	1.00	4.17	1.02	.850
Prototype	47	1.81	0.94	3.18	0.92	4.17	1.02	.884
Threshold	39	2.14	0.92	2.70	1.04	–	–	.538
Card I	23	1.94	0.91	2.86	1.04	4.21	0.97	.939
Prototype	13	1.54	0.86	3.21	0.91	4.21	0.97	.943
Threshold	10	2.14	0.88	2.35	1.00	–	–	.492
Card III	19	1.97	0.92	3.04	1.01	4.41	0.71	.892
Prototype	11	1.87	0.96	3.37	0.94	4.41	0.71	.906
Threshold	8	2.10	0.84	2.63	0.96	–	–	.690
Card VI	20	2.17	1.01	3.10	1.04	–	–	.673
Prototype	10	1.98	0.96	3.13	0.99	–	–	.795
Threshold	10	2.37	1.02	3.06	1.10	–	–	.415
Card VIII	23	1.88	0.92	2.87	0.92	3.83	1.27	.828
Prototype	12	1.73	0.93	3.02	0.85	3.83	1.27	.850
Threshold	11	1.98	0.91	2.70	0.96	–	–	.656

Note. FA = Form Accuracy; FQ – = Form Quality Minus; FQu = Form Quality Unusual; FQo = Form Quality Ordinary; ICC = intraclass correlation coefficients.

FQ– entries were classified as FQo. The most misclassified FQ– entry was “Skeleton” in Card VIII (W Location), followed by “Bug” in Card VI (D1 Location), which were coded FQo by four and three raters, respectively. On the other hand, three FQo Prototype entries were classified as FQ– by the raters. The entry that was mostly misclassified was “Flower” in Card VIII (W Location), which was coded FQ– by seven raters. Cohen’s kappa for Prototypes was moderate ($\kappa = .439$), ranging from .277 for Card VI to .488 for Card I, whereas Cohen’s kappa for Thresholds was poor ($\kappa = .156$), ranging from .032 for Card I to .233 for Card III.

To analyze the fit (i.e., Form Accuracy) of the entries, we asked the raters to rate each object on the 5-point scale, where 1 indicated a poor fit and 5 indicated an optimum fit. According to the R-PAS manual, if one were to rely only on FA/Fit, objects with an FA rating of 2.4 or less would be classified as FQ–, objects with an FA of 3.5 or above would be classified as FQo, and objects with FA between 2.4 and 3.5 would be classified as FQu. As would be expected, mean FA ratings ($M = 1.99$, $SD = .95$) related to FQ– entries were lower than the suggested threshold of 2.4 and the mean value of FQo entries was higher than 3.5 ($M = 4.17$, $SD = 1.02$), whereas the mean FQu rating ($M = 2.96$, $SD = 1.00$) was in the intervening range (Table 3). Considering Prototypes and Thresholds, FQo Prototypes

should have a mean FA above 4.15, FQu Prototypes a mean FA between 2.85 and 3.05, whereas FQ- Prototype should have a mean FA lower than 1.75. As shown in Table 3, FQ- and FQu Prototypes had a mean FA higher than the cut-off, with mean FA values of 1.81 ($SD = .94$) and of 3.18 ($SD = .92$), respectively. This pattern is consistent for Cards III and VI, whereas for Card I and VIII the mean FA ratings of FQ- Prototypes were lower than 1.75. On the other hand, FQo Prototypes showed mean FA ratings higher than 4.15, with the exception of Card VIII ($M = 3.83$, $SD = 1.27$). As for Thresholds, (Table 3) FA mean ratings were between the suggested range for both FQ- and FQu Thresholds. However, FA mean ratings for FQu Thresholds were lower than 2.55 for Card I ($M = 2.35$, $SD = 1.00$) and higher than 2.75 for Card VI ($M = 3.06$, $SD = 1.10$).

To compare the FA ratings by the raters with those used to develop the R-PAS FQ tables, we computed ICCs. Considering all the entries, the ICC value was .850, indicating an excellent reliability (Cicchetti, 1994; Shrout & Fleiss, 1979). However, when looking at the different FQ codes, ICC coefficients were .403 for FQ- entries, .377 for FQu entries, and, surprisingly, .146 for FQo entries. The unexpected results for FQo entries, lead us to an in-depth analysis of the FA mean values for FQo entries. We found that one entry (i.e., "Flower [Can include leaf]" in Card VIII, Location W) had a mean FA value ($M = 2.86$, $SD = 1.01$) lower than 3.5, the cut-off used for FQo categories. Thus, excluding this entry from the analysis, the ICC value for FQo objects became .593. Thus, the results may suggest that, on aggregate ratings, raters were capable of recognizing the fit of the objects to the contour of the inkblot.

Discussion and Conclusion

The present study evaluated the extent to which Rorschach examiners agree with each other in evaluating the FQ and FA of response objects, in the absence of the FQ tables. The aim was to understand how examiners would code the FQ when objects are not listed in the FQ tables, and, thus, to investigate the examiners' judgments. We asked 21 raters to rate FA and FQ for 86 objects from Cards I, III, VI, and VIII. Considering FQ codes, the overall hit rate was 58.5% and the percentages of correct classification were 68.1% for FQ- objects, 46.2% for FQu objects, and 74.3% for FQo objects. The results indicate that examiner judgments are not reliable, and coders should not rely on their opinion in coding FQ but should use all the evidence gathered from the steps listed in the R-PAS manual in coding FQ. On the other hand, considering FA values, the ICC value was

.850, indicating an excellent reliability. Thus, examiner judgments for FQ are inaccurate, but they seem more accurate when they have to establish the degree to which an entry fits the contour of the inkblot. In other words, ICC values indicate that the raters evaluated the FA of each entry consistently with the raters who evaluated FA for the R-PAS FQ tables.

From the results of the present study, two main implications are worth noting. First, these findings may shed light on the lower inter-rater reliability values related to FQu compared with FQ- and FQo. One may speculate that when examiners are forced to make individual judgments in coding FQ because the object is not listed in the FQ tables (Step 4 of the instructions given by the R-PAS manual), they would produce inconsistent codings. In this direction, future studies should evaluate potential differences in the inter-rater reliability values for the FQ codes between FQ classifications based on the manual (Steps 1–3) and FQ classifications based on individual judgements (Step 4). Second, in terms of training, particular attention should be paid to the steps described in the manual on how to code FQ when the object is not listed in the manual. New learners who found the coding of FQ particularly difficult (Viglione et al., 2017) may find some comfort in knowing all the strategies they should adopt to deal with this challenge.

Although this study is the first to analyze the impact of examiners' judgments on the coding of FQ, some limitations are worth noting. First, we administered the survey to a small sample of graduate student collaborators. Expert researchers and clinicians may thus yield higher levels of reliability with the FQ tables, considering the experience they may have accumulated in coding objects not listed in the FQ tables. However, given that most of the studies evaluating the inter-rater reliability of Rorschach scores are based on the codings made by graduate students or young researchers and clinicians, we believe that our findings reflect the real context in which these studies were conducted. Second, we selected only single objects in W and D location, and we did not consider multiple objects or Dd locations. Given that our aim was to evaluate the extent to which raters would be able to code FQ variables correctly without using the FQ tables, we decided to maintain stable the level of difficulty of the coding. Indeed, coding one object in one location is easier than coding multiple objects in multiple or uncommon locations.

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History

Received November 6, 2020

Accepted November 12, 2020

Published online March 18, 2021

Acknowledgments

Donald J. Viglione receives royalties on the sale of the R-PAS manual and associated products.

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Summary

Form Quality (FQ) is an essential variable that has been recognized for its importance since the development of the Rorschach Inkblot test. It refers to the “goodness of fit” of visualized objects to the corresponding area of the blot used by the examinee. Moreover, FQ scores are a well-validated measure of perception accuracy, reality testing, and severity of psychological disturbance. Research studies reveal that inter-rater reliability of FQ scoring is good when visualized objects are available in FQ tables. However, many visualized objects are not found in the FQ tables so that scoring must rely on one’s individual judgment. No research has directly asked the question of how reliably and accurately can individuals make these FQ judgments in the absence of the FQ tables. If the answer were to be “not very good” then such difficulty would limit the validity of FQ scoring and a remedy might be in order. To address this question about examiner judgment of fit in terms of FQ scoring accuracy and inter-rater reliability, we used the Rorschach Performance Assessment System (R-PAS) method. We asked 21 graduate students (i.e., research collaborators) from our research labs to rate Form Accuracy (FA) and FQ for 86 objects from a subset of four Rorschach card (I, III, VI, and VIII). The results clearly reveal that individual examiner making FQ judgements without using the FQ tables are not reliable. These findings shed light on the lower inter-rater reliability values related to FQ_u compared to FQ₋ and FQ_o. When scoring FQ, one should carefully scrutinize the empirically support of the FQ tables and base the FQ score on these rather than personal judgement. For R-PAS there are procedures to follow in the manual and on-line in an effort to maximize accuracy and reliability. In terms of training, new learners who found the coding of FQ particularly difficult may find some comfort in knowing all the strategies they should adopt to deal with this challenge.

Riassunto

La Qualità Formale (Form Quality; FQ) è una variabile essenziale che è stata riconosciuta per la sua importanza sin dallo sviluppo del test di Rorschach. Si riferisce alla “bontà dell’adattamento” degli oggetti visualizzati all’area della macchia utilizzata dall’esaminato. Inoltre, i punteggi FQ sono una misura validata di accuratezza della percezione, dell’esame di realtà, e della gravità del disturbo psicologico. Diversi studi hanno rivelato che l’affidabilità tra giudici delle codifiche FQ sia buona quando gli oggetti visualizzati sono elencati nella tabella FQ. Tuttavia, molti oggetti visualizzati non sono presenti nelle tabelle FQ cosicché lo scoring deve fare affidamento sul giudizio individuale del clinico. Nessuna ricerca ha indagato direttamente quanto affidabili e accurati siano i giudizi individuali sulle codifiche FQ in assenza delle tabelle FQ. Se la risposta dovesse essere “non molto” allora questa difficoltà limiterebbe la validità dello scoring di FQ. Per affrontare questo problema sul grado di accuratezza e affidabilità tra giudici dei giudizi degli esaminatori nel siglare FQ abbiamo utilizzato il metodo Rorschach Performance Assessment System (R-PAS). Abbiamo chiesto a 21 dottorandi (collaboratori di ricerca) di valutare l’Accuratezza Formale (Form Accuracy; FA) e di siglare FQ per 86 oggetti delle tavole I, III, VI e VIII. I risultati rivelano chiaramente che i singoli giudizi degli esaminatori nel valutare FQ senza l’utilizzo delle tavole FQ non sono affidabili. Questi risultati potrebbero far luce sui valori di affidabilità tra giudici più bassi relativi a FQ_u rispetto a FQ₋ e FQ_o. Quando si sigla FQ, si dovrebbe esaminare attentamente le tavole FQ che derivano da supporto empirico e basare la codifica FQ sulle tavole FQ piuttosto che su giudizi individuali. Nel metodo R-PAS vengono presentate le procedure da seguire sia nel manuale sia online per massimizzare l’accuratezza e l’affidabilità. In termini di training, i nuovi esaminatori che trovano particolarmente difficile codificare FQ possono trovare conforto nel conoscere tutte le strategie che dovrebbero adottare per affrontare questa sfida.

Résumé

La qualité formelle (Form Quality; FQ) est une variable essentielle qui a été reconnue pour son importance depuis le développement du test de Rorschach. Elle fait référence à la “qualité de l’ajustement” des objets visualisés aux contours de la tâche utilisée par le patient. De plus, les scores FQ constituent une mesure bien validée de la précision de la perception, du test de réalité et de la gravité du trouble psychologique. Des études ont révélé que la fiabilité inter-juges des encodages FQ est bonne lorsque les objets affichés sont répertoriés dans le tableau FQ. Cependant, de nombreux objets affichés ne sont pas présents dans les tableaux FQ, de sorte que la notation doit reposer sur le jugement individuel du clinicien. Aucune recherche n’a directement examiné la fiabilité et l’exactitude des jugements individuels sur les codages FQ en l’absence de tableaux FQ. Si la réponse était « pas beaucoup », alors cette difficulté limiterait la validité de la notation FQ. Pour résoudre ce problème du degré d’exactitude et de fiabilité parmi les juges des jugements des examinateurs lors de la signature du FQ, nous avons utilisé la méthode du Rorschach Performance Assessment System (R-PAS). Nous avons demandé à 21 doctorants (collaborateurs de recherche) d’évaluer l’exactitude formelle (Form Accuracy; FA) et FQ pour 86 objets des planches I, III, VI et VIII. Les résultats révèlent clairement que les jugements individuels des examinateurs lors de l’évaluation de la FQ sans l’utilisation des tableaux FQ ne sont pas fiables. Ces résultats pourraient expliquer les valeurs de fiabilité des juges les plus faibles concernant FQ_u comparées à FQ₋ et FQ_o. Lors de l’initialisation de FQ, il faut examiner attentivement les tableaux FQ qui découlent d’un soutien empirique et baser le codage FQ sur les tableaux FQ plutôt que sur des jugements individuels. La méthode R-PAS présente les procédures à suivre à la fois dans le manuel et en ligne pour maximiser l’exactitude et la fiabilité. En termes de formation, les nouveaux examinateurs trouvant qu’il est particulièrement difficile de codifier FQ peuvent être soulagés de connaître toutes les stratégies possibles à adopter pour relever ce défi.

Resumen

La calidad de la forma (FQ) es una variable esencial que ha sido reconocida por su importancia desde el desarrollo de la prueba de Rorschach. Se refiere a la “bondad de ajuste” de los objetos expuestos al área de la mancha utilizada por el examinador. Además, los puntajes FQ son una medida validada de la precisión de la percepción, las pruebas de realidad y la gravedad del trastorno psicológico. Varios estudios han revelado que la confiabilidad entre jueces de las codificaciones FQ es buena cuando los objetos mostrados se enumeran en la tabla FQ. Sin embargo, muchos de los objetos mostrados no están presentes en las tablas FQ, por lo que la puntuación debe basarse en el juicio individual del médico. Ninguna investigación ha investigado directamente qué tan confiables y precisos son los juicios individuales sobre la codificación FQ en ausencia de tablas FQ. Si la respuesta fuera “no mucho”, esta dificultad limitaría la validez de la puntuación FQ. Para abordar este problema del grado de precisión y confiabilidad entre los jueces de los juicios de los examinadores al firmar FQ, usamos el método Rorschach Performance Assessment System (R-PAS). Solicitamos a 21 estudiantes de doctorado (colaboradores de investigación) que evaluaran la Exactitud de la Forma (Form Accuracy; FA) y firmaran FQ para 86 objetos en las tablas I, III, VI y VIII. Los resultados revelan claramente que los juicios individuales de los examinadores al evaluar FQ sin el uso de las tablas FQ no son confiables. Estos resultados podrían arrojar luz sobre valores más bajos de confiabilidad entre jueces para FQ en comparación con FQ₋ y FQ_o. Al inicializar FQ, se deben examinar cuidadosamente las tablas de FQ que se derivan del soporte empírico y basar la codificación de FQ en las tablas de FQ en lugar de juicios individuales. El método R-PAS presenta los procedimientos a seguir tanto en el manual como en línea para maximizar la precisión y confiabilidad. En términos de formación, los nuevos examinadores a los que les resulte particularmente difícil codificar FQ pueden encontrar consuelo al conocer todas las estrategias que deben adoptar para afrontar este desafío.

要約

形態水準 (FQ) は、ロールシャッハテストが開発されて以来、その重要性が認識されている重要な変数である。これは、被検者が使用したプロットの対応するエリアへの視覚化された対象物の「適合度」を指す。さらにQFスコアは、知覚の正確さ、現実検定力、および心理的障害の重症度を検証するに十分な尺度である。これまでの研究では、可視化された対象物が形態水準表に掲載されている場合、評価者間信頼性は良好であることが明らかにされている。しかし、可視化された対象物の多くは形態水準表にないため、スコアリングは、個人の判断に頼らざるを得ない。形態水準表にない場合、個人がこれらの形態水準の判定をどれだけ正確に行えるのか、ということについて直接問うた研究はない。もし、答えが「あまり良くない」という場合、そのような難しさは形態水準のスコアリングの妥当性を制限することとなり、救済策が必要かもしれない。FQスコアリングの正確さと評価者間信頼性の観点から、検査者の適合性の判断に関するこの疑問に答えるために、R-PASを用いた。われわれの研究室の大学院生21名（すなわち研究協力者）に、4枚のロールシャッハカード（I、III、VI、VIII）のサブセットから86個の対象物について、形態の正確さ（FA）とFQを評価してもらった。その結果、個々の検査者が形態水準表を用いずFA判定を行うことは、信頼性が低いことが明らかになった。これらの結果は、FQやFQ_oに比べてFQ₋に関連した信頼性が低いことが示唆された。FQをスコアする時には、個人的な判断ではなく、形態水準表の経験的な裏付けを慎重に精査し、それを基にFQのスコアを行うべきである。R-PASについては、精度と信頼性を最大化するために、マニュアルやオンラインでの手順がある。トレーニングの面では、形態水準のコーディングが特に難しいと感じた初学者は、この課題に対処するために採用すべき全ての戦略を知っていることで安心感をおぼえるかもしれない。



Color Projection in the Rorschach Test

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Abstract: The purpose of this study was to examine the basic features of Color Projection (CP). This study examined how CP appeared in relation to card, position, location, development quality, form quality, determinants, contents, special scores, and projected colors. Japanese adult psychiatric patients participated in the study. A total of 68 CP responses in 37 protocols were collected from over 1,500 Rorschach protocols. The results indicated that almost 60% of CP were in response to Card I or VI, which suggests that CP may be an initial shock reaction to achromatic colors and shading. Moreover, almost all CP were shown with the card in the original position, and more than half of CP were shown with W and DQo. This suggests that coping strategies when using CP may consist of changing recognitions rather than changing behaviors. On the other hand, these results also show that almost 30% of CP responses were scored MOR, and some CP responses were changed to colors that are generally considered to be less beautiful or undesirable in Japan. Therefore, in conclusion, it is possible that the current interpretive hypothesis of denial of unpleasant feelings may not be characteristic of all CP responses.

Keywords: color projection (CP), Rorschach, affect

Color responses in the Rorschach test are regarded as variables connected to affective features (Exner, 2003; Klopfer et al., 1954; Rapaport et al., 1946; Schachtel, 1967; Shapiro, 1956, 1960). One of the most rare and unique color responses is Color Projection (CP). CP occurs when an individual projects chromatic colors into blot areas that display only varieties of black and gray (Piotrowski, 1957). Examples include “a blue bird” in response to Card I, “a bright red butterfly” in response to Card V, and “green leaves” for Card VI. The phenomenon of projecting chromatic colors onto achromatic surfaces was observed by Hermann Rorschach and many others. However, none had interpreted CP before Piotrowski, who suggested that CP could be indicative of a unique type of affective coping.

Piotrowski (1957) suggested that CP is indicative of a deliberate and conscious attempt to feel, sense, and display happiness in overt behaviors while suppressing a spontaneous and deeply felt sadness. He also explained that CP reveals a most earnest and intense attempt at self-imposed serenity to dispel the depression caused by deeply felt frustrations. Moreover, Weiner (1998) and Exner (2003)

later recognized that in broader terms CP is the rejection of not only depressive feelings but also unpleasant feeling in general.

However, little research has been conducted to examine the validity of these interpretations of CP. Mihura and colleagues (2013) systematically evaluated peer-reviewed Rorschach validity literature for the 65 main variables in the Comprehensive System (CS). The result showed that CP was one of the variables with least support. However, according to Mihura et al. (2013), the lack of support for CP is not due to evidence for the absence of validity (nonsignificant findings) or low or unstable levels of validity (significant findings but with validity coefficients in the lowest quartile of the psychological assessment literature or just above this point with uncertain stability), but the absence of evidence for its validity because no studies have been conducted regarding CP, possibly due to the extremely low frequency of this response.

