

Rorschach test in murderers: a systematic review of the literature 1946-2021 I – single case studies & miscellanea

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Abstract

A total of 91 studies on Rorschach test in murderers from 1946 to 2021, written in English (62), French (13), Italian (12) or other languages (N = 4; Portuguese, Spanish and German) were reviewed, searched from the main databases (PubMed, Medline Complete, Embase, PsycINFO, PsycNET, PEPWeb, Cochrane, Gallica and Perseus) and other relevant sources (Google scholar; books and journals in the Rorschach field; Rorschach bibliographies; Buros MMY Mental Measurement Yearbooks), as well as from researcher networks (academia.edu, researchgate.net) and from the list of references of identified articles. Literature searching, study selection, screening and data extraction were carried out independently and concordantly by two authors. All the papers containing data on the Rorschach test in murderers were included, but only the contributions whose full text pdf was available were considered. Five types of studies were identified: 1) Literature reviews (N = 4); 2) Single case studies (N = 31); 3) Descriptive studies on murderer samples without controls (N = 20) or compared with normative data (N = 2); 4) Case-Control group comparative studies (N = 28), 5) Miscellanea (N = 6). All the studies have been summarized in detail, so that they almost always replace a direct reading. The present paper concerns single case studies (N = 31), without (N = 10) or with (N = 21) Rorschach record, and miscellaneous studies (N = 6). The results are extensively discussed, focusing on forensic implications and indications for future research.

Keywords: Homicide, Murder, Murderer, Rorschach test.

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Introduction

The psychological and psychiatric assessment of authors of homicide is of paramount relevance in the forensic practice, in order to address issues of competence to stand trial, mental state at the time of offense and current dangerousness, according to the principles of EBMPA (Evidence Based Multimethod Psychological Assessment) (Erard & Evans, 2017; Giromini & Zennaro, 2019).

In this field the Rorschach test, blew out its first hundred candles since the publication of Psychodiagnostic (1921), the masterpiece of Herman Rorschach, and confirmed itself until to-day as the longest-lived and one of the most used psychodiagnostic tests, as well as a psychometrically valid tool (Zizolfi, 2016), in murderers' assessment too (Grattagliano, et al., 2019a, 2019b).

Until 2013, the Rorschach test has stably occupied the third place, immediately after the MMPI and WAIS, among the most widely psychological tests used in forensic psychological and psychiatric practice (Archer & Wheeler, 2013): more than one third of professionals made systematic use of the Rorschach when assessing criminal subjects' mental status in order to determine whether they are of sound mind and admissible to undergo trial (Archer & Wheeler, 2013). More recent data from an international survey are less favorable, but still the Rorschach ranks ninth in overall forensic assessment, and respectively fourth in child protection, fifth in child custody and seventh in insanity evaluation (Neal & Grisso, 2014). Most recent data from an Italian sample of 110 psychologists show that the Rorschach ranks fifth in malingering assessment (Giromini et al., 2022).

As concerns Rorschach psychometric validity, the outstanding meta-analysis by Mihura, Meyer, Dumitrascu & Bombel (2013) completed the work of refoundation of the psychometric bases of the Rorschach, convincing the most bitter opponents of the first hour (Wood, Garb, Nezworski, Lilienfeld & Duke, 2015) and almost putting an end to the so-called 'Rorschach controversy' (Zizolfi, 2016). As a consequence, despite some recent criticism (Areh, Verkampt, & Allan, 2021), the Rorschach test is not challenged at unusually high rates, when compared to other psychological tests, in the United States and in selected European courts (Viglione, et al., 2022).

Up to-day, the Italian Rorschach expert can use three different well standardized and psychometrically valid Rorschach methods (Zizolfi, 2016):

- that by Scuola Romana Rorschach (SRR), the most ancient Rorschach institution in the world, founded in 1938 by Carlo Rizzo (Cicioni, 2020; Parisi, & Pes, 2010; Rizzo, Parisi, & Pes, 1980);

- the CS Comprehensive System (Abbate & Porcelli, 2017; Exner, 1986);
- the R-PAS, Rorschach Performance Assessment System, an evolution of CS (Meyer, Viglione, Mihura, Erard, & Erdberg, 2013, 2015; Mihura & Meyer, 2018).

For all these reasons, it seems to be of the greatest interest to analyze the papers on the Rorschach test in murderers, along a systematic all-inclusive comprehensive review, aiming to critically evaluate these contributions from a methodological point of view, and to offer valid suggestions for clinical and forensic applications, as well as useful indications for future research.