There are very few studies on CP, and most of them confirm its low incidence. Piotrowski (1957) stated that CP is not necessarily a psychopathologic sign, but the great majority of individuals with CP are patients who have an organic cerebral disease or incipient schizophrenia. However, Piotrowski does not specifically mention the incidence of CP in these disorders. On the other hand, some studies have reported that CP can be seen in mood disorders. Exner (2001) reported that only 3–5% of patients with schizophrenia showed CP, whereas inpatients with a depressive disorder ($\Lambda < 1.0$) showed a higher incidence of CP at 7%. Moreover, Ishii (2003) reported on 10 cases of CP among 158 patients (6%) that he treated over 7 years.

On the other hand, depressed patients with an avoidant style showed no CP, suggesting that the incidence of the CP is not equally low in all clinical groups, and the incidence of CP differed depending on the pathological conditions and psychological mechanisms that were shown in the Rorschach. Weiner (1998) reported that individuals with CP in the protocols are at considerable risk for rapid mood swings. The co-occurrence of CP with indices of depression frequently raises the possibility of a bipolar disorder or cyclothymic tendencies. However, no quantitative evidence about this has been demonstrated.

In studies conducted with nonclinical groups, Weiner (1998) indicated that CP occurs in fewer than 2% of Rorschach records, whereas Exner (2001) suggested that it was 0.8% ($N = 5/600$) in the United States. In Japan, Takahashi et al. (1998) reporting on 220 nonclinical adults and Nishio et al. (2017) reporting on 400 nonclinical adults indicated that the incidence of CP was 0%. Nakamura and colleagues (2007) suggested that the incidence of CP was 3% using the Comprehensive System data of a sample of 240 adult nonpatients in Japan. Meyer et al. (2007) reported that the incidence of CP was 2% using composite adult international normative reference data from 17 countries.

Although these studies have reported more CP responses among clinical groups compared with nonclinical groups, it is obviously a rare response. However, Exner's (2001) aforementioned data are particularly noteworthy. Nakamura (2010) suggested that CP might not be surprisingly rare, and could sometimes occur. Considering this, it is probable that many clinical psychologists and counselors engaged in psychological assessment in mental health centers and mental hospitals, especially full-time and veteran psychologists, come across CP at least several times in their careers. The issue could represent the difficulty of collecting data on CP for effectively evaluating its validity by using statistical methods in short-term studies. Data on Rorschach protocols including CP responses are accumulated during spontaneous, day-to-day work in clinical settings, such as in hospitals and healthcare centers, over the long term. Therefore, when we encountered protocols that appeared to include CP in clinical practice, we began the study by asking testees to cooperate in this study, obtaining their consent, and collecting CP data. Aoki (2013) noted that those who produce CP tend to produce more than one, especially among women, and that it is relatively more common among people with posttraumatic stress disorder (PTSD) and dissociative disorders, especially survivors of abuse and bullying. Case studies (Aoki, 2009, 2011) suggested that CP was often seen in the W areas in Card I and Card VI, suggesting that it may be an initial shock to black and shading. Based on the results of the examination of 17 CPs, more than 30% of the CP responses were with MOR, contrary to the conventional interpretation hypothesis (Aoki, 2013). Ishii (2003) also pointed out from a review of 10 cases that CP may be accompanied by negative emotional expressions. Examining the characteristics of CP response may lead to future investigations of interpretive hypotheses for CP.

The purpose of this study was to examine the basic features of CP, in other words, to collect and discuss the basic findings on the characteristics with which CP appears, such as which card, position, response order, location, development quality, form quality, determinants, contents, special score, and projected colors. Although the ultimate goal of this series of studies is to examine the interpretive validity of the CP, we assume that we are at the stage of accumulating basic knowledge about the basic features of CP.

Method

Procedure

This study was performed with the cooperation and agreement of the patients and their treatment centers. The Rorschach test was administered individually for

diagnosis and planning in the treatment centers. When CP appeared in Rorschach protocols, the record was placed in the set of research data after obtaining informed consent from the patient, explaining that the data were to be used only for research purposes and that personal information would be completely protected. Data from patients who signed a participation agreement were used. The research was conducted from April 1995 to July 2017. In all, 68 CP responses in 37 protocols were collected from over 1,500 Rorschach protocols. The survey was conducted with the approval of the Committee on Ethics of the Faculty for Research in Human Sciences, Tsukuba University.

Data Analysis

Certified psychologists with more than 20 years of experience in Rorschach testing, including the authors, scored protocols that were collected in the form described in the procedure independently by employing the CS (Exner, 2001). Before the scoring, the scorers agreed to use the CP principle, in which CP was coded only when the presence of chromatic coloring in the achromatic blot area was identified (Exner, 2003). In addition, prior to the score, it was confirmed among the scorers that achromatic included *white* and chromatic included both color specifications such as *red* and *blue* and noncolor specifications such as *colorful* and *multicolored*. In total, 97.0% of all scores, including CP, were in agreement. Disagreements were discussed by including another certified psychologist to determine the final scores.

Sample

The research data included 68 CP responses from adult mental health patients ($N = 37$, four men and 33 women, age range 15–47 years, $M_{\text{age}} = 28.68$ years, $SD = 9.80$). None of the patients had any visual impairments or problems with color recognition according to the attending doctor's diagnosis or medical check-ups. The diagnosis of the patients varied from PTSD, schizophrenia, depression, dissociation disorder, panic disorder, and adjustment disorder.

Results

Number of CP Responses

Among the 37 participants who produced CP, 20 participants (54.1%) produced one CP and 17 participants (45.9%) produced multiple CP responses (see Table 1).

Table 1. Number of CP per protocol

Variable	<i>N</i>	(%)
1	20	(54.1)
2	10	(27.0)
3	3	(8.1)
4	1	(2.7)
5	3	(8.1)
Total	37	(100.0)

Ten participants produced two CP (27.0%) and seven participants produced more than three CP (18.9%). The mean number of occurrences of CP was 1.84 (*SD* = 1.20), maximum being five CP (three persons). Also, four of 20 participants who produced one CP projected chromatic colors that were different from the chromatic color on the card (e.g., “yellow flowers” in red blot area on Card II, “brown monkeys” in pink blot areas on Card VIII). These different chromatic color projection responses are not CP. However, this observation leads us to assume that 57% of people who produced CP (four persons with both single CP and different color projections, and 17 persons with multiple CP) repeatedly dealt with forcibly distorting the actual colors.

Cards That Produced CP

The results indicated that Card VI produced the largest number of CP (33.8%, 23 responses) and Card I produced the second largest number (23.5%, 16 responses). Furthermore, Card V produced the third largest CP showing 11 (16.2%). Eight CP (11.8%) were shown for Card VII, and six CP (8.8%) for Card IV. CP was also shown for Cards II and III (four CP, 5.9%), which are the chromatic color cards (see Table 2).

Location

Comparing the locations of CP responses, W was the most frequent (70.6%), while D and Dd were each the second most frequent (14.7%; see Table 2).

Position of Cards

The position of the card indicated that 97.1% of CP was shown in the original position, whereas only two responses were shown in the reversed position.

Table 2. Card and location of CP

	Card							
Location	I	II	III	IV	V	VI	VII	Total
W								
N	13	0	0	5	10	14	6	48
%	19.1%	0.0%	0.0%	7.4%	14.7%	20.6%	8.8%	70.6%
D								
N	1	0	1	1	0	6	1	10
%	1.5%	0.0%	1.5%	1.5%	0.0%	8.8%	1.5%	14.7%
Dd								
N	2	1	2	0	1	3	1	10
%	2.9%	1.5%	2.9%	0.0%	1.5%	4.4%	1.5%	14.7%
Total								
N	16	1	3	6	11	23	8	68
%	23.5%	1.5%	4.4%	8.8%	16.2%	33.8%	11.8%	100.0%

Table 3. Development Quality (DQ) of CP

Variable	N	(%)
DQ+	22	(32.4)
DQo	40	(58.8)
DQv/+	3	(4.4)
DQv	3	(4.4)
Total	68	(100.0)

Developmental Quality (DQ), Form Qualities (FQ)

Comparing the DQ of CP responses indicated that DQo was the most frequent (58.8%) and DQ+ was the second most frequent (32.4%), whereas DQv/+ and DQv were the third most frequent (4.4%; see Table 3).

For FQ, 38.2% of CP was FQo, 29.4% of CP was FQu, and 32.4% of CP was FQ- (see Table 4).

Determinants

A single determinant was seen in 72.1% of CP responses and a blend determinant was seen in the remaining 27.9% of CP responses. Among the CP responses with a blend determinant, 14 responses had two determinants, and five responses had more than three determinants.

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Table 4. Form Quality (FQ) of CP

Variable	N	(%)
FQo	26	(38.2)
FQu	20	(29.4)
FQ–	22	(32.4)
Total	68	(100.0)

Table 5. The percentages of determinants in CP responses

Variable	No shading			Shading	
	Form	Movement	Movement + Others	Shading	Shading + Movement
Single	26 (38.2%)	8 (11.8%)		15 (22.1%)	49 (72.1%)
Blends			4 (5.6%)		15 (22.1%)
19 (27.9%)					
Total		38 (55.9%)		30 (44.1%)	

Note. N = 68 (100%). Movement = e M, FM, and m. Shading = Y, V, and T.

Among 68 CP, shading determinants (T, V, Y) were shown in 44.1% of CP, in particular, Y was seen most often (19 of 30 CP with shading). Furthermore, form determinants were shown in 38.2% and movement determinants were shown in 39.7% of CP, of which more than half are blends with shading (Table 5).

Contents

The most popular content was Botanical (Bt) such as “red leaves,” “a bouquet of pink primroses,” or “a brown dead leaf,” which were seen in 17 responses (25.0%). This was followed by the Whole animals (A), such as “a beautiful blue butterfly,” or “tropical fishes,” which were seen in 14 responses (20.6%). However, CP responses indicating wounds and damage, such as “red blood” and “a drowned body” were also present, although they occurred less frequently (Table 6).

Special Scores

Overall, 48.5% of CP responses were scored with unusual verbalizations such as DV, DR, INCOM, FABCOM, and CONTAM. Of these, 23.5% (n = 16) of the CP responses were scored Level 1 and 16.2% (n = 11) were scored Level 2. There was also one CP response with CONTAM. There were five CP responses with two

Table 6. The contents of CP

Variable	N	%	Example
A	14	(20.6)	A beautiful blue butterfly, green bats, tropical fishes
Ad	6	(8.8)	A bright red chicken crown
(A)	1	(1.5)	A skin-colored slug monster
Bt	17	(25.0)	Red leaves, brown dead leaf, a bouquet of pink primroses
Na	3	(4.4)	Blue sky and white cloud
Ls	1	(1.5)	The bluff where the green grass grew
Hh	4	(5.9)	A green lamp, a green beach parasol, a light blue bucket
Sc	4	(5.9)	The pink violin that exploded and damaged
H	1	(1.5)	A drowned body; it's bright red
Hd	1	(1.5)	Blonde child's face
(H)	3	(4.4)	Colorful life forms
(Hd)	2	(2.9)	A head of birdman with blue hair; the face of pink monster
Cg	5	(7.4)	A pink dress with ivory bows, a purple cloak with orange patterns
Fd	2	(2.9)	Brightly colored tropical fruits
Bl	1	(1.5)	Red blood
Art	1	(1.5)	Castle ornaments
H+Cg	1	(1.5)	A golden-haired yellow girl in a light blue dress.
A+Bt	1	(1.5)	Yellow loofah flowers and green bugs
Total	68	(100.0)	

special scores: one CP with two Level 1, two CP responses scoring Level 2 and Level 1, and two CP responses with two Level 2.

Among the special scores for cognitive and thinking deviations, DR was most often scored together with CP (DR = 25, 36.8%), of which 14 scored Level 1 and 11 scored Level 2 (see Table 7). On the other hand, among the special scores for content, Morbid content was the most frequently scored response (MOR = 29.4%).

Projected Colors

As shown in Table 8, 64.7% of CP had one color projection, 19.1% of CP had more than one color projection, and 16.2% of CP had a chromatic color that was not identified (e.g., a colorful chromatic color).

Next, the projected colors (hues) were compared in CP. As can be seen in Table 8, the results indicated that both red and brown were the most frequently projected colors (pure red was projected nine times, and combinations of red and other colors were projected six times; pure brown projected was 12 times,

Table 7. The special score of CP

Variable	NO		Lev1		Lev2		Total
	N	%	N	%	N	%	
DR	43	(63.2%)	14	(20.6%)	11	(16.2%)	
INCOM	60	(88.2%)	3	(4.4%)	5	(7.4%)	
FABCOM	64	(94.1%)	3	(4.4%)	1	(1.5%)	
CONTAM	67	(98.5%)					1 (1.5%)
MOR	48	(70.6%)					20 (29.4%)

Table 8. The projected color of CP

Hues	N (%)	Fre	No. of color	
			One color	More than one
Specific colors	57 (83.8%)		44 (64.7%)	13 (19.1%)
Red		15	9	6
Brown		15	12	3
Green		13	6	7
Pink		11	7	4
Violet		4	2	2
Orange		4	2	2
Yellow		4	0	4
Blue		3	2	1
Pale blue		3	2	1
Other		3	2	1
Unspecific colors	11 (16.2%)			
Total	68 (100%)			

Note. Hues = projected color phases (Hues) and specific (specific/unspecific) on CP; N = number of CP with each color specific (specific/unspecific); Fre = frequency of the hues on CP; No. of color = number of the projected color on CP.

and combinations of other colors projected three times). Green, which was projected 13 times, was the next most frequently projected color (pure green projected six times, combinations of other colors projected seven times), followed by pink, which was projected 11 times (pure pink projected 7 times, a combination of other colors projected four times).

When considering the appropriateness of the projected color to the content, an appropriate color was projected in 89.7% cases (“green leaves” or “a red blood”), and an inappropriate color was projected in 10.3% cases (“fresh green dead leaves” or “The sun. Because the color is green”).

Discussion

The aim of this study was to investigate the characteristics of CP responses. Although Exner (2001) reported that both clinical and nonclinical groups produced a maximum of one CP, almost half of the participants in this study produced CP several times. This result is consistent with the results of Ishii (2003), who made similar observations with outpatients.

This suggests that some people frequently use the coping mechanism of CP for whatever purpose. To understand them, it is important to clarify whether this coping is truly a denial of unpleasant feelings and, if not, what purpose it serves.

Cards Producing CP

The results of this study indicated that Card VI produced the most CP and Card I produced the second most CP. Black is used in all of Card I, and this is the first card that people encounter black. Nishio et al. (2017) suggested that the incidence of “C” in Card I was 13.5%, which is the highest among all cards using the comprehensive system from the data of a sample of 400 adult Japanese nonpatients. In judging the impressions of Card I using the semantic differential method, the Japanese respondents’ responses were often accompanied by unpleasant emotional expressions such as “unpleasant, dark, and dirty” (Kataguchi, 1974). On the other hand, Card VI is the first soft shade of color used all over the card. More people respond to shades than colors, indicating the highest texture response (20%) of the 10 cards (Kataguchi, 1974). Nishio et al. (2017) also suggested that the incidence of T in Card VI is the highest (12.0%) and that the incidences of V and Y are the highest among all the cards. Moreover, the judgment of impressions on Card VI using the semantic differential method shows numerous responses with unpleasant feeling, including “unpleasant,” “dark,” and “sad,” (Kataguchi, 1974). Considering that the CP generated by these two cards accounted for approximately 60% of the total, it can be speculated that CP may be one of the coping responses to the shock of first encountering an achromatic stimulus, although its features are different.

Location, DQ, FQ, and Response Position

The results for Location, DQ, and Position of the CP responses indicated several possibilities for how CP was perceived. In the present study, W was the most frequent for Location and DQo was the most frequent for DQ, accounting for

approximately 70% and 60%, respectively, suggesting that CP may be caused by the overall impact of the card stimulus. The result that CP was more common in Card I and Card VI, which have a larger surface area of the figure, also supports the hypothesis.

Furthermore, the result that more than 90% of CP responses have specific forms (DQ+ and DQo) means that those who produce CPs will ignore the color but not the form of the pictorial stimulus. Nevertheless, FQ varied, with both good form quality (FQo) and poor form quality (FQ-) found about 30% of the time. These results suggest that those who exhibit CP strive to recognize the objective reality of form, but more than 30% of them deviate from the general perception.

As for the position of the card, almost all of the CP responses were also shown in the original position. These findings suggested that the coping strategy for using CP was to change perceptions rather than to change behaviors, such as rotating the cards.

Determinants

Almost half of CP responses were accompanied by shading scores. Furthermore, in particular, Y was present most, which supported Exner's findings (2001). Many studies have reported that shading responses are strongly related to unpleasant emotions, and Y in particular is related to anxiety (Klopfer et al., 1954; Rapaport et al., 1946). Taking this into account, the present results seemed to support the conventional hypothesis that when unpleasant feelings are aroused by shading stimuli, CPs cope with the unpleasant feelings by forcibly changing their perception of the stimuli, that is, denying the unpleasant feelings.

In addition, about 40% of the CP responses were accompanied by movement as a determinant. In particular, all CP responses with blended determinants were scored with movement, most of which were blends of shading and movement. In terms of creating something that does not exist on the card, Movement, which projects movement onto a nonmoving card stimulus, and CP, which projects color onto an uncolored card stimulus, are similar. However, the difference is that Movement does not deny the existence of the stimulus on the card, whereas CP is formed by denying the existence of the colorless stimulus on the card. In this way, it may be said that CP is a response that requires creativity in its production, and that creativity can sometimes be so strong that it can deviate from reality.

On the other hand, there are also more than 30% of CP responses with shape as a determinant, but it is not clear whether these CP responses are associated with anxiety and unpleasant feelings like CP responses with shading. In the future, it will be necessary to compare CPs with different determinants.

Special Scores

Concerning the special score, almost half of CP responses contained certain deviations of cognition and thinking, and half of those indicated serious deviations (Level 2). In particular, DR was the special score most often seen with CP, and the serious level of DR (DR2) accounted for 40% of DR. These results indicated that people who produce CP could easily get absorbed in inner images and deviate the focus of attention from the card, with approximately 40% of such people showing considerably serious deviations from reality. On the other hand, MOR were scored in almost 30% of the CP responses. These results suggest that the traditional CP interpretation hypothesis of denial of unpleasant feelings may not be applicable to all CP or that the denial of unpleasant feelings is actually not working properly to defend the respondent from experiencing them.

Projected Colors

When considering whether the projected colors were appropriate for the content, we found that about 90% projected appropriate colors, while the remaining 10% projected inappropriate colors. CPs that deliberately projected colors that were not appropriate for the content may have been expressed as a result of integration failures, and it is possible that CPs that projected appropriate colors may be interpreted differently than CPs that projected inappropriate colors.

In projected colors (hues), both red and brown were most frequently projected. In Japan, red is the more “preferred color” while brown is less preferred. Furthermore, various surveys from 1991 to 2008 showed that few people chose brown as their favorite color (Chijiwa, 1999; Hanari & Takahashi, 2008; Japan Color Research Institute, 2011; Takahashi & Hanari, 2005). In color impression scores using the semantic difference scale (SD) based on research in color psychology and color dynamics, red had higher SD values for positive adjectives such as “bright,” “beautiful,” “pleasant,” and “happy,” whereas brown had lower SD values regardless of the time of the survey (1991, 1993, 1995; Japan Color Research Institute, 2011; Matsuoka, 1995). On the other hand, negative adjectives such as “dark,” “heavy,” “blurry,” and “dirty” have higher SD values in brown than in red. Thus, it seems to be necessary to consider carefully whether it is appropriate to apply the traditional interpretation of brown-projected CP as a negation of an unpleasant emotion. At this stage, although we cannot be certain, it is possible that CP may have psychological mechanisms other than the denial of unpleasant emotions, or, again, that despite trying to deny such emotions the resulting behavior falls short of achieving this scope.

Conclusion

The result that almost 60% of CPs were produced on Card I or VI suggested that CPs may be an initial shock response to achromatic or shading. Furthermore, nearly all of the CP responses were shown in the original position, and more than half of them were shown in W and DQo, suggesting that CP is a response to overall card impact and may be a coping mechanism that changes perception rather than changing behavior. As for special scores, almost half of the CP responses included some deviation in cognition or thinking, and half of them showed a serious level (Level 2). In addition, considering the fact that approximately 30% of CP responses were FQ- and included 10% of CPs that projected colors that were not consistent with the content of the response, it was also speculated that some CP may be a failure of cognition or thought integration. Furthermore, the fact that almost 30% of the CP responses were scored on MOR and that not all CPs projected beautiful or desirable colors suggest that the traditional CP interpretation hypothesis of denial of unpleasant affect may not apply to all CP responses. However, this conclusion cannot be determined based on this study alone, and further studies are needed in the future.

Limitations

The limitations of this study are the following. First, the study relied on the incidental occurrence of CP in clinical settings to collect CP. The low frequency of occurrence of CP made it difficult to collect CP in the usual research format of recruiting study participants. Therefore, the first author asked participants to be studied when the first author encountered a response that appeared to be CP in a clinical setting, and the second author scored the data with the participant's consent. It is possible that this research setting may have acted as a bias in scoring the CPs and affected the score agreement rate. Second, because the study was conducted within the framework described above, there was no control group in the study. Third, there is a sample bias because the data were collected only in medical settings. Fourth, the data set was collected over a long period. Therefore, data from the Aoki case study (2009, 2013) were included.

It is necessary to further examine the characteristics of CP responses, such as the verbal expressions of affect in the explanation of CP responses, based on the findings of the present study, so as to accumulate the knowledge necessary to examine the validity of the interpretation of CP.

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History

Received May 28, 2019

Revision received December 7, 2020

Accepted December 15, 2020

Published online March 18, 2021

Received and processed mainly under previous editorship

Acknowledgments

The data which we used in a previous publication (Aoki, 2013) are included in the data of this study. Portions of this article were originally presented at the 20th International Congress of Rorschach and Projective Methods in Tokyo, Japan, in 2011 and at the 22th International Congress of Rorschach and Projective Methods in Paris, France, in 2017.

This study is supported by the following researchers and clinicians. We would like to thank them for collecting CP dates, scoring, and helpful comments: Satoshi Ono, Yoshiyuki Takamura, Hatsue Numa, Noriko Nakamura, Munechika Ito, and Toshiki Ogawa.

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Summary

Color Projection (CP) is an extremely rare response in which chromatic color is projected onto an achromatic blot on the Rorschach and has been interpreted as a denial of unpleasant feelings. However, there are very few studies on CP.

The purpose of this study was to examine the basic features of CP, that is, to collect and discuss the basic findings on the characteristics with which CP appears, such as which card, position, location, development quality, form quality, determinants, contents, special score, and projected colors. Although the ultimate goal of this series of studies is to examine the interpretive validity of the CP, we assume that CP is at the stage of accumulating basic knowledge prior to the validation, since there is no basic knowledge on CP.

Japanese adult psychiatric patients ($N = 37$) participated in the study that was conducted between April 1995 and July 2017. A total of 68 CP responses produced in the Rorschach protocol by the participants were examined.

The result that almost 60% of CPs were produced on Card I or VI suggested that CPs may be an initial shock response to achromatic or shading. Furthermore, nearly all of the CP responses were shown in the original position, and more than half of them were shown in W and DQo, suggesting that CP is a response to overall card impact and may be a coping mechanism that changes perception rather than changing behavior. As for special scores, almost half of the CP responses included some deviation in cognition or thinking, and half of them showed a serious level (Level 2). In addition, considering the fact that approximately 30% of CP responses were FQ- and included 10% of CPs that projected colors that were not consistent with the content of the response, it was also speculated that some CP may be a failure of cognition or thought integration. Furthermore, the fact that almost 30% of the CP responses were scored on MOR and that not all CPs projected beautiful or desirable colors, as has been shown in previous studies, suggests that the traditional CP interpretation hypothesis of denial of unpleasant affect may not apply to all CP responses. However, this conclusion cannot be determined based on this study alone, and further studies are needed in the future.

要約

CPはロールシャッハ図版の無彩色領域に有彩色が投影される極めて稀な反応であり、不快な感情の否定と解釈されてきた。しかし、CPに関する研究は極めて少ない。本研究の目的は、CPの出現した図版、位置、発達水準、形態水準、決定因、反応内容、特殊スコア、そして投影された色彩についての知見を収集し、CPの基本的特徴を検討することであった。この一連の研究の最終的な目的はCPの解釈的妥当性を検討することであるが、CPの基礎知識が不足しているため、検証に先立って基礎知識を蓄積している段階が必要である。

1995年4月から2017年7月までの間に実施された研究には、日本人成人精神科患者 ($N=37$) が参加した。参加者がロールシャッハプロトコルで作成した68のCP回答を検討した。

その結果、6割近くのCPがカードIまたはVIで産出されたことから、CPは無彩色または陰影に対する初期ショック反応である可能性が示唆された。さらに、CPの反応のほぼ全てが元の位置で示され、半数以上がWとDQoで示されていたことから、CPはカード全体の衝撃に対する反応であり、行動を変えるというよりも認知を変える対処方略である可能性が示唆された。特殊スコアについては、CP反応のほぼ半数が認知や思考の何らかの逸脱を含み、その半数が深刻なレベル (レベル2) を示していた。また、CP反応の約3割がFQ-であり、反応内容と一致しない色を投影するCPが10%も含まれていたことを考慮すると、CPの中には認知や思考の統合に失敗しているものもあると推測された。さらに、CPの約30%がMORをスコアされていることや、先行研究で示されているように、すべてのCPに美しい色や好ましいとされている色を投影しているわけではないことから、従来のCP解釈仮説である「不快な感情の否定」がすべてのCPに当てはまらない可能性が示唆された。しかし、この結論は本研究だけでは判断できず、今後のさらなる研究が必要である。

Résumé

L'objectif de cette étude était d'examiner les caractéristiques de base de la PC, en d'autres termes, de recueillir et de discuter les conclusions de base sur les caractéristiques avec lesquelles la PC apparaît, telles que la carte, la position, l'emplacement, la qualité du développement, la qualité

de la forme, les déterminants, le contenu, le score spécial et les couleurs projetées. Bien que l'objectif ultime de cette série d'études soit d'examiner la validité interprétative de la PC, nous supposons que les PC en sont au stade de l'accumulation des connaissances de base avant la validation, puisqu'il n'existe aucune connaissance de base de la PC.

Des patients psychiatriques japonais adultes ($N = 37$) ont participé à l'étude qui a été menée entre avril 1995 et juillet 2017. 68 réponses de CP produites dans le protocole de Rorschach par les participants ont été examinées.

Le résultat, à savoir que près de 60% des CP ont été produits sur la carte I ou VI, suggère que les CP peuvent être une première réponse de choc à l'achromatique ou à l'ombrage. En outre, presque toutes les réponses de PC ont été montrées dans la position initiale, et plus de la moitié d'entre elles ont été montrées en W et DQo, ce qui suggère que les PC sont une réponse à l'impact global de la carte et peuvent être un mécanisme d'adaptation qui modifie la perception plutôt que le comportement. En ce qui concerne les scores spéciaux, près de la moitié des réponses de PC comportaient un certain écart dans la cognition ou la pensée, et la moitié d'entre elles montraient un niveau sérieux (niveau 2). En outre, compte tenu du fait qu'environ 30% des réponses CP étaient FQ- et comprenaient 10% de CP qui projetaient des couleurs qui ne correspondaient pas au contenu de la réponse, il a également été supposé que certains CP pouvaient être un échec de l'intégration de la cognition ou de la pensée. En outre, le fait que près de 30% des réponses des PC ont été notées sur MOR et que tous les PC ne projetaient pas de belles couleurs ou des couleurs désirables, comme l'ont montré des études précédentes, suggère que l'hypothèse d'interprétation traditionnelle des PC, à savoir le déni d'un effet désagréable, ne s'applique peut-être pas à toutes les réponses des PC.

Resumen

El propósito de este estudio fue examinar las características básicas de la PC, es decir, recoger y discutir los hallazgos básicos sobre las características con las que aparece la PC, como qué tarjeta, posición, ubicación, calidad de desarrollo, calidad de la forma, determinantes, contenido, puntuación especial y colores proyectados. Aunque el objetivo final de esta serie de estudios es examinar la validez interpretativa del PC, asumimos que el PC se encuentra en la etapa de acumulación de conocimientos básicos antes de la validación, ya que no existe un conocimiento básico del PC.

Los pacientes psiquiátricos adultos japoneses ($N = 37$) participaron en el estudio que se llevó a cabo entre abril de 1995 y julio de 2017. Se examinaron 68 respuestas de PC producidas en el protocolo de Rorschach por los participantes.

El resultado de que casi el 60% de las PC se produjeron en la tarjeta I o VI sugirió que las PC pueden ser una respuesta inicial de choque a la acromática o al sombreado. Además, casi todas las respuestas de PC se mostraron en la posición original, y más de la mitad de ellas se mostraron en W y DQo, sugiriendo que la PC es una respuesta al impacto global de la tarjeta y puede ser un mecanismo de afrontamiento que cambia la percepción más que el comportamiento. En cuanto a las puntuaciones especiales, casi la mitad de las respuestas de PC incluyeron alguna desviación en la cognición o el pensamiento, y la mitad de ellas mostraron un nivel grave (nivel 2). Además, considerando el hecho de que aproximadamente el 30% de las respuestas de PC eran FQ- e incluían un 10% de PC que proyectaban colores que no eran consistentes con el contenido de la respuesta, también se especuló que algunos PC pueden ser una falla en la cognición o en la integración del pensamiento. Además, el hecho de que casi el 30% de las respuestas de PC se puntuaran en MOR y que no todos los PC proyectaran colores bonitos o deseables, como se ha demostrado en estudios anteriores, sugiere que la hipótesis tradicional de interpretación de PC de negación del afecto desagradable puede no aplicarse a todas las respuestas de PC.



Concurrent Validity of the Sixty-Second Drawing Test in Measuring High-Schoolers' Close Relationships and Depression

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Abstract: Although clinicians have a long history of using drawings for personality and emotional assessment, the empirical validation of the drawings has been inconsistent. The goal of this study was to examine the validity of the Sixty-Second Drawing Test (SSDT) in predicting close relationships and depression. The sample consisted of 2,883 Hungarian students. The SSDT required participants to draw a series of circles, where the circles represented the self, significant others, different moods, and God. Standardized questionnaires (the Experiences in Close Relationships–Revised and the Children's Depression Inventory) were also administered. Generally speaking, small distances and relatively smaller self-circles were associated with better relationships. Depression was indicated by drawing large bad-mood circles that were close to one's self-circle, along with small happiness-circles that were distant from one's self-circle. The magnitudes of all associations were small to moderate, with explained variances ranging from 7.6% to 21.9%. The results suggest that using drawings of circles to represent important object-relations can, to some extent, predict interpersonal relations and depressive symptoms. Although we do not advocate using the SSDT as a clinical diagnostic measure, it can serve as a useful screening tool for identifying potential relational and affective difficulties.

Keywords: drawing test, validity, close relationships, depression

Validity of Projective Assessments

Psychological assessments have long been proposed to be objective if tests make direct inferences about a person based on self-report or reports from significant

others in response to very clear questions, thereby producing objective scores (Lack & Thomason, 2013). Projective tests, on the other hand, are indirect measurements, in which instructions or stimuli are more ambiguous and therefore allow for more indirect inferences about a person's intelligence, personal and social qualities, and psychological state (Lack & Thomason, 2013).

Figure drawing methods are a common type of projective assessment in which individuals are asked to draw people or objects (Abell et al., 2001). The assumption is that drawings reflect the individuals' basic dispositions and attitudes toward themselves and other people (Weiner & Greene, 2008). Clinicians have long used drawings for personality assessment and the evaluation of emotional states (Bertran & Nistal, 2017; Thomas & Jolley, 1998; Veltman & Browne, 2002). Figure drawing methods are still widely used (Camara et al., 2000; Cashel, 2002; Piotrowski, 2015).

Projective measures are often linked to psychoanalytic and psychodynamic theories of personality and psychopathology (Lack & Thomason, 2013; Sartori, 2010) because these measures are supposed to reflect unconscious tendencies and implicit motives. In general, projective measures can provide valuable information not assessed by self-report techniques (Lilienfeld et al., 2000) and they are less influenced by tendencies toward social desirability responses.

On the other hand, projective techniques have been criticized for being weak and ineffective, and for lacking face validity (Sartori, 2010). According to a meta-analysis (Lilienfeld et al., 2000), the validity evidence for many of the variables calculated in projective tests is limited, although there are exceptions. One example of validity evidence comes from work by Matto and colleagues (2005), who found that a special version of the Draw-A-Person Test explained considerable variance ($> .20$) in emotional and behavioral measures. However, the overall empirical validation of drawing tests has been inconsistent (Piotrowski, 2015).

Quantitative Indices of Drawings

The most widely studied quantitative index of drawings has been the size of figures. Weiner and Greene (2008) noted that the size of the figure when drawing oneself may reflect either an actual self-image or an ideal image. Some researchers (Bowdin & Bruck, 1960; Gray & Pepitone, 1964; Vass, 2012) have linked the size of a self-referent figure to the subject's actual self-concept or self-esteem: Large figures are considered to reflect high self-esteem along with high energy level. Other researchers have found different results: Bennett (1966), Dalby and Vale (1977), and Prytula and colleagues (1978) did not find an association between size of the figure and self-esteem.

Lewinsohn (1964) noted that emotional states such as depression and anxiety can result in smaller drawings, and also a more recent publication (Ogdon,

2001) noted that smaller size together with placement in corners and the faintness of drawings could be indicators of depression. However, Salzman and Harway (1967) and Sandman and colleagues (1968) reported no relationship between depression and figure sizes. Gantt (2001) emphasized the ratio of empty to non-empty spaces and argued that this metric could be a more reliable indicator of depression.

Joiner et al. (1996) stated that there is no reliable relation between self-report measures of childhood depression and anxiety and drawing size, detail, and line heaviness. Their sole finding was a weak correlation between anxiety and drawing size, but in the opposite direction than expected: Higher anxiety was linked to larger drawings.

Another topic that has garnered research interest concerns the interpersonal significance and affective characteristics of the drawn person. Thomas and Gray (1992) asked participants to complete two drawings on separate papers, one of a liked person, and one of a disliked person. According to their results, the significance of a figure was reflected in its smaller distance from a self-referent figure. An assessment instrument focusing on interpersonal significance is the Inclusion of Other in the Self (IOS) Scale (Aron et al., 1992). The IOS is a semi-projective technique that uses pre-defined drawings of circles to represent different self-other relations. This single-item, pictorial measure is designed to assess interpersonal closeness. The IOS scale has good test-retest reliability; has demonstrated convergent, discriminant, and predictive validity; and is weakly correlated with measures of social desirability response bias. The IOS measures one's sense of interconnection by evaluating the overlapping of circles (larger overlapping circles indicate closer interpersonal relationships).

In addition, the relative sizes of figures/circles and their vertical positions can also reflect important aspects of relationships. For example, Thomas and Jolley (1998) pointed out that children usually draw important adults, and adults that have more power, as larger figures. Burkitt and colleagues (2003) also found that children drew positively characterized objects larger than neutrally characterized ones, and reduced the size of negatively characterized objects relative to baseline drawings.

The Sixty-Second Drawing Test

In a novel approach to studying figure size, Thomas et al. (1989) asked children to draw apples and people, and they gave them a nice, a neutral, or a nasty description of the objects. In the “nice” condition, the sizes of both the apple and men that children drew were significantly bigger than those in the neutral condition. In the “nasty” condition, the drawings of men were smaller, but the size of the

apple drawings were unaffected. The authors interpreted these findings as suggesting that the significance of a topic influences the size of the drawing.

In order to simplify the complexity and ambiguity of drawings, Vass (2011, 2012) proposed a method whereby individuals draw significant others and objects not as complex drawings, but only as circles. This idea led to the Sixty-Second Drawing Test (SSDT; Vass, 2011, 2012). In this test, the participant is asked to draw a circle that represents him- or herself, and additionally, another circle that represents a significant other person or a concept. In consecutive tasks, the participant is asked to draw his/her best friend, mother, father, siblings, happiness, biggest problem, etc.

According to Vass (2012), the test evaluates personality and object relations, including conscious and not conscious aspects. Vass proposed that the size of the circles may reflect self-esteem and their shapes may indicate conformity versus opposition. Consider the case of drawing a self-referent circle and a significant other circle. The two circles could differ in size, in vertical placement on the page (thought to reflect dominance vs. submission), in degree of separation versus overlap (thought to reflect autonomy vs. symbiotic/intimacy needs), in the extent to which one circle contains another (perhaps reflecting roles in the relationship, introjection, and/or need for support), and whether the circles differ in shape/degree of perfect circularity (thought to reflect identification, symbiosis vs. conflicts, and ambivalence; Vass, 2012). To summarize, the SSDT, like the IOS, only uses circles as the units of measurement, but has the advantage that not only the closeness of the circles is evaluated, but also relative sizes, relative positions, and multiple other characteristics as outlined above.

The overarching aim of our study was to examine how the distance and size variables of the SSDT could be linked to affective characterizations of significant others (i.e., different emotional states). Specifically, we examined the extent to which experiences in close relationships (with mother, father, and God), and depression (including low self-esteem) can be related to figure size and distance indices; thus we examined the concurrent validity of the SSDT.

We hypothesized that (1) closer attachments are linked to smaller distances (as is the case for the IOS scale; Aron et al., 1992), and (2) small size and distant placement from the center can be indicators of depression (as noted by Ogdon, 2001).

Method

Participants

Our participants were 2,883 students, 1,365 females (M age = 16.73 years, SD = 1.31) and 1,518 males (M_{age} = 16.88, SD = 1.39) attending secondary schools in Hungary, from Grades 9 (642 males and 578 females) and 11 (876 males and

787 females). Students were recruited from all 20 counties in Hungary, and thus are representative of the population in Hungary. Students filled out the questionnaire and completed the drawing tasks in a classroom setting.

Procedure

Ethical approval for the study was given by the ethics committee of the university of the first author. Students filled out questionnaires in their classroom settings, with help from their teacher and a research assistant. After completing the questionnaires, students were given four A4 sheets of paper that they needed to tear into four equal parts (resulting in 16 smaller pieces) and they were instructed as to which paper the various circles should be drawn on.

Measures

Sixty-Second Drawing Test (SSDT)

The SSDT was developed by Vass (Vass, 2011, 2012). It has 16 different instructions asking participants to draw 16 pairs of circles, each assessing a relation of the self to 16 different individuals, objects, or concepts.

The first instruction is: "Take this sheet and put it in landscape position. Now, draw a circle that represents yourself." Once finished: "Now, please draw a circle that represents one of your friends." In Instructions 3–16, the examiner repeats the same procedure, changing only the persons involved: (3) you and your father; (4) you and your mother; (5) you and your siblings; (6) you and your teacher; (7) you and someone you love; (8) you and a person you do not love; (9) you and the school; (10) you and a current problem that worries you seriously; (11) you and the problem in a year's time; (12) you and happiness; (13) you and bad mood; (14) you and good mood; (15) you and your mood recently; (16) you and God.

Drawings were scanned, which were then evaluated by a computer program that automatically measured:

- 1) Sizes of own (r_1) and other circle (r_2 , length of radius);
- 2) Relative sizes ($r_1 - r_2$);
- 3) Distances (D) between center of circles; and
- 4) Relative distances between center of circles (distances were computed relative to the sizes of circles by this formula: $(D - (r_1 + r_2))/(r_1 + r_2)$).

Experiences in Close Relationships-Revised (ECR-RS) Questionnaire

Adult Attachment was measured by the short version of the Experiences in Close Relationships-Revised (ECR-RS) questionnaire (Fraley et al., 2011). Ten items were intended to measure one's relationship to mother and father separately.

Table 1. Confirmatory factor analyses of the ECR-RS questionnaire

	CMIN	df	CMIN/df	CFI	TLI	SRMR	RMSEA [90% CI]
Two factors (original structure) for maternal attachment	1,345.37***	34	39.57	.82	.76	.09	.12 [.12, .13]
Bifactor model for maternal attachment	532.45***	24	22.19	.93	.87	.03	.09 [.09, .10]
Bifactor model for maternal attachment (correlated e2-e3)	107.80***	23	4.87	.99	.98	.02	.04 [.03, .05]
Two factors (original structure) for paternal attachment	1,477.55***	34	26.86	.83	.77	.09	.13 [.13, .14]
Bifactor model for paternal attachment	993.37***	24	41.39	.88	.78	.07	.13 [.12, .14]
Bifactor model for paternal attachment (correlated e2-e3)	100.02***	23	4.35	.99	.98	.02	.04 [.03, .05]

Note. ECR-RS = Experiences in Close Relationships – Revised Questionnaire. ****p* < .001.