The literature on Rorschach test in murderers was just previously reviewed, on a descriptive and not systematic basis, without the aid of electronic databases searching, by Ferracuti (1961), Frank (1994), Gambineri (2004a) and Cimino (2018a), who respectively examined 5, 11, 8 and 17 studies.

A much larger total of 91 studies were included in our systematic all-inclusive comprehensive review.

Five types of papers were identified:

- a) Literature reviews (N = 4);
- b) Single case studies, without (N = 10) or with (N = 21) Rorschach record;
- c) Descriptive studies on murderer samples without controls (N = 20) or compared with normative data (N = 2);
- d) Case-Control group comparative studies (N = 28);
- e) Miscellanea (N = 6).

For each of these five categories, every paper is described in chronological order, resuming all the major details, with frequent citations (in italics), aiming to replace, as far as possible, the reading of the full text: anyway, the interested reader may always request the original pdf to the first author¹.

The present first contribution concerns single case studies (10 without Rorschach protocol and 21 reporting Rorschach record) and miscellaneous studies (N = 6).

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Methods

Search Strategy

Two reviewers (S.Z.² and D.Z.) independently searched the literature until October, 15, 2021, when the search was completed. The search strings were constructed using a combination of the following terms “Rorschach”, “Rorschach test”, “Homicide”, “Murder” and “Murderer”, in five different languages: English, French, German, Italian and Spanish. The search strings were modified to suit the corresponding database interface. The electronic search was conducted across: a) nine electronic databases (from their respective dates of inception): PubMed, Medline Complete, Embase, PsycINFO, PsycNET, PEPWeb (Psychoanalytic Electronic Publishing, Web Version), Cochrane, Gallica and Perseus; b) two researcher networks (academia.edu; researchgate.net); c) a list of the most relevant journals in the field, including: Assessment, Journal of Clinical Psychology, Journal of Consulting Psychology, Journal of Personality Assessment, Journal of Projective Techniques, Perceptual and Motor Skills, Psychological Assessment, Psychological Bulletin, Psychological Reports, Psychologie Clinique et Projective, Rorschachiana. A manual search was performed on: d) Google scholar; e) the complete series of Buros MMY Mental Measurement Yearbook; f) three Rorschach bibliographies (Chiari, 1964; Lang, 1966; Rorschach Archives, 2015). In addition, a manual search was conducted of the analytical indexes of the most relevant books on the Rorschach, and of the list of references of identified articles, with no language limitations: by this way, articles in Arabic, Finnish, Norwegian, Portuguese and Swedish were identified too. Finally, an article in press was directly collected by colleagues in the field (Cicioni, Caravelli, D’Agata, & Della Vecchia, in press).

Eligibility Criteria

In order to minimize publication bias and to encompass a full comprehensive literature review, as inclusive as possible, all the papers mentioning the Rorschach test in murderers, containing first hand data and/or considerations, were included.

Thanks to the extraordinary work of one of us (P.L.), the full text of all the studies identified by search strategy was obtained, with the only exceptions of the references from D.A.I. (Dissertation Abstracts International) and from unpublished theses.

Exclusion Criteria

Only the contributions whose full text was available for throughout analysis were considered³: for this reason, the references from D.A.I. and unpublished theses were neither listed nor examined.

One paper accepted for publication but still waiting to be printed was considered too (Cicioni, Caravelli, D’Agata, & Della Vecchia, in press). 103 papers were identified.

Nine papers, presenting Rorschach data from mixed criminals (not only murderers) were excluded (Dorr & Viani, 2006; Franks, Sreenivasan, Spray & Kirkish, 2009; Keltikangas-Jarvinen, 1978; Parrot & Briguet-Lamarre, 1965; Rader, 1957; Schachter, 1975; Walters, 1953; Weizmann-Henelius, 2005 and 2006)⁴. Timsit & Bastin (1987) study was not included, because it presented data from 9 murderers and 11 homicide attempters, as well as the study by Norbech, Gronnerod, & Hartmann (2016), presenting data from 18 murderers and 5 homicide attempters.

The article by Ermentini (1990) was excluded too: it promised to show comparative Rorschach data, without specifying the method used in evaluating the test, from 30 chronic schizophrenics convicted for murder (20 males, 10 females; mean age: 44 years) undergoing forensic evaluation in order to assess competence to stand trial and to take criminal responsibility, compared with 60 chronic schizophrenics with no criminal behavior (40 males and 20 females), examined for clinical purposes. No quantitative data from these two groups were mentioned; rather, the contribution is limited to a list of Rorschach findings considered typical of schizophrenia according to European traditional Rorschach schools, with useful corresponding examples.