All responses were indicated using a 5-point Likert scale. This short version along with the original version (Fraley et al., 2000) consists of two scales (avoidance and anxiety); however, it was noted by Fraley et al. (2011) that the correlations between the two subscales are relatively high (around .5) and half of the items load on both factors with at least a .25 factor weight. We tested the original two-factor model and a bifactor one, in which a global attachment factor besides the specific factors (avoidance and anxiety) is present. Table 1 lists the fit indices of the consecutive models. The bifactor model with a modification (adding correlated error terms between Items 2 and 3) yielded the best fit indices. Thus, one global and two specific factors were confirmed with two items having correlated error terms. These two items in fact measure two very similar things, namely, “talking things over” and “discussing problems.”

Omega hierarchical (omegaH), which reflects the percentage of variance that can be attributed to the individual differences on the general factor, was .79 and .82, for maternal and paternal attachment, respectively. Rodriguez et al. (2016) reported that in the case of omegaH above .8, total scores can be regarded as unidimensional. Therefore, in our study we subsequently used only the global attachment scores, separately for maternal and paternal attachment measures. Reliability analyses of the global scale yielded Cronbach α values of .87 and .88 along with McDonald’s ω of .86 (95% CI = [.86, .88]) and .88 (95% CI = [.88, .89]), respectively, for the mother and father relationship items.

Relationship With God

Relationship with God and religiosity were measured through several questions. First, we assessed belief in God, church attendance, and frequency of prayer (“talking to God”). Four questions asked about religious attitudes (two of them

measuring fear of God's punishment, and two other questions about gratefulness to God). Lastly, three items from the Spiritual Health and Life Orientation Measurement Scale (Fisher, 2010) were used to measure the participant's opinion about how praying to or thinking about God contributes to psychological well-being.

A principal component was calculated from the 10 items to form an index of (close) relationship to God (explained variance = 62.14%, with all component scores above .6). This index is based on a formative model, which assumes that questions coming from different questionnaires can form a composite score as an index of a weighted sum of the different variables. This analysis (PCA) preserves the maximal amount of variance of observed variables while Exploratory factor analysis (EFA) accounts for common variance in the data and it assumes that all items reflect the same construct. Here we tested if different measurements and constructs (belief in God, praying to God, visiting church) could be composed as a composite score. Thus, PCA was applied, to test if one meaningful composite score could be formed with preserving as much of the original variables' variance, as possible.

Children's Depression Inventory

Depressive symptoms were measured using eight items from the Children's Depression Inventory (Kovacs, 1981, 1992), including two items on negative mood, two items on interpersonal problems, two items on anhedonia, one item on negative self-esteem and one item on ineffectiveness. The total score of the questionnaire was proved to be a reliable index over repeated administrations (Finch et al., 1987). Reliability analysis in our study yielded a Cronbach α of .76, with all item-total correlations above .3. McDonalds' ω was .76 (CI = [.74, .77]). CFA analyses confirmed a one-factor solution ($\chi^2 = 87.775$, $p < .05$, $df = 20$; CMIN/ $df = 4.39$; CFI = .98; TLI = .96; SRMR = .02; RMSEA = .04 [.03, .04]).

Results

Relations of Self-Circle Sizes to Self-Esteem and Emotional States

We formed an average out of the 16 drawings of self-circle sizes (the participant had to draw himself/herself 16 times). We measured whether these sizes constitute a reliable scale: Cronbach α coefficient was .95, and also McDonald's ω was .95 (CI = [.95, .96]). The average self-circle size was significantly but weakly negatively related to depression, $r(2,689) = -.09$, $p < .001$. The item measuring self-esteem was weakly positively correlated with average circle size, $r(2,642) = .10$, $p < .001$. These relationships were lower among boys – size and depression:

$r(1,387) = -.04, p = .11$, size and self-esteem: $r(1,357) = .06, p = .02$ – than among girls, size and depression: $r(1,288) = -.09, p = .001$, size and self-esteem: $r(1,270) = .10, p < .001$.

SSDT as a Measure of Close Relationships

Bivariate correlations were used to examine associations (1) between ECR (Experiences in Close Relationships) scores and drawing indices of “you and your mother” and “you and your father”, and (2) between one’s relationship to God and drawing indices calculated from the drawing “you and God” (see Table 2).

Altogether, closer relationships were indicated by significantly smaller distances between self- and other circles ($r = -.18$ to $-.25$). The relative distance measures yielded even higher correlations ($r = -.27$ to $-.33$), than the simple distance measures, for paternal attachment and relation to God, correlational coefficients were above .3 in the total sample. However, gender differences were discovered: In the case of girls, these coefficients were above .4, whereas among boys, these were below .3. For all cases, the relative distances were calculated by dividing distances by diameters of the circles.

Regarding the size of drawings, the highest correlations (.38) were found when measuring one’s relationship to God. This relation was even stronger (.43) among girls. Regarding one’s relationship to parents, all of the size indices yielded weak correlations ($< .16$).

In addition to correlations, regression analyses were performed on the total sample, in which SSDT indices served as independent variables and measures of relationships with mother, father, and God served as the dependent variables (see Table 3).

Explained variances of 8%, 13%, and 22% were achieved, respectively, for relationships with mother, $F(2, 2,599) = 106.65, p < .001$, father, $F(2, 2,441) = 179.60, p < .001$, and God, $F(3, 1,635) = 153.96, p < .001$. Mother attachment was negatively related to relative distance ($\beta = -.27$) and positively to relative size of mother ($\beta = .06$). Father attachment was negatively related to relative distance ($\beta = -.34$) and positively to relative size of the father ($\beta = .12$). Relationship with God was found to be positively linked to size of God ($\beta = .31$), and negatively linked to relative distance ($\beta = -.28$) and to size of self-circle ($\beta = -.20$). Regression analyses run separately for boys and girls resulted in similar significant predictors but in differences in explained variance. In the case of boys, 4%, 7%, and 21% were found, respectively, for relationships with mother (based on relative distance), father (based on relative distance and size difference), and God (based on distance, size difference and self-size). In the case of girls, 12%, 18% and 28% were found, respectively, for relationships with mother (based on relative distance and

Table 2. Correlations between SSOT indices and validity scales on total sample and separately for boys and girls

ECR-R subscales	Total sample				Boys			Girls		
	Close relationship to mother	Close relationship to father	Close relationship to God	Close relationship to mother	Close relationship to father	Close relationship to God	Close relationship to mother	Close relationship to father	Close relationship to God	
Size of own circle										
<i>r</i>	.04	.03	-.10**	.03	.03	-.18**	.04	.04	.03	
<i>p</i>	.06	.11	.00	.21	.33	.00	.11	.23	.38	
<i>N</i>	2,639	2,480	1,856	1,371	1,312	933	1,258	1,158	916	
Size of other circle										
<i>r</i>	.09**	.15**	.38**	.06*	.11**	.34**	.13**	.19**	.43**	
<i>p</i>	.00	.00	.00	.02	.00	.00	.00	.00	.00	
<i>N</i>	2,613	2,452	1,684	1,350	1,297	843	1,252	1,144	836	
How much is the other-circle bigger than self-circle										
<i>r</i>	.07**	.12**	.36**	.04	.09**	.38**	.10**	.18**	.33**	
<i>p</i>	.00	.00	.00	.16	.00	.00	.00	.00	.00	
<i>N</i>	2,602	2,444	1,639	1,346	1,295	814	1,246	1,139	820	
Distance between circle centers										
<i>r</i>	-.18**	-.25**	-.28**	-.15**	-.20**	-.24**	-.21**	-.33**	-.33**	
<i>p</i>	.00	.00	.00	.00	.00	.00	.00	.00	.00	
<i>N</i>	2,602	2,444	1,639	1,346	1,295	814	1,246	1,139	820	
Relative distance (proportion of distance between circle centers and diameters of the circles)										
<i>r</i>	-.27**	-.32**	-.33**	-.20**	-.26**	-.26**	-.33**	-.40**	-.41**	
<i>p</i>	.00	.00	.00	.00	.00	.00	.00	.00	.00	
<i>N</i>	2,602	2,444	1,639	1,346	1,295	814	1,246	1,139	820	

Note. SSOT = Sixty-Second Drawing Test. *Correlation is significant at the .05 level (two-tailed). **Correlation is significant at the .01 level (two-tailed).

Table 3. Results of regression analyses on predicting attachment to mother, father, and religiosity from the independent variables of the SSDT

Dependent	R^2	β	t	Sig.
Dependent: Mother attachment				
1. Relative distance	.07	-.27	-14.18	.00
2. How much bigger is mother than self	.08	.06	3.10	.00
Dependent: Father attachment				
1. Relative distance	.12	-.34	-17.75	.00
2. How much bigger is father than self	.13	.12	6.10	.00
Dependent: Religiosity				
1. Size of God circle	.14	.31	13.16	.00
2. Relative distance	.18	-.28	-11.45	.00
3. Size of self-circle	.22	-.20	-8.81	.00

Note. SSDT = Sixty-Second Drawing Test.

size difference), father (based on relative distance and size difference), and God (based on distance and size of God circle).

Predicting Depression Scores From the SSDT

In predicting depression scores, indicators of relative distance, sizes in general, and size differences were examined as independent variables in the regression model. The model was significant and accounted for 13% of the variance in depression scores, $F(6, 1,051) = 21.991$, $p < .001$ (see Table 4). As the regression coefficients indicate, depression scores were most strongly associated with a large distance between self- and happiness-circles ($\beta = .22$), a small distance between self- and bad-mood circles ($\beta = .18$), a relatively large bad-mood circle ($\beta = .14$), and a relatively small happiness-circle ($\beta = -.10$). Larger distances between one's self-circle and the circle of a rejected person ($\beta = .10$) were also associated with higher depression. Finally, big-problem circles ($\beta = .09$) and relatively small good-mood circles ($\beta = -.08$) were also associated with higher depression. We also ran regression analyses separately for girls and boys. In the case of girls, 18.5% of explained variance arose with linking depression to more distant and smaller happiness circles, less distant and bigger bad mood circles, more distant good-mood circles, bigger problem circles, and smaller school circles. Among boys, explained variance was only 9.5%. Bigger and more distant bad-mood circles, bigger problem circles, and smaller happiness circles were linked to higher depression.

Post hoc power analyses showed that all the aforementioned regressions (including ones with maternal, paternal attachment, relation with God, and depression) had an observed statistical power of 1.0.

Table 4. Regression analyses predicting depression scores from the Sixty-Second Drawing Test

	<i>R</i> ²	<i>β</i>	<i>t</i>	Sig.
Relative distance between self and happiness	.05	.22	7.24	.00
Relative distance between self and bad mood	.01	−.18	−5.91	.00
How much bigger is the self than bad mood	.10	−.14	−4.24	.00
How much bigger is the self than happiness	.11	.10	2.79	.01
Relative distance between self and rejected person	.12	.10	3.16	.00
How much bigger is the self than problem	.12	−.09	−2.64	.01
How much bigger is the self than good mood	.13	.08	2.17	.00

Discussion

The overarching aim of this study was to examine how size and distance indices of the SSDT are associated with quality of close relationships and depression (including low self-esteem). Average self-circle sizes were only weakly related to self-esteem and emotional state, yet the direction of these weak associations confirmed that larger sizes are linked to higher self-esteem and lower depression scores, which are findings consistent with previous research on self-esteem (Bowdin & Bruck, 1960; Gray & Pepitone, 1964; Saneei et al., 2011) and depression (Lewinsohn, 1964).

Regarding the measurement of self-other relations, our results showed that the relative distances and the size of the other-circle emerged as significant predictors. When examining the drawings of mother, father, and God, we found that closer relationships were predicted by drawing the significant other with a larger circle and closer to the self-circle. In the case of mother and father relationships, circle closeness was the most significant predictor of close relationships as measured by questionnaire data. The feeling of deep connection to God was most significantly linked to drawing God as a large circle. This result can likely be explained by the commonsense fact that religious people view God as all-powerful and almighty.

The finding that small distances were predictors of close relationships is in accordance with research by Thomas and Gray (1992) concerning the relative placement of object drawings. By contrast, the fact that we found larger relative sizes of significant others in drawings, which reflects better relationships, contradicts the findings of Thomas and Jolley (1998), who argued that larger drawings accompany perceptions of threatening adults. Regarding the sizes of correlations (and coefficients of determination, *R*² values), for the associations between circle-based and traditional scale-based indices, we found, according to Cohen’s (1988) criteria, small effect sizes for self-mother close relationships and medium effect

sizes for self-father and self-God relationships. However, a more recent publication on correlation effect sizes (Gignac & Szodorai, 2016) suggested treating correlation coefficients above .30 as relatively large effects. According to this suggestion, we can say that the effect sizes between circle-drawing indices and relations with both father and God were relatively large.

Our results show that although depression was not effectively predicted by the average sizes of the self-circles, there were some specific drawings (self and happiness, self and bad mood, self and good mood, self and big problem) that revealed more reliable associations with depression. The amounts of explained variance were modest, and thus the associations are not robust enough to treat the SSDT as a diagnostic tool for depression. Instead, the relative indices (relative distances and relative sizes) were more predictive of depression, and thus can be viewed as potential markers of depression-related problems. In particular, a relatively close and large bad-mood circle along with a relatively distant and small happiness-circle next to the self-circle were the strongest predictors of higher-than-average depression scores. The total explained variance of the drawing indices in relation to depression can be regarded as having a medium-sized effect according to Cohen (1988) but a relatively large-sized effect according to Gignac and Szodorai (2016).

Wright and McIntyre (1982) emphasized the need to develop standardized administration and rating techniques for drawings to assess depression levels. A general issue in the drawing test field concerns the weak-to-moderate predictive associations (Sims et al., 1983). The strongest correlation between depression, anxiety, measures of affect, and drawing test variables found by Joiner et al. (1996) was an r value of .37, which is very similar to the strongest association in the present study. Predictive associations between the IOS scale (Aron et al., 1992) and traditional self-report questionnaires typically explain around 20% of the variance, which is similar to the highest explained variance in our study (22%), received from a total sample analysis.

Finally, we have to note that there were gender differences in the amount of explained variance, with higher explained variance in the case of girls versus boys. A possible underlying factor for this difference can be a gender difference in expressing emotions through a drawing exercise. Previous research showed that women have greater emotional knowledge and are better at expressing their emotions more fluently and frequently (Brody & Hall, 2000). However, gender differences should be further studied in order to unfold the underlying determinants of these differences. Also, we have to note that lack of measurement invariances can be an underlying reason too, which should be addressed in further research. It should also be considered that traditional univariable or even multivariable statistical methods do not necessarily represent the best approach of understanding

projective tests. Vass (1999, 2000, 2004, 2009, 2012) proposed a new paradigm for the interpretation of drawing tests, based on a systems analysis approach: the Seven-Step Configuration Analysis (SSCA). It is a scheme of psychological interpretation derived from studies of human expert thinking.

The SSCA was developed using artificial intelligence (Vass, 2000, 2012) to build a cognitive model of domain-specific expert thinking. Instead of the traditional psychometric approach, the model emphasizes multiple causation: It is not possible to assign certain psychological interpretations to the features of projective drawings in the manner of a dictionary. In other words, a particular feature of a picture may be the effect of several different causes. This also holds true the other way round: A single cause may be expressed in several different features of the picture.

In the SSCA, only configurations are interpreted. A configuration (Vass, 2009) is defined as an item list allocated to a psychological concept with a nonlinear certainty factor. A configuration consists of three components: (1) a psychological concept (an interpretation, e.g., a personality trait); (2) a certainty factor of the psychological concept; and (3) an item list (e.g., unusually small size, light pressure, or cautious behavior). From this systems analysis point of view, our result on the SSDT could be valuable contribution to a future expert system based on the SSCA method.

In summary, the SSDT provides researchers with a series of easily measurable and reliable drawing indices that seem to be associated with both the closeness of relationships and depression. The SSDT entails multiple drawings yet still can be administered quickly. A major strength of the SSDT is that it offers a quick and simple measurement of relationships to different individuals and objects. Because the sizes and distances of circles were the most robust indices, the test can avoid the distorting/confounding effects of drawing skill abilities and intelligence (Lilienfeld, Wood & Garb, 2000; Sims et al., 1983). Another benefit of the SSDT is that it avoids the potential bias caused by social desirability, while still allowing for the possibility of objective scoring. According to our results, the SSDT has potential for helping psychologists who work in school settings, and may be helpful as a brief screening measure of close relationships and depression. This test can be administered to small children, and even to those who cannot yet read or write.

Limitations

Our study has some limitations: The sample consisted of high school students, thus providing only nonclinical data, and we used only self-report instruments without structured interviews or reports from significant others. Further research

is needed that (1) controls for demographic variables, (2) addresses the measurement invariances for gender, and (3) examines clinical samples in an effort to replicate our findings. Another limitation that arguably applies to all projective assessments is that the interpretation of scores, despite the use of quantifiable indices, remains somewhat ambiguous (see Lack & Thomason, 2013; Lilienfeld et al., 2000; Thomas & Jolley, 1998). Further psychometric evaluation of size indices should be examined.

Generally speaking, researchers should be cautious when using projective techniques to assist in assessing psychopathology. Regarding the SSDT, an important direction for future research is to elucidate those areas of psychological functioning and psychopathology that the instrument can most validly assess.

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History

Received June 1, 2020

Revision received November 26, 2020

Accepted December 2, 2020

Published online March 18, 2021

Funding

The preparation of the present article was supported by a university grant from the Károli Gáspár University of Reformed Church (Person- and family-oriented health sciences research group, grant nu.: 20643B800). Data collection was carried out in the frame of a European Union project (TÁMOP-7.2.1-11/K-2012-0004), implemented by the National Institute of Family and Social Politics.

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Summary

Although clinicians have a long history of using drawings for personality assessment and the evaluation of emotional states and basic attitudes, the empirical validation of drawings has been inconsistent. The goal of this study was to examine the validity of the Sixty-Second Drawing Test (SSDT) in predicting close relationships to parents, God, and depression. The SSDT requires participants to draw a series of circles, where the circles represent the self, significant others, different moods, and God. The respondent has to draw 16 pairs of circles. The respondents can draw circles with different sizes and positions, and the parameters (diameters, vertical and horizontal positions, distances) constitute quantitative indices. In order to measure the validity of these indices, several standardized questionnaires (the Experiences in Close Relationships-Revised and the Children's Depression Inventory) were administered along with the drawing test. Also, several items were used to assess one's relationship with God, including items from the Spiritual Health and Life Orientation Measurement Scale. The sample consisted of 2,883 Hungarian students.

According to our results, drawing indices were significantly linked to scale scores measured by questionnaires. When drawing circles to represent one's self and one's parents, small distances and relatively large parent-circles marked better relationships with parents. Individuals with closer relationship to God, drew God as a larger circle that was situated closer to one's self-circle. Depression was indicated by drawing large bad-mood circles that were close to one's self-circle, along

with small happiness-circles that were distant from one's self-circle. The magnitudes of all associations were small to moderate, with explained variances ranging from 7.6% to 21.9%.

The results suggest that drawings of circles can be used to represent important object-relations. The sizes and positions of the drawings can, to some extent, predict interpersonal attachment, relationship to God, and depressive symptoms. Although we do not advocate using the SSDT as a clinical diagnostic measure, it can serve as a useful screening tool for identifying potential relational and affective difficulties.

Összefoglalás

Bár a klinikusok már régóta használnak rajzteszteket a személyiség, az érzelmi állapotok és az alapvető attitűdök mérésére, a tesztek validitására vonatkozó kutatási eredmények nem egybehangzóak. A tanulmányunk célja az volt, hogy megvizsgáljuk a hatvan másodperces rajzteszt (Sixty Second Drawing Test, SSDT) érvényességét a szülőkkel való szoros kapcsolat, az Istennel való kapcsolat és a depresszió előrejelzésében. Az SSDT feladatban a résztvevők köröket rajzolnak, ahol a körök képviselik az ént, a jelentős másokat, a különböző hangulatokat és Istent. A válaszadónak 16 pár kört kell rajzolnia. A válaszadók különböző méretű köröket rajzolhatnak, különböző pozíciókban, és a paraméterek (átmérők, függőleges és vízszintes pozíciók, távolságok) könnyen lemérhető kvantitatív indexeket jelentenek. Ezen indexek érvényességének mérése érdekében számos standard kérdőívet (a Gyermek depresszió kérdőív, A közvetlen kapcsolatok élményei – kapcsolati struktúrák (ECR-RS) kötődési kérdőív) a rajzteszttel együtt lettek felvéve. Emellett számos tételt használtunk az Istennel való kapcsolat mérésére, beleértve a spirituális lelki egészség és az életorientáció kérdőív egyes tételeit is. A minta 2883 magyar diákból állt.

Eredményeink szerint a rajzindexek szignifikánsan kapcsolódtak a kérdőívek által mért skálákhoz. A saját- és szülő-körök közti kis távolságok és a szülő-körök relatív nagysága jelezték előre a kérdőíven elért magas kötődési pontszámot. Az Istenhez közelebb álló egyének Istent egy nagyobb körként rajzolták, közelebb saját magukhoz. A depressziót nagy, én-körhöz közeli, „rossz hangulatot” ábrázoló körök, valamint távol eső kicsi boldogság-körök jelezték előre. A feltárt kapcsolatok erőssége kicsi vagy közepes volt, a megmagyarázott variancia 7,6% és 21,9% között mozgott.

Az eredmények arra utalnak, hogy a körök paraméterei alkalmasak arra, hogy bizonyos mértékben előrejelezzék a hosszabb kérdőívekkel is felmérhető konstruktumokat. A rajzok méretei és pozíciói bizonyos mértékig előre jelezhetik az interperszonális kötődést, az Istennel való kapcsolatot és a depressziós tüneteket. Bár az SSDT klinikai diagnózisra nem alkalmas, hasznos szűrőeszközként szolgálhat az interperszonális kapcsolati problémák és érzelmi nehézségek veszélyének megállapításánál.

Résumé

Bien qu'il existe une longue histoire de psychologues cliniciens utilisant des dessins pour évaluer la personnalité, des états émotionnels et des attitudes de base, leur validation empirique est incohérente.

Le but de cet essai était d'examiner la validité du Test de Dessin de Soixante Secondes (the Sixty Second Drawing Test (SSDT)) pour prédire la relation étroite avec les parents, la relation avec Dieu et la dépression. Le test a requis que les participants dessinent une série de cercles, où les cercles représentent le soi, les autres significatifs, les humeurs différentes et Dieu. Les participants ont dû dessiner des cercles dessiner 16 paires de cercles. Les cercles peuvent être de tailles et de positions

différentes, les paramètres (diamètres, positions verticales et horizontales, distances) constituent des indices quantitatifs. Afin de mesurer la validité du questionnaire, plusieurs autres questionnaires standardisés (Les Expériences Dans Les Relations Étroites - révisé et L'Inventaire de Dépression de L'Enfant) ont été utilisés dans la recherche. En plus, plusieurs éléments du Questionnaire Sur La Santé Spirituelle et le Test d'Orientation de Vie ont été utilisés pour mesurer la relation de l'individu avec Dieu. L'échantillon était composé de 2883 étudiants hongrois.

Selon les résultats, les indices de dessin étaient significativement liés aux scores d'échelle mesurés par les questionnaires. En cas de dessin de cercles pour représenter soi-même et ses parents, de petites distances et des cercles de parents relativement grands marquaient de meilleures relations avec les parents. Les individus ayant une relation plus étroite avec Dieu l'ont dessiné comme un cercle plus grand qui était situé plus près de leurs propres cercles. La dépression a été indiquée en dessinant de grands cercles de mauvaise humeur proches de leurs propres cercles, ainsi que de petits cercles de bonheur qui étaient éloignés des leurs. L'ampleur de toutes les associations était petite à modérée, avec les variances expliquées de 7,6% à 21,9%.

Les résultats suggèrent que les dessins de cercles peuvent être utilisés pour représenter des relations d'objet importantes. La taille et la position des dessins peuvent, dans une certaine mesure, prédire l'attachement interpersonnel, la relation avec Dieu et les symptômes dépressifs. Bien que nous n'avons pas préconisé l'utilisation du SSDT comme mesure diagnostique clinique, le test peut servir d'outil de dépistage utile pour identifier les difficultés relationnelles et affectives potentielles.

Resumen

Aunque los psicólogos clínicos tienen una larga historia con el uso de dibujos para la evaluación de la personalidad, la evaluación de estados emocionales y actitudes básicas, su validación empírica ha sido inconsistente. El objetivo de este estudio fue examinar la validez de la Sixty Second Drawing Test (SSDT - Prueba de Dibujo de Sesenta Segundos) para predecir las correlaciones entre la relación cercana con los padres, la relación con Dios y la depresión. El SSDT requiere que los participantes dibujen una serie de círculos, donde los círculos representan a sí mismos, a los seres queridos, diferentes estados de ánimo y a Dios. La persona tiene que dibujar 16 pares de círculos. Pueden dibujar círculos con diferentes tamaños y posiciones, y durante el proceso de evaluación, estos parámetros (diámetros, posiciones verticales y horizontales, distancias) constituirán los índices cuantitativos. Para medir la validez de estos índices, se administraron varios cuestionarios estandarizados: Experiences in Close Relationships - Revised (Experiencias con Relaciones Cercanas - Versión Revisada) y Children's Depression Inventory (el Inventario de Depresión Infantil) con la prueba de dibujo. Además, se usaron varios ítems para evaluar la relación de los encuestados con Dios, incluidos los ítems de la cuestionario Spiritual Health and Life Orientation Measurement Scale (Escala de Medición de Salud Espiritual y Orientación de Vida). La muestra consistió en 2883 estudiantes húngaros.

Según nuestros resultados, los índices de dibujos se vincularon significativamente con los puntajes de cuestionarios. Al dibujar círculos para representarse a uno mismo y a sus padres, las distancias pequeñas y los círculos de padres relativamente grandes marcaban mejores relaciones con los padres. Las personas con una relación más cercana con Dios, dibujaron a Dios como un círculo más grande que estaba situado más cerca del propio círculo personal. La depresión se indicaba dibujando grandes círculos de mal humor que estaban cerca del círculo de uno mismo, y con pequeños círculos de felicidad que estaban lejos del círculo de uno mismo. Las magnitudes de todas las asociaciones fueron pequeñas a moderadas, con variaciones explicadas que van desde el 7,6% al 21,9%.

Los resultados sugieren que se puede usar los dibujos de círculos para representar importantes relaciones de objeto. Los tamaños y las posiciones de los dibujos pueden, en cierta medida, predecir el apego interpersonal, la relación con Dios y los síntomas depresivos. Aunque no recomendamos utilizar el SSDT como una medida de diagnóstico clínico, puede servir como una herramienta útil para identificar posibles dificultades relacionales y afectivas.

要約

臨床家がパーソナリティアセスメント、感情状態や基本的な態度の評価に描画を使用してきた長い歴史があるが、描画の経験的検証には、一貫性がなかった。本研究の目的は、親との親密な関係、神、及びうつ病の予測における60秒描画テスト (SSDT) の妥当性を検討することであった。SSDTでは、参加者は一連の円を書くことを要求され、円は自己、重要な他者、異なる気分、および神を表している。回答者は16個の円を描かなければならない。回答者は異なるサイズと位置の円を描くことができ、パラメータ（直径、垂直と水平の位置、距離）は定量的な指標を構成する。これらの指標の妥当性を測定するために、いくつかの標準化された質問票（親密な関係の経験—改訂版および子どもの抑うつ目録）が描画テストと一緒に実施された。また、神との関係を評価するために、スピリチュアル・ヘルスおよびライフ・オリエンテーション測定尺度の項目を含むいくつかの項目を使用した。サンプルは、ハンガリーの学生2,883人であった。

その結果、円を描く指標はアンケート調査で測定された尺度の得点と優位に関連していた。自己と親を表す円を描く場合、親との距離が小さく、親の円が比較的大きいほど、親との関係は良好であることが示された。神との関係が近い人は、自分の円に近い位置にある大きな円として神を描いていた。うつ病は、自己中心に近い大きな不機嫌な円と、自己中心から離れた小さな幸福な円を描くことでしめされた。すべての関連性の大きさは小さいか中程度で、説明された分散は7.6%から21.9%の範囲であった。

この結果は、円の絵が重要な対象関係を表すために使用できることを示唆している。円の絵の大きさと位置は、対人愛着、神との関係、および抑うつ症状である程度予測することができる。われわれは、臨床診断尺度としてSSDTを使用することを提唱しているわけではないが、潜在的な関係性や感情的な困難を特定するための有用なスクリーニング・ツールとして役立てることができる。



Motherhood Specificities With the Rorschach Method

Results of a Nonconsulting French Population in the Postnatal Phase

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Abstract: Motherhood, listed by the World Health Organization as a period of fragility and vulnerability, involves significant changes at the individual, family and social level. Becoming a mother entails a number of risk factors to take into account. It is therefore necessary to carry out studies on general populations not suffering from psychopathological disorders to better understand these risk factors linked to motherhood. This study was carried out in France with a nonconsulting population in the postnatal phase ($N = 30$) using the Rorschach test, as it presents numerous advantages to appreciate the psychic and corporeal transformations linked to birth. The quantitative results of the test were compared with recently updated norms (De Tychey et al., 2012). Eight values of the psychogram remained normative (F%, F+%, W%, Dd%, M, C, H%, P) reflecting the characteristics of a general population; conversely, eight other values of the psychogram (R, D%, S%, A%, RC%, m, E, Anguish Index%) differed significantly from general population norms. These results increase knowledge to help appreciate the complexity of the psychic processes at work during the postnatal period, and to prevent psychopathological disorders. It is thus possible to distinguish these disorders from those that are transitory and classically linked to the upheaval caused by the onset of motherhood.

Keywords: motherhood, postpartum, Rorschach

Motherhood is a particularly sensitive period, as it involves substantial changes for the individual, her family, and society as a whole, as well as numerous psychological adjustments (Gutiérrez-Zotes et al., 2016). Additionally, it is an important

phase in terms of rearrangement of identity. This period can be marked by a number of disorders, which can vary significantly in severity. The “baby blues” affect 60–85% of Western women after the birth of their child (Dayan et al., 2002), postnatal depression affects 15–20% of Western women (De Tychey et al., 2005; Evans et al., 2001), and postpartum psychosis affects 0.2–0.5% of women in France (Dayan & Gaignic-Philippe, 2011). Postnatal depression, in particular, is classified among the 20 most frequent and disabling illnesses according to the World Health Organization. It has been established that the risk of psychotic decompensation is much greater immediately postpartum and if the woman is primiparous (Kendell et al., 1981).

Disorders specifically linked to maternity seem to be largely underestimated according to professionals (gynecologists, obstetricians, midwives). This is also linked to the idealization of motherhood in society, in which motherhood is perceived as bringing total fulfilment. In fact, new motherhood comprises numerous readjustments: corporeal and intrapsychic, as well as environmental and contextual. For example, during pregnancy, women experience psychic life, bodily, and hormonal mutations and transformations, which bring about alterations in sleeping and eating patterns (McConnel & Daston, 1961; Fan et al., 2009). The mother’s sleep is also disturbed during the first weeks, even the first few months, postpartum on account of the numerous feeds and responses to the baby’s needs.

Furthermore, the birth can engender a number of obstetric incidents as well as minor complaints. It can often induce a traumatic dimension in the mother and a state of posttraumatic stress disorder (PTSD; 5% after 1 month postpartum, Denis et al., 2011). Excessive worrying and generalized anxiety have been studied in primiparous women in the postnatal phase and were found to affect 32% in a sample of 68 women (Wenzel et al., 2003). A recent study of primiparous women (Georges et al., 2013) showed that 18.8% presented with symptoms of acute anxiety before the birth, and this figure increased after the birth.

Moreover, anxiety during pregnancy impairs the complete recovery of the mother and can be a factor in the development of postnatal depression (Altshuler et al., 2008). Indeed, a study (Skouteris et al., 2009) showed that women who have a high level of stress at the end of the pregnancy are more likely to develop postnatal depression. In the postnatal period, the encounter with the baby can be the source of multiple worries linked to expected parenting ability, to the vulnerability of the baby, and to its many needs and the care it requires.

The literature review indicates a lack of recent studies of the postnatal phase using the Rorschach test among a population of women with no mental disorders. Only two very dated studies (Connell & Daston, 1961; Klatskin & Eron, 1970) demonstrate results with the Rorschach test in the postnatal period. Other studies

using the Rorschach methodological tool are concerned with pregnancy (Bellion, 2001), a specific psychopathological register (depression; De Tychev et al., 1997), infertility (Setan et al., 2001), or pregnancy denial (Milden et al., 1985).

Motherhood is a unique life event that mobilizes psychological work of a particularly dense and unprecedented nature. It is therefore important to observe the postnatal psychological, corporeal, and hormonal processes outside of any psychopathological context in a general population using the Rorschach test.

Relevance of the Rorschach Test and the Mother's Psychic Life in the Postnatal Phase

During pregnancy and in the postpartum period, the interior/exterior boundaries, internal workings, and psychic life modifications of the individual are in great demand and require the mother to carry out a large amount of psychological work. The Rorschach test is an ideal tool for understanding the implications of the psychological modifications that underlie this work during the postpartum period. The Rorschach test allows us to visualize the peculiarities of the internal world and the intensity of projective movements during this period. Indeed, it promotes the updating of the internal reality of the individual, of their body image, of their representation of self and representations related to early relationships. This is all the more interesting as these elements are particularly present and at work during the postnatal phase. The cards, which are, according to Chabert (1987):

Symmetric about one axis, make demands about the body of the participant, who projects the meaning of the images. This process gives structure to the representation of the self in its primordial essence – testing in particular the solidity of its limits and the differentiation between that which is internal and that which is external. (p. 142)

During pregnancy and in the postpartum phase, the woman's body, psychic envelope, and internal/external limits are particularly mobilized and modified, meaning that the mother carries out large-scale work on her psychic life.

The fusional relationship that unites a mother and her baby in the early period has been described by Winnicott as a very particular psychic life state sometimes approaching madness. This primary maternal preoccupation (Winnicott, 1956/1975), which is systematically accompanied by a diminished interest in social interactions, can therefore have as a corollary a decrease on the Rorschach test of the classic indicators of socialization and a simultaneous increase in human responses.

We hypothesized that in a population of women free of mental disorders and with no complications during the pregnancy and the birth, normal psychological functioning would be modified by the motherhood process. This could be assessed using the Rorschach test by comparing the quantitative results (psychogram) of nonconsulting women in the postnatal phase with adult norms ($N = 310$; De Tychey et al., 2012).

The norms of De Tychey et al. (2012) are representative of the general French population, divided into three age groups (25–39 years: $N = 114$; 40–54 years: $N = 121$; 55–65 years: $N = 75$), two sex groups (male: $N = 140$; female: $N = 170$), four groups according to marital status (single: $N = 108$; married: $N = 172$; divorced: $N = 24$; widower: $N = 6$), and three socio-professional category (CSP) groups (privileged: $N = 128$; intermediate: $N = 62$; disadvantaged: $N = 120$). The average age of the 310 subjects was 45.5 years ($SD = 5.5$).

Our exclusively female population was compared with the normative Rorschach population made up of men and women. The work of De Tychey et al. showed no statistical differences related to sex, and thus comparison with an all-female population was not necessary.

We decided to operationalize this hypothesis by estimating the effect on each quantitative Rorschach factor of the normal modification of psychic life functioning postpartum according to the description of this period in the literature and comparing this with the general population. We developed the operationalization in three ways:

1. Factors we estimated within the range of the normative data;
2. Factors we estimated to be superior to the normative data; and
3. Factors we estimated to be lower than the normative data.

Factors Estimated Within the Range of Normative Data

Considering that we had a population of women free of mental disorders, we expected to find a good adaptation to the external reality and thus to have the $F+$ %, the Dd %, and the number of popular responses (P) within the norms.

Factors Estimated to Be Above Normative Data

Because of the mother–baby unit created by the birth and the encounter with the baby (Winnicott, 1956), we estimated that W %, S %, and F % would be increased. The creation of the mother–baby unit is linked to the construction of a whole and the necessity to strengthen the limits of the Ego. Moreover, because the postpartum phase is considered a more acutely sensitive and receptive period (Deutsch, 1933; Racamier, 1979), we hypothesized that color responses (C) and shading responses (E), and therefore also RC % (the number of responses to the pastel cards), would be significantly increased. Because of the presence of the baby

and the regressive context of the postbirth period, we expected to obtain more animal (A%) and human (H%) responses. Finally, anxiety is habitually detected in the postnatal period (Capponi & Horbacz, 2005), thus we expected to have an increased Anguish Index. The Anguish Index (AI%) is calculated as follows: (Partial human response (Hd) + Anatomic responses + Gender responses + Blood and Sex responses)/total number of protocols $\times$ 100.

Factors Estimated to Be Lower Than Normative data

Because the mother is mobilized in her dyadic adjustments (Stern, 1985), which require an additional effort of psychic life work (Belot, 2014), we hypothesized that the psychic life functioning would be saturated and inhibited. We therefore expected to have a lower number of responses (R) and movement responses (M and m), which are three indicators of capacity to deal with internal and external excitations according to the Parisian School (Chabert, 1983). We also expected that the focus on the baby will lead to less frequent detailed location responses (D%), linked to the increase in other locations of the answers.

Method

This study was approved by the local clinical ethics committee (number: P/2019/434). It obtained all legal authorizations and was registered (research not under the jurisdiction of the French “Jardé law”: hospital certification number ISO900:v2015).

Inclusion Criteria

The participants were recruited out according to the following inclusion criteria.

1. Women living in a couple with the child's father. The child was desired by the couple.
2. Absence of complications during the pregnancy and the birth.
3. Women without psychopathological disorders at the clinical interview. (The research interviews carried out by a clinical psychologist confirm the absence of proven psychopathological disorders.) Absence of psychotropic medication.
4. Full-term baby without acute fetal suffering, without any intrauterine growth restriction, and whose state of health at birth required no particular medical assistance.
5. Women having experienced pregnancy and labor without obstetrical complications or somatic illness.

Recruitment of women took place through gynecologists and midwives. The postnatal follow-up gynecologist or midwife proposed the study to the participant after verification of the strict inclusion criteria on specialized medical software. Midwives have access to a database that allows them to find out if there is a history of mental health issues. If the participant fulfilled the inclusion criteria, the gynecologist or midwife proposed the study. If agreed, the research psychologist telephoned the participant to arrange a home appointment.

A clinical research interview was always carried out before the presentation of the Rorschach test to verify the absence of psychopathological disorders. Data collection took place exclusively at the participant's home. This allowed the participant to stay with her baby and to not travel unnecessarily, which reduced her anxiety and prioritized her organization of daily living activities, while encouraging participation in the study. A debrief interview was systematically offered to the participant after the end of the research data collection. Out of the 32 women who requested to participate, two were not accepted in the study (due to separation of the couple and social difficulties). For this study, it was important for all participants to be emotionally, socially, and relationally stable, and to be involved in a stable relationship with their husband or partner. Sociodemographic data were obtained for all patients including age, educational level, and professional status (see Table 1).

No refusal to participate in this study was recorded. All participants gave their written informed consent. The assessment was conducted from 3 to 16 weeks after the birth. As such, all the women remained very close to what is habitually called the "post-natal period" and belonged to a "general population". In addition, follow-up of these women by midwives and the physician after the study confirmed that no participant presented with any psychopathological disorder during the year following the birth of their child.

The sample was composed of 30 French women including 18 primiparous women. All participants were between 24 and 37 years old (average age: 31). All were living as a couple with the father of the child (average age: 33) and the pregnancy was desired. All the socio-professional categories were evenly represented in our population (French CSP classification from 2 to 6) according to the current INSEE criteria (National Institute for Statistics & Economic Studies in France). All personal details were anonymized.