Data Extraction

The following data for each considered paper were independently extracted by two reviewers (S.Z.⁵ and P.L.): authors, publication year, language, nationality, Rorschach method, setting (forensic, clinical, experimental), study design, number of cases (murderers), characteristics of cases (sex, age, schooling or education, marital status, job, psychiatric state), features of murder (weapon; types: familicide, parricide, matricide, sexual homicide, rage murder, catathymic homicide, and so on), features of victim/victims (sex, age, schooling, marital status, relationship with murderer), number of controls, type of controls, publication of a complete Rorschach record (response phase, clarification or inquiry phase, locations and determinants inquiry, response scoring, summary of scoring). In the case of lack of consensus between the two reviewers regarding the systematic review process, the disagreement was resolved by discussing between them. If consensus was not still reached, a third reviewer (D.Z.) resolved the disagreement.

2 First Author

3 A pdf copy of each analyzed article is available upon request to the first author (S.Z.), e-mail: zizolfi@iol.it

4 A pdf copy of each excluded article is available too, upon request to the first author (S.Z.), e-mail: zizolfi@iol.it

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Results

Single case studies, without Rorschach protocol (N = 10)

Table 1 shows the main features of 10 single case studies, without Rorschach protocol, listed in chronological order.

Authors	Language	Nation	Rorschach Method ¹	Setting	Murderer ²			Victim			Murder	
					Sex	Age	Diagnosis	Sex	Age	Type	Weapon	Type
Sacerdoti e Rigo, 1960	Italian	Italy	Bohm, 1955 ³	Forensic	M	16 y	Normal	F	?	Teacher	Knife	Sexual Homicide
Bernstein, 1979	English	USA	NS	Forensic	M	7 y 8 m	Normal	F	8 y	Girlfriend	Knife	Sexual Homicide
Schlesinger, 1998	English	USA	NS	Forensic	M	30 y	Personality Disorder	F,F, M,F	25, 26 y + ?	2 Girlfriend + Children	Knife	Serial Sexual Homicide + Children Homicide
Schlesinger, 2002	English	USA	NS	Forensic	M	28 y	Personality Disorder (?)	F	23 y	Girlfriend	Knife	Stalking Catathymic Sexual Homicide
Meloy, 2010	English	USA	Exner CS, 2003	Forensic	M	36 y	Personality Disorder	M	13 y	Son	Drowning in bathtub	Catathymic Infanticide
Cardoso De Souza & Resende, 2012	Portuguese	Brazil	Exner CS, 2003	Forensic	F	17 y	Antisocial Personality	M	?	Ex boyfriend	Fire arm	Drug Related Crime
Kulkarni et al., 2012	English	USA	NS	Forensic	F	16 y	Schizophrenia Paranoid Type	F	?	Sister	Hammer	Delusional Homicide
De Ruiter, 2013	English	Netherlands	Exner CS 2003	Forensic	M	33 y	Personality Disorder	F, F, F	?	Wife and 2 Daughters	Metal Baseball, Suffocation	Familicide
Orellana et al., 2013	English	Chile	NS	Forensic	F	58 y	Psychorganic Psychosis	F	?	Mother	Drowning in bathtub	Matricide, Delusional Based
Aklin, 2017	English	USA	R-PAS, 2013	Forensic	M	47 y	Metamphetamine Psychosis	M	34 y	Stranger	Knife	Rage Murder Drug Induced

¹ NS: Not Specified

² At the time of murder

³ Be-Ro plates (Behn-Eschenburg, 1921) were administered 20 days after the Rorschach, with similar results

Most of these dedicated few descriptive not specific lines to Rorschach test, without reporting psychodiagnostic quantitative data:

- “...good reality orientation and integration” in a pre-meditated eight-year-old murderer (Bernstein, 1979);
- “...reasonably adequate relationship to the stimulus material... marked lack of empathic capacity, as evidenced by his providing only one human (movement) perception – a trait consistent with both narcissistic and antisocial features... perception of ‘ovaries of a woman’, given to the traditionally considered male card, (suggesting) conflict with his male self-image...”, in a serial homicide with pathological narcissism (Schlesinger, 1998);
- “The Rorschach displayed no signs of a thought disorder; his reality testing was adequate, there were no bizarre perceptions, and his various responses showed adequate relationship to the stimulus material on which they are based”, in a quasi-normal stalker (Schlesinger, 2002);
- “...positive evidence for a severe thought disorder” in a case of paranoid schizophrenia (Kulkarni, Deshmuck, Sorter, & Barzman, 2012);
- 37 responses with elevations of the CS Depression-Index and the CS Hypervigilance-Index, according to CS Exner (2003), in a case of DSM-IV-R Axis II Avoidant Personality Disorder and Dependent Personality Disorder (De Ruiter, 2013);
- “...psychotic organization of personality with serious flaws in reality testing and judgment” in a case of mat-

ricide associated with a lesion of the ventromedial prefrontal cortex (Orellana et al., 2013).