Each response to the Rorschach cards was scored according to the criteria and technical standards of the Parisian School (Azoulay, et al., 2012; Chabert, 1983). This approach has positive psychometric indicators in France (Azoulay et al., 2007). Initially, scoring was done by the administrator.

The most difficult responses were checked with the other projective method specialist colleagues who coauthored this article and teach the projective methods at Université Paris René Descartes. They are graduates of the Parisian School with

Table 1. Demographic characteristics of the group

Demographic characteristics	Women (N = 30)
Number of children before this pregnancy	
Primiparous (0 child)	60%
1 Child	26.6%
2 Children	13.3%
Age: Mean (years)	33
Educational level	
GNVQ Intermediate or under	23.3%
High-school diploma	23.3%
Bachelor's degree	33.3%
Degree higher than bachelor's	20%
Family status	
Single	0%
Common-law couple	20%
Married	46.6%
PACS	33.3%

Note. PACS = civil union in France.

a “Diplôme Universitaire de Psychologie Projective” (DUPP; this university diploma is a 2-year complementary training on projective methods). They are also experienced Rorschach users who have been using the test for research purposes for many years. The psychogram results of our population were compared with the current norms of the Rorschach test (De Tychey et al., 2012).

Data Analysis

SPSS version 20.0 was used in all quantitative analyses. We performed a two-tailed one-sample Student test (*t*) to compare our averages with the standards of De Tychey et al. (2012). We also report the Cohen’s *d* statistic as a measure of effect size.

Results

General Comments

A comparison between the clinical group and the adult norms (*N* = 30) is provided in Table 2. Of the 16 indications of the Rorschach psychogram, eight indications did not diverge from the current standards of the French population (De Tychey et al., 2012) and were not significant: These indications appear not to be modified

by the context of motherhood. The other half of the indications diverge from the norms with a high threshold of significance ($p < .05$ for one indication and $p < .01$ for seven indications), showing that in spite of our relatively small group size, there is a statistical validity in our results. Some results validated what we expected with the operationalization we proposed for the examination of the psychic life functioning of nonconsulting women in the postnatal phase. Other results were surprising because they did not match our expectations.

Results That Were Expected According to Our Operationalization

Factors Within the Range of the Normative Data

We observed a number of popular responses within the norms: P = 4.47 on average in our sample for a norm of 4.83, $t(29) = -1.41$, $p = .168$, $d = -0.258$; a non-significant F+%, 65.27 on average versus a norm of 60.86, $t(29) = 1.19$, $p = .244$, $d = 0.217$; and a normative Dd%, 3.25 on average versus a norm of 3.13, $t(29) = 0.14$, $p = .892$, $d = 0.025$. These results reflect the norms of the classic nonconsulting population and confirm that our population is suitable, with a well-adjusted relationship to exterior reality.

Factors Significantly Different From the Normative Data

As expected, we noticed that some factors were significantly weaker than in the general population: D%, mean 49.61% instead of the expected 57.24, $t(29) = -3.71$, $p < .001$, $d = -0.677$; small movements, Sum m = 1.87 on average versus a norm of 3.82, $t(29) = -8.36$, $p < .001$, $d = -1.527$; and R, mean 23.47, instead of the expected 28.16, $t(29) = -2.91$, $p = .007$, $d = -0.531$. The quantity of representations mobilized within this group is therefore reduced. The RC% was significantly higher in our group, 39.7 on average versus a norm of 35.94, $t(29) = 2.23$, $p = .03$, $d = 0.407$, as was the S%, 3.98 on average versus a norm of 1.99, $t(29) = 3.41$, $p = .002$, $d = 0.622$. Finally, the index of anxiety (Anguish Index%) was very clearly higher in our population: 25.77 on average versus a norm of 13.3, $t(29) = 4.65$, $p < .001$, $d = 0.849$.

Results That Were Not Expected According to Our Operationalization

Factors Within the Range of the Normative Data That Were Expected to Be Significantly Different

Contrary to what we expected, the number of human movement responses was not lower than but was close to the norm, Sum M = 2.33 on average versus a norm of 2.42, $t(29) = -0.28$, $p = .781$, $d = -0.051$. The W% score, 41.54 on average

Table 2. Comparison of Rorschach variable means with adult norms

Rorschach variable	M (SD)	Standards	t(19)	p	Cohen's d
R	23.47 (8.83)	28.16	−2.91	.007	−0.531
W%	41.54 (15.87)	36.83	1.63	.115	0.297
D%	49.61 (11.27)	57.24	−3.71	.000	−0.677
Dd%	3.25 (4.97)	3.13	0.14	.892	0.025
S%	3.98 (3.20)	1.99	3.41	.002	0.622
F%	60.81 (16.32)	57.81	1.01	.322	0.184
F+%	65.27 (20.33)	60.86	1.19	.244	0.217
A%	36.29 (12.29)	42.55	−2.79	.009	−0.509
H%	15.42 (10.26)	15.85	−0.23	.822	−0.041
Anguish Index %	25.77 (14.68)	13.30	4.65	.000	0.849
Sum M	2.33 (1.69)	2.42	−0.28	.781	−0.051
Sum m	1.87 (1.28)	3.82	−8.36	.000	−1.527
Sum C	2.92 (2.16)	3.36	−1.12	.271	−0.205
Sum E	0.28 (0.63)	1.04	−6.63	.000	−1.210
RC%	39.70 (9.24)	35.94	2.23	.034	0.407
P	4.47 (1.41)	4.83	−1.41	.168	−0.258

versus a norm of 36.83, $t(29) = 1.63$, $p = .115$, $d = 0.297$, was likewise normative, as were the H%, 15.42 on average versus a norm of 15.85, $t(29) = -0.23$, $p = .822$, $d = -0.041$, and the F%, 60.81 on average versus a norm of 57.81, $t(29) = 1.01$, $p = .322$, $d = 0.184$, while we had hypothesized that these factors would be increased. We also noted a normative number of color responses, Sum C = 2.92 on average where the norm is 3.36, $t(29) = -1.12$, $p = .271$, $d = -0.205$. This result is surprising because we hypothesized that the hypersensitivity of the subjects in our group of postpartum mothers would increase this index.

Factors Significantly Different From the Normative Data and Contrary to What We Expected

Finally, two indications differed from the norms but were in contrast to our expectations. We thought that the shading responses and A% would be increased. The significantly lower number of (E) shading responses is a surprising result given the mother's state of sensitivity in this postnatal period, 0.28 on average in our sample for a norm at 1.04, $t(29) = -6.63$, $p < .001$, $d = -1.210$). Another unexpected result was the diminished value of A%, 36.29 on average compared with a norm of 42.55, $t(29) = -2.79$, $p = .009$, $d = -0.509$, while we had hypothesized that the postnatal period would be conducive to psychic life regression regarding animal content.

Qualitative Results: Response Contents Without Normative Data

Even though we did not specifically operationalize the response contents because there are no normative data with which to compare them, we were surprised to find specific contents in numerous protocols. Anatomic responses appeared clearly and in large numbers. We counted 21 responses with “uterus” and “cervix,” 16 “pelvis” responses, two “sonography” responses, and 10 “birth-giving” responses. They are of a “sexual” or “visceral” type, but “object” responses related to sonography were also given.

The non-symbolized nature of the anatomic responses concerned 14 of the 30 protocols. The responses ranged from “less symbolized” in the majority of the protocols (visceral and sexual responses) to “highly symbolized” in four protocols, with responses such as “the passage,” “a cavity open at the top and closed at the bottom,” “a cavern with an entrance,” “symbolic opening and closing,” example, “a zip.” The non-symbolized responses observed for the Rorschach test mostly concerned primiparous women. Indeed, 11 out of the 18 primiparous participants gave more of this type of response than other types of response. Some of the response contents were specific and were directly related to the conception phase and to female anatomy (22 responses concerned the “female sexual organ” and 17 responses included “ovaries,” “fallopian tubes,” or “vagina”). Blood responses were quasi-nonexistent, while the sexual responses, “vagina, uterus, cervix, ovaries, labia, period,” were predominant. We likewise noted a strong prevalence of visceral responses in the protocols “inside of a belly, heart, lungs, inside the body, organs, etc.”

The theme of birth (animal or human) concerned 18 of the 30 protocols. Conception and implantation were also evoked: “a baby in its mother’s belly” (eight responses). The real presence of the baby was evoked (17 “baby” responses, eight protocols).

Finally, even if the number of shading responses (E) was low, we noted that when this type of response was present, it concerned texture shading. We only noted one diffusion response on Card III: “smoke rising from the pot there.” All other shading responses were texture shading, for example: Card I, “a hairy black butterfly”; Card III, “two birds with their feathers”; Card IV, “a kind of hairy beast”; Card V, “a beast with lots of hair”; Card VI, “a rug-shaped animal skin.” Texture responses characterize tactile sensitivity and indicate the reactivation of very early experiences in relationships, particularly the quality of the infant environment. Also, the presence of this type of response shows that new motherhood is indeed a context linked to early childhood reactivation.

Discussion

A Psychic Life Functioning That Remains Adapted

Despite the recognized habitual phase of primary maternal preoccupation, our participants presented an adequate relationship with external reality (normative F+%) and maintained normal perceptual control (normative F%). The adequate number of popular responses (P) shows that we are studying a population where the socialization is no different from that of a classic general population.

The nonsignificantly reduced number of human movement responses (M) demonstrates the preservation of thinking capacities among the women. Psychological work and reflexivity remain proficient, but nevertheless more difficult for certain criteria. In effect, a high kinesthesia score clearly reflects the presence of a transitional space and the participants' capacities for development of their psychic life via the Rorschach (Chabert, 1983). The normative human responses (H%) show the participants' capacities for creation and mentalization. These results confirm the fact that we are indeed dealing with a general population.

With regard to F%, we believe the presence of formal control demonstrates efforts to master the reality linked to the desire to control instinctual impulses. It also shows how much these women put up internal boundaries to guarantee the integrity of the Self.

We also note the relatively high number of human movement responses, normative (M), whereas the small movements (m) were seemingly absent in our group. This is interesting because it shows that in these women in the postnatal phase, the intensity of the underlying and identifying investments is turned more toward the human, rather than toward the animal or objects. Finally, all of these indications remain normative and confirm that we are dealing with a nonconsulting population that does not suffer from any proven psychopathological disorder. This population does, however, show aspects of fragility of the psyche that should be taken into account.

Specificities That Should Be Taken Into Account in the Postpartum Period

General Indications

We draw attention first and foremost to the reduced number of responses (R) of our group, which was significantly lower than the norm. The work of putting ideas into words that is required by the presentation of the Rorschach cards was more difficult for this group of participants in the postpartum phase. We hypothesize that confrontation with the Rorschach test mobilizes archaic elements not yet formulated in words and shareable representations. Primary maternal preoccupation (Winnicott, 1956) hinders the mother's psychological work (her available

psychological representations are weaker). The R translates the quantity of the representations available. In the postpartum period, in fact, the number of responses to the Rorschach is significantly lower. The archaic elements are more present during the postpartum period. This is visualized in the Rorschach by the significantly lower “Sum m and Sum E” indications and by a significantly higher RC% index. We observe dominant regression processes with the significantly higher index S% (Dbl) as well as the RC%. The regression phenomenon is also proven with the significant weakness of the Sum m and E indications. These indications also show the weakness of psychological work.

Our clinical experiments among women who had given birth recently showed us that the psychological work is more laborious during this period. The representations are therefore more difficult to express, which explains the significantly reduced number of R responses. The intensity of the transformations that occur in this phase of life (Belot, 2014) confirms a context of saturation in terms of the mother’s psychic life, a weaker investment in external reality, and a centering on the internal world.

Although we observed a lesser investment in the activity of representations (significantly low R), the number of responses to the pastel cards (RC%) increased significantly. In effect, the average of the RC% of our group highlights an increased permeability compared with the norm and the hypersensitivity of the participants in our group of postpartum mothers. However, the number of color responses (C) remained within the norms. Women in the postnatal phase are very sensitive to situations that encourage regressive tendencies without leading to psychic disorganization, as shown by F% and F+%, which are normative.

The earliest and most archaic material brought to the surface by the Rorschach is expressed by the *shading* responses named “E.” For this operation, the flexibility of the psychological apparatus is brought into play. The texture shading we described in the qualitative results clearly indicates the mother’s sensitivity and investment in corporeal experiences, such as skin-to-skin contact with her baby. We assume that this result is related to the difficulty of psychological work and the reduced availability of mothers during this period – they are very concerned with the concrete and constant care for their babies. The shading E responses appear later because the archaic materials later manage to make their way through the psyche.

Modes of Approach

Although the W% is within the norms we observe a sensitivity to emptiness and to absence, shown in the significantly higher number of S% responses. The increase in this type of response can be connected to the increased feeling of emptiness after the birth of the baby. The aspects of fullness and completeness in the final

stages of pregnancy end brutally with the birth of the baby and loss of the fetus. Moreover, encountering and adjusting to the baby can also present the mother with new difficulties, which can relate to the unknown.

The significant increase in S% responses can also be connected to mourning for the imaginary child and the reactivation of the infantile in the mother, or the necessity of regression to adjust to the needs of her baby and the newness of the relational experience.

Certain defense mechanisms, such as isolation, are reduced (number of D responses in our protocols was smaller than in a classic population). These aspects can be linked to a defense against reactivation of undesirable instinctual movements but can also be related to the specific nature of the primary maternal preoccupation and the mother-baby unit in the postnatal period.

In addition, we know that the increased internal and external excitation during the postnatal phase can engender difficulties to think in mothers. The mother's internal psychic life reality is subjected to great pressure on account of the internal and external modifications she faces. The mother accepts the birth event from multiple angles. Several studies (Belot, 2014; Belot et al., 2016) show the weakness of the maternal excitation barrier system because the mother must adapt to a new lifestyle and simultaneously manage the emotional regulation of her baby.

Not only does the new mother encounter her baby but, prior to this, she lived through a pregnancy, the modifications of her body image, and the testing experience of childbirth, which can be classified as *ordinary trauma*. This succession of events can produce the effect of psychological paralysis.

The reduced presence of small movements can demonstrate both difficulties in the psychological work and a lack of ability to let go with regard to certain cards, and the difficulty for mothers to deal with solicitations encouraging regressive tendencies in psychological terms. (Regression as we consider it here concerns a *topical regression* linked to different states of the psychological apparatus – unconscious, preconscious, conscious – a *temporal regression*, as it concerns the recovery of anterior psychological formations, and finally a *formal-type regression*, as the modes of expression and figuration in this context are more primitive.) The divergences here are the greatest in our study and we believe they are linked to the intensity of underlying instinctive reactivations, which the participant seeks to control.

Anxiety Indication

Concerning the anxiety indication (AI%), which was significantly higher in our population, we observed a majority of non-symbolized responses, sexual representations, and notably responses related to female sexual anatomy (“vagina,”

“labia,” “uterus,” “ovaries”), which were present in 16 protocols out of the 30 studied.

Response Contents

We observed a significant decrease in A% responses (36.29 while the norm is 42.55). This result can be explained by the increase in attention to the human and a parallel deficiency in the contents of animal responses. Furthermore, the state of primary maternal preoccupation can weaken the indications of socialization. The mother is indeed completely dedicated to her baby and its care.

The number of human responses was slightly lower (15.42 for a norm of 15.85) without being statistically significant. However, the human responses were interesting, as the majority centered on “baby” representations and the experiences of mothering, as if motherhood was directly reflected in the Rorschach responses. It is therefore relevant to inquire as to the other contents of responses.

The anatomic responses reflect the impact of the corporeal event of childbirth, and may even reflect earlier preoccupations linked to the state of pregnancy. Preoccupations linked to the body are central at this time of life and appear more or less directly. The intensity of psychological and corporeal readjustments can interfere with the activities of symbolization and secundarization and reveal more numerous emergences of primary processes without, however, modifying these participants’ connection to reality (normative F%).

Among the findings resulting from the research with Rorschach tests, it appears that the psychic life functioning processes that are the most flexible and accessible to regression are those that offer the easiest access to motherhood.

Conclusion

This preliminary research demonstrates the nature and amplitude of psychic life modifications inherent in the postnatal period, which are clearly demonstrated by the Rorschach test. These periods of profound adjustment and of psychological vulnerability in mothers, habitually described in the literature, are given here a pertinent as well as unexpected and complex reading.

Even if the sample may seem small ($N = 30$), the results of this study show that among a sample of women coming from the general population and not suffering from any psychopathological disorders, there exist psychological resonances and particularities specific to the postnatal phase. Of the 16 usual psychogram indications in the Rorschach test, although eight remained normative (adaptation to the outside world, quality of mentalization, human representations, indication of

socialization, and relationship with reality), eight other indications diverged significantly from the norms of the general French population. Thus, the psychological upheaval in the postnatal phase operates subtly and with regard to certain values only. Improved knowledge of the different phases of motherhood can aid professionals in the prevention of disorders specific to pre- and postpartum (baby blues, post-natal depression, and postpartum psychosis) periods.

The psychological factors involved at the time of pregnancy, birth, and the arrival of the infant necessitate further in-depth investigation to enable the provision of care that is both appropriate and preventive, in order to reduce disorders. These disorders can be linked to the postpartum phase, but may also emerge prepartum. Effectively, the great vulnerability existing during this period requires improved knowledge about the psychological impact involved in the experience of new motherhood.

Indeed, it appears necessary to increase the size of our sample in a subsequent study. We are currently conducting a longitudinal study to better understand the impact of psychic life and bodily transformations before the birth, in particular for primiparous women. This research is being duplicated internationally to compare intercultural differences with the experience of motherhood.

Limitations

The absence of psychological disorders among the women encountered was evaluated according to three essential criteria: strict adherence to the inclusion criteria, absence of proven depressive disorders (confirmed during the clinical interview), and the absence of use of psychotropic medications (confirmed during the clinical interview). We envision subsequently consolidating these criteria with the use of a self-assessment questionnaire (to evaluate depression and anxiety as well as levels of stress) within the framework of a new study.

The anxiety present in certain women in our sample population corresponds to the norms in a general population of women in the post-natal phase. However, a detailed evaluation of anxiety, including its intensity and frequency, would have allowed us to create different and more relevant subgroups. In the same way, although the birth took place with no apparent difficulties in the case of all the women in our population, a more careful examination of the circumstances surrounding the birth should be taken into account in our subsequent study.

An additional Rorschach protocol in the antenatal period is necessary for a subsequent study. This will enable us to observe changes longitudinally and more closely. Furthermore, studies of longitudinal cases from the beginning of the pregnancy to just after birth and the postnatal period would allow us to measure the extent of the changes throughout the pregnancy, the birth, and motherhood.

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History

Received September 4, 2019

Revision received December 9, 2020

Accepted December 15, 2020

Published online March 18, 2021

Received and processed mainly under previous editorship

Acknowledgments

We would like to express our very great appreciation to Claire Giboudeaux-Baumes, translator–revisor, University of Franche-Comté, and Jennifer Dobson, translator and clinical research administrator, Besançon University Hospital, for the proofreading of our manuscript.

Conflict of Interest

The authors have none to declare.

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Summary

Motherhood, listed by the World Health Organization as a period of fragility and vulnerability, involves significant changes at the individual, family, and societal level.

Becoming a mother entails a number of risk factors to be taken into account. Although the extremely widespread psychopathological disorders (“baby blues,” pre- and postnatal depression, puerperal psychosis, denial of pregnancy) are well known, they remain largely underdiagnosed.

It is therefore necessary to conduct studies on general populations without psychopathological and obstetric disorders to better understand all the risk factors associated with motherhood. The literature review indicates a lack of research on motherhood and the Rorschach in a general population at low risk.

This study was carried out in France with a nonconsulting population in the postnatal phase ($N = 30$) using the Rorschach test, because this tool has many advantages for assessing the mental and bodily transformations linked to becoming a mother.

We compared the quantitative results of the test with the recently updated standards (De Tychey et al., 2012). We made specific operational assumptions for all of the psychogram indices based on our knowledge of the postpartum period. Some assumptions were validated, others were not. Eight values of the psychogram remained normative ($F\%$, $F+\%$, $G\%$, $Dd\%$, K , C , $H\%$, Ban) and reflected the characteristics of a general population, whereas the eight other values of the psychogram (R , $D\%$, $Dbl\%$, $A\%$, $CR\%$, k , E , Anxiety index%) differed considerably from the norms of the general population. These periods of deep adjustment and psychic vulnerability in mothers, which have been generally described in the literature, are revealed by a relevant, unexpected reading with the Rorschach.

These results increase our understanding of the complex psychic processes that occur during the postnatal period, and make it possible to identify the areas of weakness associated with access to maternity more precisely. They also make it possible to distinguish proven disorders from transient and classic disorders linked to the upheavals caused by becoming a mother. They can help prevent psychopathological disorders, which are too frequent in the perinatal period.

Résumé

La maternité, répertoriée par l'OMS (Organisation Mondiale de la Santé) comme une période de fragilité et de vulnérabilité, implique des changements conséquents au niveau individuel, familial et sociétal. Devenir mère comporte un certain nombre de facteurs de risques à repérer et prendre en compte.

Si les troubles psychopathologiques extrêmement répandus (baby-blues, dépression anté et post-natale, psychose puerpérale, déni de grossesse) sont bien répertoriés, ils restent encore largement sous-diagnostiqués.

Il est donc nécessaire de mener des études sur des populations générales qui ne souffrent pas de troubles psychopathologiques et obstétriques pour mieux appréhender tous les facteurs de risque liés à la maternité. La revue de la littérature indique en effet l'absence de travaux de recherche sur « maternité et Rorschach » auprès d'une population « tout venant » à bas risque.

La recherche est menée en France sur une population non consultante en phase postnatale ($N = 30$) à l'aide du test de Rorschach, car cet outil présente de nombreux avantages pour apprécier les transformations psychiques et corporelles liées au « devenir mère ».

Les résultats quantitatifs du test ont été soumis à une comparaison avec les normes récemment mises à jour (De Tychey & al., 2012). Nous avons émis pour tous les indices du psychogramme des hypothèses opérationnelles spécifiques en fonction de nos connaissances sur la période post-partum. Certaines sont validées, d'autres non. Huit valeurs du psychogramme restent normatives ($F\%$ - $F+\%$ - $G\%$ - $Dd\%$ - K - C - $H\%$ - Ban) et reflètent les caractéristiques d'une population générale, à l'inverse, huit autres valeurs du psychogramme (R - $D\%$ - $Dbl\%$ - $A\%$ - $RC\%$ - k - E - Indice d'angoisse%) diffèrent considérablement des normes de la population générale. Ces périodes d'ajustements profonds et de vulnérabilités psychiques chez les mères, habituellement décrites dans la littérature, sont révélés par une lecture pertinente et inattendue au Rorschach.

Ces résultats augmentent les connaissances pour apprécier la complexité des processus psychiques durant la période postnatale et permettent de discriminer plus finement les zones de fragilités liées à l'accès à la maternité. Ils permettent également de distinguer les troubles avérés de ceux transitoires et classiques liés aux bouleversements provoqués par l'accès à la maternité. Ils peuvent favoriser la prévention des troubles psychopathologiques, trop répandus en périnatalité.

Resumen

La maternidad, catalogada por la OMS (Organización Mundial de la Salud) como un período de fragilidad y vulnerabilidad, implica cambios significativos a nivel individual, familiar y social. Ser madre implica varios factores de riesgo. Si los trastornos psicopatológicos extremadamente generalizados (melancolía, depresión prenatal y postnatal, psicosis puerperal, negación del embarazo) también están bien documentados, todavía están en gran medida sin diagnosticar.

Por lo tanto, es necesario realizar estudios en poblaciones generales que no padecen trastornos psicopatológicos y obstétricos para comprender mejor todos los factores de riesgo asociados con la maternidad. La revisión de la literatura indica la ausencia de trabajo de investigación sobre “maternidad y Rorschach” en una población de “todos los que vienen” con bajo riesgo.

Esta investigación se lleva a cabo en Francia con una población que no consulta en la fase postnatal (N = 30) utilizando la prueba de Rorschach, porque esta herramienta tiene muchas ventajas para evaluar las transformaciones psíquicas y corporales vinculadas a “convertirse en madre”.

Los resultados cuantitativos de la prueba se sometieron a una comparación con los estándares recientemente actualizados (De Tychey y otros, 2012). Hemos emitido hipótesis operativas específicas para todos los índices del psicograma basados en nuestro conocimiento del período posparto. Algunos están validados, otros no. Ocho valores del psicograma siguen siendo normativos (F% - F+% - G% - Dd% - K - C - H% - Ban) y reflejan las características de una población general, por el contrario, otros ocho valores del psicograma (R - D% - Dbl% - A% - CR% - k - E - Índice de ansiedad%) difieren considerablemente de las normas de la población general. Estos períodos de ajustes profundos y vulnerabilidades psíquicas en las madres, generalmente descritos en la literatura, se revelan mediante una lectura relevante, inesperada con el Rorschach.

Estos resultados aumentan el conocimiento para apreciar la complejidad de los procesos psíquicos durante el período posnatal y permiten discriminar más finamente las áreas de debilidad vinculadas al acceso a la maternidad. También permiten distinguir trastornos probados de trastornos transitorios y clásicos relacionados con los trastornos causados por el acceso a la maternidad. Pueden ayudar a prevenir los trastornos psicopatológicos, que son demasiado comunes en el período perinatal.

要約

WHOは、母性を脆弱性の時期として挙げている。そしてそれは、個人、家族、社会レベルで大きな変化を伴う。母親になることは、考慮すべきおおくの危険因子を伴う。極めて広範な精神病理的障害（“マタニティブルー”、出生前及び出生後のうつ病、産褥期精神病、妊娠の否定）はよく知られているが、それらは、ほとんど診断されないままである。

したがって、母性に関するすべての危険因子をよりよく理解するために、精神病理的障害や産科的障害のない一般集団を対象とした研究が必要である。文献を精査してみると、リスクの低い一般集団における母性とロールシャッハに関する研究が不足していることを示している。

この研究は、ロールシャッハ・テストを使用して、このツールが母親になることに関連した精神的・身体的変化を評価するために多くの利点があると考え、産後期の非相談集団（N=30）を対象にフランスで実施された。

テストの定量的な結果と、最近更新された基準（De Tychey ら, 2012）と比較した。われわれは、産後期間に関する知識に基づいて、全てのサイコグラム指標について特定の運用上の仮説を設定した。いくつかの仮説は支持されたが、他の仮説は検証されなかった。サイコグラムの8つの値（F%, F+%, G%, Dd%, K, C, H%, Ban）は、標準値と変わらず、サイコグラムの他の8つの値（R, D%, Dbl%, A%, CR%, k, E, Anxiety index%）は、一般集団の基準とはかなり異なっていた。一般的に文献に記載され

ている母親の中にある深い適応と精神的脆弱性のこれらの期間は、ロールシャッハを使った意外な読み方に関連させることによって明らかにされた。

これらの結果は、産後期に起こる複雑な精神的プロセスの理解を深め、より正確に母性に立ち入る際の弱点領域をあぶり出すことが可能になる。それらはまた、明らかとなった障害を、母親になることによって引き起こされる激変に関連する一過性および古典的な障害と区別することを可能にする。それらは、周産期に頻繁に起こる精神病理学的障害の予防に役立つ。



The Development of the Rorschach Test in China

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Abstract: This article summarizes the development and research status of the Rorschach Test in China as comprehensively as possible. The development of the Rorschach Test in China can be divided into two stages: the initial stage and the developing stage. At the initial stage the research mainly includes: introduction and localization of the Rorschach Test, studies on schizophrenia, and the measurement of intelligence and personality. In the developing stage the research mainly includes: spreading and localization of the Rorschach Test, the variables, indices, and derivative scales, clinical psychology, talent assessment, combination with eye movement techniques, the Group Rorschach Inkblot Test, and reviews. Based on the domestic development and research status of the Rorschach Test, the article also summarizes the achievements and issues present in existing studies and puts forward the prospect of researching the Rorschach Test in China.

Keywords: China, research status, Rorschach Test

This study reviews the studies conducted in China using the Rorschach Test since its introduction in the country, summarizes the research achievements and the issues existing in the studies, and puts forward the future work of researching the Rorschach Test in China. On the basis of Zhang Yu's viewpoint (2016), we divided the development of the Rorschach Test in China into the initial stage and the developing stage. At the initial stage, the Rorschach Test was introduced to China, and researchers began to make a systematic study. In the developing stage, the introduction of the Rorschach Test gradually increased, and the research on the Rorschach Test began to diversify.

The Initial Stage of the Rorschach Test (1940s to 2000)

Introduction and Localization of the Rorschach Test

The introduction of the Rorschach Test to China goes back to Ling Minyou, Gong, and Luo Chuanfang in the 1940s and 1950s. Tentative research was conducted (e.g., a study on the Beck System and a trial to establish a national

norm, etc.), but in the following 20 years, the Rorschach Test was not further developed (Exner, 2001/2013b). Gong et al. began the establishment of a norm again in 1985, the Comprehensive System (CS) was selected, and a preliminary norm was established by 1987 (Exner, 2001/2013b). Then Gong et al. published the *Rorschach Test Manual* in 1991. In addition, Ling Wenquan and Bing (1988) made a comprehensive introduction of the Klopfer System in their book *Method of Psychology Test* and J. Yuan translated and published *Psychodiagnostik* in 1997 (Rorschach, 1921/1997).

M. Chen et al. (1997) collected the CS data of 666 healthy Chinese adults and compared these with the data of 1990 in the United States. The results indicated the scores of variables (Zf, Blends, W, S, M, m, FC, CF, WsumC, T + V + Y + C', H, (H), (Hd), Ad, INCOM, AG, and MOR) were higher in the American sample than the Chinese sample, while F, A, An, and PSV were lower. The differences were all statistically significant ($p < .01$).

Studies on Schizophrenia

L. Li (1987) reported the Rorschach features of patients diagnosed with chronic schizophrenia. S.-G. Li and Gong (1988) compared differences between the schizophrenia group and the control group. The analyses indicated the schizophrenia group displayed many responses related to mental disorders and their perceptual accuracy was lower than that of the control group. Q.-X. Li (1986) concluded that perception and thinking disorders of schizophrenia were associated with perception or mediation distortion according to the Rorschach Test perception theory. Furthermore, she and her colleagues reported that the values for F+%, M, Ma, FM, and FC of the schizophrenia group were lower than the control group, and the differences were significant (Li et al., 1989). L.-Y. Li et al. (1993) indicated that the neurosis group had more emotional instability and personality introversion than the control group. A study conducted by B. Wang et al. (1993) described the Rorschach characteristics of patients with schizophrenia, with depression, and with mania and found significant differences between these three groups on a number of variables (R, P, W, M, H, Sx, F+%, X+%, X-%, Afr, Zf, Zd, D score, S-CON, DEPI, SCZI; $p < .01$). T.-N. Chen (1999) compared the Rorschach results of children diagnosed with schizophrenia with a control group in a sample of 13–15-year-olds. Mean comparisons showed that the children with schizophrenia scored significantly lower than the control children in the total test time and in Fx% (all age groups), S, M, Fc, Clob, and F% (13-year-old group), D, F, Hd, and Ad (14-year-old group) and in FM, Ad (15-year-old group). Frequency analyses showed that the children with schizophrenia scored significantly lower than the control group in M, H (13-year-old group), EC, Ad (14-year-old group), and FM,

Ad (15-year-old group). Mean comparisons and frequency analyses both showed that the children with schizophrenia scored significantly higher than the control children in Dd (15-year-old group). H.-B. Jiang et al. (2000) analyzed the Rorschach features of patients diagnosed with schizophrenia and found they had abundant association ability, weak integration ability, the perception of the part was enhanced, more *M*, fewer color responses, the type of experience was introverted, poor form quality, and impaired ability to identify reality. Moreover, they could not respond well when emotionally stimulated.

The Measurement of Intelligence and Personality

Hu and Gong (1989) used the Rorschach Test and Eysenck Personality Questionnaire (EPQ; Gong, 1983) to measure personality differences between writers and math teachers and the results showed the values for *R*, *H/R*, *Isolate/R*, *AG/R*, number of content categories, *Id/R*, *Zsum/Zf*, *M/R*, *FM/R*, *m/R*, *C'*, *CF'*, and *Blends/R* of the writers were higher than those of the math teachers, while the average time to the first reaction, *Hd/H*, *Zf/R*, *FC/R*, and *F/R* were lower. The differences were all statistically significant ($p < .01$). X.-F. Zhu and Gong (1995) conducted a correlational study between the Rorschach Test and the Wechsler Adult Intelligence Scale-Chinese Revision (Gong, 1982) and the results indicated that the variables *R*, *W*, *DQ+*, *DQy/+*, *DQo*, *M*, *Zf*, *Zsum*, *EA*, *Blend*, *CS*, *X+%*, and *F+%* had positive correlations with intelligence ($r = .32-.62$), while *X-%* had a negative correlation with intelligence ($r = -.35$). Y.-H. Wu et al. (1998) used the Rorschach Test and the EPQ with college students and found that there were significant differences in the Rorschach Test between the extroverted group and the introverted group, suggesting that the Rorschach Test can distinguish different personalities. Guo (1999) conducted a comparative study between the *CS* and *16PF* (Zhu B.-L. & Dai, 1988) and the results indicated there were significant correlations between a number of Rorschach variables and *16PF* ($r = -.4-.4$).

The Developing Stage of the Rorschach Test (2000 to Present)

Spreading and Localization of the Rorschach Test

Xu has taught the Rorschach Test in postgraduate classes since 2000 (Ma, 2016). Moreover, he introduced the Rorschach Test and reported some Rorschach cases in his books: *Study Abroad Life of Intercultural Adaptation - Mental Health and*

Assistance for Chinese Students (2000) and *Clinical Psychology – Knowledge of Mental Health and Aid* (2001).

X.-Z. Meng introduced the Lerner Defense Scale (LDS; Lerner & Lerner, 1980) in *Practical Psychological Measurement* (Jie & Dai, 2006) and the CS in *Psychological Assessment* (Yao, 2007). At the same time, he published two translated books: *A Rorschach Workbook for the Comprehensive System* (Exner, 2001/2013b) and *A Primer for Rorschach Interpretation* (Exner, 2000/2013a). Ren (2007) studied the localization of AgC and established a Chinese AgC list including 60 contents with excellent reliability. T.-Y. Li (2016) collected data from 326 healthy adults in Guangdong Province according to the CS and established a Guangdong adult norm for the Rorschach Test. The results showed that this norm had good-to-excellent reliability (i.e., the intraclass correlation coefficients of test-retest reliability and inter-rater reliability were .44 to .98 [except DQy and Hx] and .51 to 1.00, respectively), and it also had good content validity and criterion validity. Xiong (2014) compared Chinese, Israeli, and American samples, and He (2015) compared Chinese, American, and Japanese samples of the Rorschach Test. The results showed differences between the Chinese, Israeli, and American samples on the variables D, Dd, X+%, Xu%, X-%, FQxo, FQxu, FQx-, P, Afr, EB, EA, FC: CF + C, FC, CF, FD, p, FM + m, SumV, SumT, PHR, COP, HVI, DEPI, CDI; significant differences between the Chinese and American samples on the variables Dd, DQo, FQx+, FQxo, FQxu, FQx-, MQ-, CF, WSumC, FD, F, Lambda, EA, D score, AdjD, A (active), Ma, Afr, P, XA+%, WDA%, X+%, X-%, Xu%, A, Idio, ALOG, PSV; finally, there were significant differences between the Chinese and Japanese samples on the variables CF, EA, AdjD, Ad, Idio, SumT, A, and S-. These two studies both indicated that the Rorschach Test had significant cultural differences, and therefore a norm corresponding to the local culture was required.

Additional publications include Yang and Ji Yuanhong's (2008) *Practical Rorschach Ink Test* and Kong and Y.-Q. Li's (2013) *Rorschach Ink Test: A Clinical Application Study on Comprehensive System*. Meanwhile, Tsinghua University has held several international Rorschach Test advanced training courses by Bruce Smith, board member of the International Society of the Rorschach and Projective Methods, since 2010 (Ma, 2016).

The Variables, Indices, and Derivative Scales

G.-H. Liu and Meng (2003) summarized studies on the aggression variables and identified some problems in the research. Furthermore, they modified and established a new framework including 12 aggression variables: AG, MOR, AgC, AgPot, AgPast, Active Aggression (AAG), Passive Aggression (PAG), Overt Aggression

(OAg), Covert Aggression (CAg), Aggressive emotion (AgE), Mental Harm (Mh), Physical Harm (Ph; Liu & Meng, 2007b). In samples of criminals and college students, they examined the new framework's reliability and validity and explored the correlations between the EPQ and the new aggression variables. Analyses revealed good inter-rater agreement but the validity and the correlations required further study (Liu & Meng, 2007a, 2007b). Yan and Meng (2007) examined this new framework again and the results indicated that AgC, AgPot, AgE, Mh, and total aggression scores were significantly correlated with the hostility factor of the Brief Psychiatric Rating Scale (BPRS), and AgC and the total aggression score showed significant differences between high and low scores on the BPRS hostility factor. X.-J. Liu (2006) studied MOR, AgPast, and impaired object relations and found that MOR and AgPast were associated with depression and suicide. Ying (2006) examined five aggression variables (AgPast, MOR, Ag, AgC, and AgPot) and the Type A Behavior Pattern Questionnaire. This study indicated that the Type A group had significantly less Ag than the non-Type A group ($p < .01$). Factor analysis showed that aggressive variables could be divided into three factors: aggression on the object (AgPast, MOR), the object of aggression (Ag, AgC), and potential aggression (AgPot).

D.-D. Li (2007) conducted a study of Ag and AgC in a sample of criminals. The results indicated that AgC had good empirical validity, Ag was negatively associated with scores on the Pd scale (MMPI), and AgC was positively associated with scores on the Pd scale. Y.-H. Jiang (2006) studied children's aggressive behaviors using the Rorschach Test and concluded that the aggression variables proposed by foreign researchers also had some value in measuring children's aggressive behaviors in China. C.-F. Wang (2006) examined the validity of AgC and reported that the reliability was excellent (Cohen's $k = .87$). AgC could distinguish between high and low aggressive groups and college boys' AgC scores were significantly higher than those of college girls.

Yu's research on the Depression Index (DEPI; 2008) indicated that its reliability was acceptable (Cohen's $k > .70$), and it could effectively distinguish patients diagnosed with depression from healthy people. Hong (2008) compared the DEPI of patients diagnosed with depression before treatment with that of those after treatment and found that the DEPI scores after treatment were significantly lower than before, providing support that the DEPI had some empirical validity. Y.-H. Jiang et al. (2015) also used the DEPI to measure college students' depression and found that it could measure depression. Sun (2011) studied the DEPI and the Coping Defect Index (CDI) and the results indicated the κ coefficients of DEPI and CDI were acceptable. The study also indicated that using the CDI could bring incremental validity to the DEPI and increase its diagnostic accuracy. X.-L. Li (2007) conducted a study on the Suicide Constellation (S-CON), and the results

indicated that all variables of S-CON had sufficient inter-rater agreement. The study also showed that S-CON was valuable in identifying patients diagnosed with depression and suicide ideation and behaviors.

H.-X. Liu (2009) conducted a study on the Egocentricity Index (Ego) to investigate the relationship between Ego, MOR, and the Self-Esteem Scale (SES) and an Implicit Association Test (IAT) in samples of normal, depressive, and manic patients. The results did not support Exner's view about Ego (i.e., high Ego is associated with high self-esteem) but indicated MOR could reflect explicit self-esteem (i.e., low MOR is associated with high self-esteem). Y.-C. Tang (2011) examined the reliability and validity of the Ego Impairment Index (EII-2) and indicated the inter-rater reliability of the EII-2 was acceptable. Moreover, the EII-2 could distinguish patients with mental disorders from the controls, and could differentiate between various severities and types of mental disorders. X.-L. Wu (2013) examined the reliability and validity of the EII-2 and Rorschach Alexithymia Scale (RAS). The results were as follows: (1) The EII-2 had excellent inter-rater reliability and certain discriminant validity; (2) the RAS had excellent inter-rater reliability but validity needed further study and verification. Meng and T.-Y. Li (2015) studied the differences of the EII between patients diagnosed with schizophrenia and controls and the results indicated the ego functions of these patients had severe damage compared with the controls. The EII could discriminate these patients with schizophrenia from the controls.

Y.-X. Chen (2007) examined the reliability and validity of the LDS and the results indicated good reliability and validity in a small-scale study with a small sample. Different populations had different defense mechanisms and the LDS can be used as an auxiliary tool in clinical diagnosis. In addition, Peng et al. (2008) indicated that the reliability and validity of the Mutuality of Autonomy Scale (MOA) were acceptable. The study by J. Tang (2004) also showed that the MOA could distinguish healthy people from patients, especially the low-level object relationship.

Cai and Shen (2007) studied the Rorschach self-concept variables in college students. The results indicated that the reliability of the self-concept variables was acceptable and that they could measure the self-concept well. The variables were divided into four factors by factor analysis: introspection [(2), FD, Hd + (H) + (Hd)], positive regard (Fr + rF, Ego), feeling of reality [H: Hd + (H) + (Hd), H, SumV, An + Xy], and negative regard (MOR).

Qin et al. (2015) explored gender differences in the Rorschach variables related to pressure in patients diagnosed with schizophrenia. The results indicated there were significant gender differences in some variables (CDI, D, es, Adjes, m, SumY, FM + m, SumC' + SumT + SumV + SumY, L).

X.-X. Chen and Zhou (2007) discussed the construct validity of the Rorschach Test and introduced the Rorschach Rating Scale (RRS) and its application by reviewing the literature. Guo et al. (2007) correlated RRS with some Rorschach variables about self-concept and the results indicated that the variables (Pure H, H%, An + Xy, and Sx) could measure healthy people's self-concept. Y.-H. Wang et al. (2009) found that there was a significant correlation between the interpersonal relationship variables in the Rorschach Test and the interpersonal relationship indices in the RRS.

Clinical Psychology

J. Liu (2001) introduced two Chinese cases scored and interpreted by the CS and explored its application in clinical psychology. X.-Q. Wang (2009) reported a case of a heroin addict assessed with the Rorschach Test. Qi (2010) combined SCL-90 and an emotional experiment with a clinical case study to explore the psychological diagnosis validity of the Rorschach Test. The results indicated that the Rorschach Test in clinical psychological diagnosis and assessment was valid. Tu and Yuan (2010) used a case-study method combined with a semi-structured interview method and suggested that the Rorschach Test had distinct advantages over other diagnostic methods and was a unique and efficient tool for the diagnosis of college students' emotional disorders.

Zhong et al. (2007) explored the characteristics and possible projection mechanism of children with attention deficit hyperactivity disorder (ADHD) using the Rorschach Test. The results indicated that the values for Zf, COP, $3r + 2/R$, Zd, X+%, and Sum6 of children with ADHD were lower than those of the controls, while AG, Lambda, Sum Shading, X-%, SCZI, DEPI, and CDI were higher ($p < .05$) and the Rorschach Test could project some characteristics of the inner world of children with ADHD. In addition, N. Zhang (2008) found the Rorschach data of children had significant differences in some variables depending on their psychological adjustment (i.e., lower R, shorter average reaction time; more human An and the ratio of human An in the control group).

X.-X. Chen (2008) examined the validity of the Rorschach Test in psychological health assessment. The results supported the validity of the Rorschach Test in a clinical psychology health context. Nan Zhang (2013) used the Rorschach Test as a measure of adult attachment. The results indicated that males had a lower level of anxiety than females. Furthermore, she established a structural equation model of adult attachment. The variables representing the anxiety dimension in the model are CF, Color-shading Blends, Y, m, Food, and $T > 1$. The variables representing avoidance dimensions are FM, Mp, Hum con, p, MOR, Cg, (Hd) + (Ad) + (H) + (A), (Hd) + (Ad) + Hd + Ad, and $T = 0$. The model had good

reliability, construct validity, and criterion validity. Cai et al. (2014) explored the Rorschach Test's activating complex characteristic and its application to clinical practice. It was found that the Rorschach images could stimulate more negative feelings and the homogeneous complex manifestations associated with them had the evident characteristics of activating complex.

Talent Assessment

W.-L. Wang (2008) confirmed the validity of the Rorschach Test in personnel assessment and its potential in selecting talents by a comparative study of the Rorschach Test, interview, and 16PF. Guo et al. (2009) conducted a study on the effectiveness of the Rorschach Test in personnel quality assessment. The results indicated that the Rorschach Test could measure the abilities of information processing, emotion management, self-perception, and interpersonal communication. Qu (2010) also used the Rorschach intelligence variables (F+, Fo, Fu, F-, Ab, Art, Ay, F) to evaluate the intelligence of enterprise employees and the results indicated that the Rorschach Test could make up for the defects of traditional intelligence tests and was a useful tool for enterprise managers to evaluate employees' intelligence. X. Li (2010) synthesized the relevant research on the Rorschach Test, reviewed the controversy, and discussed the problems and practical value of the Rorschach Test in talent assessment.

Combination With Eye Movement Techniques

D. Zhang et al. (2009) examined the objectivity of the Rorschach Test with the eye movement technique. The results indicated that there were significant differences in the first reaction time, the fixation count, and the average fixation time of 10 images. X.-B. Zhang (2011) confirmed that there were significant differences in eye movement between individuals with depressions and those without depression; at the same time, there were significant differences in the average fixation time, track map, and hot spot map of eye movement between two types of cards (Black\white and color). J. Li and Jia (2014) compared the eye movement characteristics between patients with depression and controls during the response phase. The results indicated that the fixation count, total fixation duration, and saccade count of patients with depression were significantly lower than those of the normal controls ($p < .05$). The average saccade amplitude of the group with depression was significantly larger than that of the control group ($p < .05$). Zou and Jia

(2014) studied eye movement characteristics of participants with different cognitive styles when they viewed the Rorschach images. The results also indicated there were distinct differences between field-independent and field-dependent participants.

The Group Rorschach Inkblot Test

Japanese researcher Ben Ming Kuan developed the Group Rorschach Test (GRIT) based on the classic Rorschach Test and established its standardized norm (Li M., 2001). In China, there are mainly two relative pieces of research about the GRIT. M. Li (2001) studied the diagnostic criteria and reliability of the GRIT in a Chinese sample. The results indicated there were no significant cultural differences between Chinese and Japanese samples, and on this basis, the researcher put forward the Chinese diagnostic criteria. Qu (2007) revised and developed the GRIT and examined her new GRIT in an adolescent sample. The results showed the new GRIT had test-retest reliability, inter-rater agreement, convergent validity, and empirical validity.

Reviews

There are also some relevant literature reviews and meta-analyses. For example, Guo and Q.-M. Meng (2003) summarized the development history and research status of the Rorschach Test in the Western world, affirming its value and putting forward some questions based on previous research. Cong (2009) promoted a more fair and objective understanding of the Rorschach Test and its use in personality testing, psychological counseling, and other areas of clinical psychology through understanding the development history, implementation process, and analyzing the existing problems. Kong et al. (2015) summarized the research of "Faking Good" and Malingering Reaction in the Rorschach Test based on foreign research, and pointed out that the research was still at a preliminary stage, and it was necessary to conduct further research and to establish specific Faking Good and Malingering scales.

Y.-Q. Li et al. (2014) used a meta-analysis method to compare the results of 18 studies on the Rorschach CS from normal adult samples with Exner's norm (2005) from 16 countries. The results indicated that 23 of the 113 variables in the CS revealed significant differences between the joint sample of 16 countries and Exner's norm. They concluded that Exner's norm had a certain deviation and a tendency of preference.

Summary and Future Perspectives

This article comprehensively summarizes studies on the Rorschach Test in China. The aforementioned research results indicate that some achievements have been made: (1) Researchers in China have done much work regarding the popularization and localization of the Rorschach Test. Some books were published and translated and some universities teach this test in their courses (including some training). There is some exploratory work to establish Chinese norms for the Rorschach Test, which indeed have made certain achievements, such as the establishment of the initial Guangdong Province norm. (2) Researchers in China have also carried out much research on the theory and application of the Rorschach Test, including reliability and validity, various indices (variables, indices, and derivative scales), and the applications to clinical and management settings, etc. (3) Researchers in China have applied new technologies in researching the Rorschach Test, such as eye movement technologies and the GRIT. This shows that the Rorschach Test in China is in continuous development.

However, the following specific issues have arisen: (1) There are some attempts to localize the Rorschach Test, but this is in the initial stages, some of which is regional work, and national norms have a long way to go. (2) Research and experience in clinical applications are not enough to support persuasive conclusions. Clinical research has mainly focused on schizophrenia. The data are not sufficient enough to support conclusions about the reliability and validity of the test itself and all indices in the test. Studies have been exploratory research and involve only a few fields. (3) Research has not been in line with Western countries, and mostly is involved with the CS. However, Western countries have already developed a new Rorschach Test system. (4) There is not a specialized organization to study and apply the Rorschach Test. There is no authoritative institution to buy the original Rorschach images and reference books in China.

Future work should include: (1) A wider dissemination of the Rorschach Test. In line with international standards, regular Rorschach training courses should be held in high-level universities, inviting authoritative overseas experts to train and update the Rorschach Test latest approaches (such as R-PAS). A Chinese Rorschach Association should be established to discuss and explore the Rorschach Test regularly and introduce the original images and reference books. A Chinese version of the software should be developed based on the introduction of foreign computer-assisted Rorschach software and efforts to establish the Chinese norm of the Rorschach Test should begin. (2) The whole test and all kinds of Rorschach indices should be further studied to improve the Rorschach Test reliability and validity. There should be more clinical application research. The Rorschach Test

is a valuable tool for clinical measurement, psychological consultation, diagnosis, and treatment of mental disorders and personnel management, etc. Therefore, domestic researchers and clinical workers should pay more attention to the application of the Rorschach Test and help it become a really useful and valuable tool. At the same time, we can continue to explore the application of the Rorschach Test in new fields. (3) With the development of new technologies, Rorschach research combined with these technologies will be emphasized, such as EEG technology, eye movement technologies, and meta-analyses.

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History

Received August 9, 2020

Revision received December 8, 2020

Accepted December 15, 2020

Published online March 18, 2021

Funding

This research was supported by grants from Hunan Province “the 13th Five-Year Program of Education Science” in China.

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Summary

This article provides a comprehensive summary of the development and research status of the Rorschach Test in China. The authors reviewed the literature on the Rorschach Test in China and wrote the article by reading and analyzing the literature. The introduction of the Rorschach Test to China goes back to Ling Minyou, Gong Yaoxian, and Luo Chuanfang in the 1940s and 1950s. The development of the Rorschach Test in China can be divided into two stages: the initial stage and the developing stage. During the initial stage (1940s to 2000), the Rorschach Test was introduced to China and researchers began a systematic study. The article mainly introduces these fields: introduction and localization of the Rorschach Test, studies of schizophrenia, and the measurement of intelligence and personality. In the developing stage (2000 to present), the introduction of the Rorschach Test gradually increased, and research on the Rorschach Test began to diversify. The article presents these aspects: spreading and localization of the Rorschach Test, the variables, indices, and derivative scales, clinical psychology, talent assessment, combination with eye movement techniques, the Group Rorschach Inkblot Test, and reviews. Finally, the authors also summarize the achievements and issues present in existing studies and put forward the prospect of researching the Rorschach Test in China. The issues existing in the present studies are mainly: (1) There are some attempts to localize the Rorschach Test, but this is in the initial stages, some of which is regional work, and national norms have a long way to go. (2) research and experience in clinical applications are not enough to support persuasive conclusions. Clinical research has mainly focused on schizophrenia. The data are not sufficient to support conclusions about the reliability and validity of the test itself and all indices in the test. Studies have been exploratory and involve only a few fields. (3) Research has not been in line with Western countries, and is mostly involved with the CS; however, Western countries have already developed a new Rorschach Test system. (4) There is not a specialized organization to study and apply the Rorschach Test. There is no authoritative institution to buy the original Rorschach images and reference books in China.

总结

本文尽可能全面地综述了罗夏测验在中国的发展和研究现状。作者收集了中国有关罗夏测验的文献，并通过阅读和分析文献撰写了这篇文章。将罗夏测验引入中国的历史可以追溯到上个世纪40年代和50年代的凌敏猷、龚耀先以及罗传方三位学者。罗夏测验在中国的发展可以分为两个阶段：初始阶段和发展阶段。在初始阶段（从1940年代到2000年），罗夏测验被引入中国，研究人员开始进行系统的研究。本文主要介绍以下领域：罗夏测验的引入和本地化；精神分裂症人群的研究；智力和人格的测量。在罗夏测验的发展阶段（从2000年到现在），罗夏测验的引入逐渐增多，对罗夏测验的研究也开始多元化。作者从这些方面进行了介绍：罗夏测验的普及和本地化；罗夏测验的变量、指数和导出量表；临床心理学的研究；人才评估；结合眼动技术的研究；团体罗夏墨迹测验；综述研究。最后，文章总结了关于罗夏研究的成果和存在的问题，并提出了将来研究罗夏测验的前景。当前研究中存在的问题主要有：（1）对罗夏测验的本地化和建立常模的工作还处于起步阶段，有的只是些区域性工作。（2）临床应用的研究不足以支持有说服力的结论，也没有足够的材料来支持有关测验信度和效度的结论。（3）还未与国际接轨，大部分研究是综合系统的研究。但是，西方国家已经发展了新的罗夏测验系统。

（4）没有专门的机构来研究和应用罗夏测验。甚至在中国都购买不到正版的罗夏测验图片和参考书。

Résumé

Cet article résume le développement et l'état de la recherche du test de Rorschach en Chine de manière aussi complète que possible. L'auteur a ramassé les articles et les documents sur le test de Rorschach en Chine et a rédigé cet article tout en les lisant et en les analysant. L'introduction du test de Rorschach en Chine est due aux trois savants : LING Minyou, GONG Yaolian et LUO Chuanfang, remonte dans les années 1940 et 1950. Le développement du test de Rorschach en Chine est divisé en deux phases : la phase initiale et celle de développement. Dans la phase initiale (depuis des années 1940 jusqu'en 2000), le test de Rorschach a été introduit en Chine et les chercheurs ont commencé à faire une étude systématique. Pour cet article, on va présenter principalement les domaines suivants : l'introduction et la localisation du test de Rorschach; les études sur le groupe des gens de schizophrénie; la mesure de l'intelligence et de la personnalité. Dans la phase de développement (de l'année 2000 à aujourd'hui), l'introduction du test de Rorschach devient de plus en plus nombreuse et la recherche sur ce test commence à se diversifier. L'auteur effectuera sa présentation à partir de ces aspects : la vulgarisation et la localisation du test de Rorschach; les variables, les indices et les échelles dérivées du test; la recherche sur la psychologie clinique; l'évaluation des talents; la recherche sur la combinaison avec les techniques de mouvement oculaire; le test de tache d'encre du groupe Rorschach et le sommaire. Finalement, l'article résume les réalisations et quelques problèmes qui se posent au cours de ses études en Chine, tout en prévoyant la perspective de recherche sur le test de Rorschach. Les problèmes qui existent dans les études actuelles sont principalement suivants : (1) Il y a quelques tentatives pour localiser le test de Rorschach, mais il n'en est qu'à ses débuts, dont certains sont des travaux régionaux; (2) La recherche et l'expérience dans les applications cliniques ne suffisent pas à étayer des conclusions convaincantes. La recherche clinique s'est principalement concentrée sur la schizophrénie mais n'est pas encore entrée en profondeur. Les données ne sont pas suffisantes pour étayer des conclusions sur la fiabilité et la validité du test lui-même et de tous les indices du test; (3) La recherche n'a pas rendu conforme à la pratique internationale, la plupart des recherches sont synthétiques et systématiques. Cependant, les pays occidentaux ont déjà développé un nouveau système de test Rorschach; (4) Il n'existe pas une organisation spécialisée pour étudier et appliquer le test de

Rorschach. En Chine, on ne peut pas acheter les images originales de Rorschach et les livres de référence en version originale.

Resumen

En este documento se ofrece un panorama lo más amplio posible del desarrollo de la prueba de Rorschach en China y del estado actual de la investigación. El autor recopiló literatura sobre el test de Rorschach en China y escribió este artículo leyendo y analizando las tesis.

La introducción de la prueba de Rorschach en China se remonta a los tres eruditos, LING Min-you, GONG Yaoxian y LUO Chuanfang en las décadas de 1940 y 1950. El desarrollo de la prueba de Rorschach en China puede dividirse en dos fases: la fase inicial y la fase de desarrollo. Durante la fase inicial (del decenio de 1940 al 2000), la prueba de Rorschach se introdujo en China y los investigadores comenzaron a realizar estudios sistemáticos. Este artículo se centra en las siguientes áreas: la introducción y localización de la prueba de Rorschach, la investigación sobre poblaciones esquizofrénicas y la medición de la inteligencia y la personalidad. Durante la fase de desarrollo de la prueba de Rorschach (desde 2000 hasta la actualidad), la introducción de la prueba de Rorschach ha aumentado gradualmente y la investigación sobre la prueba de Rorschach se ha diversificado. Los autores presentan estos aspectos: la popularización y localización de la prueba de Rorschach; variables, índices y escalas derivadas de la prueba de Rorschach; investigación en psicología clínica; evaluación de talentos; investigación que incorpora técnicas de rastreo ocular; pruebas de manchas de tinta de Rorschach en grupo; y estudios de revisión. Por último, el artículo resume los resultados y problemas de la investigación sobre el Rorschach en China, y sugiere perspectivas para futuras investigaciones sobre las pruebas de Rorschach. Los principales problemas del presente estudio son: (1) la localización de la prueba de Rorschach y el establecimiento de un modelo normativo están todavía en sus comienzos, y algunos de los trabajos son de carácter regional. (2) Las investigaciones sobre las aplicaciones clínicas son insuficientes para apoyar conclusiones persuasivas y no hay suficiente material para apoyar las conclusiones sobre la fiabilidad y la validez de las pruebas. (3) No está todavía en consonancia con las normas internacionales y la mayor parte de las investigaciones son integradas y sistemáticas. Sin embargo, en Occidente se han desarrollado nuevos sistemas de prueba de Rorschach. (4) No hay un cuerpo especial para estudiar y aplicar el test de Rorschach. Ni siquiera se pueden comprar fotos de pruebas de Rorschach auténticas y libros de referencia en China.

要約

本論文では、中国におけるロールシャッハテストの発展と研究状況をまとめている。著者らは、中国におけるロールシャッハテストに関する文献を精査し、それらを分析して論文化した。中国でのロールシャッハテストの導入は、1940年代から1950年代にかけてのLing Minyou、Gong Yaoxian、Luo Chuanfangにまで遡る。中国におけるロールシャッハテストの8点は、初期段階と発展段階の2つの段階に分けることができる。初期段階（1940年代から2000年まで）では、ロールシャッハテストが中国に導入され、研究者たちは提携的な研究を始めた。本稿では、主にロールシャッハテストの導入と地方で独特の発展をした、統合失調症の研究、知能や性格の測定などの分野を紹介している。発展期（2000年～現在）では、ロールシャッハテストの導入が徐々に増え、ロールシャッハテストの研究が多様化し始めた。本稿では、ロールシャッハテストの普及と局在化、変数・指標・派生尺度・臨床心理学・才能評価・眼球運動法との組み合わせ、集団ロールシャッハ・インクブロットテスト、レビューなどの側面を提示している。最後に、既存の研究の成果と課題をまとめ、中国におけるロールシャッハテストの展望を述べている。既存の研究に存在する問題点は、主に以下の通りである。(1) ロールシャッハテストの地域化の試みはあるが、これは初期段階のも

のであり、その一部は地域的なものであり、国の規範はまだ長い道のりを辿っている。(2) 臨床応用における研究や経験は、説得力のある結論を支持するには十分ではない。臨床研究は、統合失調症を中心に行われてきた。試験自体や試験中のすべての指標の信頼性や妥当性についての結論を支持するにはデータが十分ではない。研究は探索的なものであり、いくつかの分野にしか関与していない。(3) 欧米諸国の研究が追従しておらず、ほとんどがCSに関わるものであるが、欧米諸国ですべてに新しいロールシャッハテストのシステムが開発されている。(4) ロールシャッハテストを研究・応用する専門機関がない。中国には、ロールシャッハのオリジナル図版や参考書を購入できる権威ある機関がない。

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