Sacerdoti & Rigo (1960) reported a more extensive description of Rorschach features in a 16-year-old normal sexual homicide, but unfortunately they did not specify quantitative scores.

Meloy (2010) reported a detailed, still not complete, CS picture (Exner, 2003) of a cathathymic infanticide: “...Mr L. produced a normative amount of responses ($R = 25$), he was highly defended against his own affects ($L = 5.25$) and evidenced a complete affective shutdown ($FC+CF+C = 0$). His attachment capacity and anxiety were normal ($T = 1, Y = 1$). Most notably he produced only one human detail response, an indication of his lack of whole object representations, a likely inability of mentalize, and the absence of empathy toward others ($M = 0$). He was bereft of any aggression responses ($Ag = 0$) and showed no expectations of cooperative interactions with others ($COP = 0$). The only significant clinical index elevation was a maximum score of 5 on his Coping Deficit Index, suggesting global deficiencies in social and interpersonal skills. His reality testing was within the normal range ($X\% = 20, XA\% = 80$), and there were no indications of psychosis. There was no suggestion of chronic impulsivity ($AdjD = 0$)”.

Cardoso De Souza & Resende (2012) reported a detailed CS picture (Exner, 2003) of the Rorschach record of a female adolescent murderer, 17 years old, a drug dealer who killed by fire arm her ex-boyfriend, because he

hadn't paid for the drug. This young female showed good cognitive capacities (XA% = 0.82; WDA% = 0.86; Zd = +1.0; Zf = 8; P = 6; WSum6 = 6), but she was unable to understand others' thinking and acting (M- = 2), displaying affective constriction and a tendency to poor emotional control (FC = 0, CF = 0, C = 1).

Acklin (2017) administered the Rorschach and the MMPI-2 in a married, 47-year-old man, born in the West Coast and raised in Southern California, drug and medication free, during a two-day examination at the local jail where he was in pre-trial custody, charged with second degree murder in the death of a 34-year-old man, and referred by the public defender for a psychological evaluation to assess his competence to stand trial and take criminal responsibility in the context of prosecution for a grisly murder: the decedent's body was dismembered into seven parts separated by six circumferential incised wounds; 49 additional sharp-force injuries to various body parts were also present; the decedent's dismembered body parts were discovered in a shallow grave in suburban Honolulu or found in a state of decomposition on an adjacent hillside. The murderer "...had an initial psychotic episode in 1972⁶", after heavy methamphetamine use, with his first psychiatric hospitalization, followed by several psychiatric treatments, all organized around methamphetamine dependence. The whole experience of the rage murder was surrounded by acute paranoid delusions and hallucinations in the context of heavy methamphetamine abuse. According to the R-PAS method (Meyer, Viglione, Mihura, Erard, & Erdberg, 2013), the Rorschach test showed: an extremely high score on the TP-Comp score (SS = 142, 99th PR), on the WSum-

Cog score (SS = 148; 99th PR) and on SevCog score (SS = 148, 99th PR), typically more indicative of severe disruption in thought processes, of psychotic-level lapses in conceptualization, reasoning, communication and thought organization and of level of thinking and reality testing disturbances that would typically be found in individuals with drug-induced psychotic disorders or schizophrenic disorders. As regards cognitive features and R-PAS psychosis indicators, this record is indistinguishable from that of one schizophrenic patient who served for comparison. As regards affective features, "His high proportion of Color dominant responses [(CF+C)/SumC = 126, 96th PR] indicate very poor emotional controls and the likelihood of explosive emotional reactivity. Interpersonally, his abundance of responses involving Aggressive Content (SS = 120, 91th PR) and Aggressive Movement (SS = 110, 75th PR) indicates an identification with power, aggressiveness, and dangerousness. He may also fear elements in his environment and vacillate between fears of attack and urges to assault others. He has difficulty understanding people as complex and whole individuals, as indicated by his difficulty in representing whole humans in his responses. His low COP score (SS = 88, 21st PR) indicates that he also views relationships as non-supportive and uncooperative". Finally, "His extremely high score on CritCont%. (SS = 140, 99th PR) draws on a range of codes reflecting response imagery that is often censored or inhibited in general social interactions".

Single case studies, reporting Rorschach record (N = 21)

Table 2 shows the main features of single case studies, reporting full Rorschach records, listed in chronological order.

Table 2 – Rorschach Test in Murderers 1946-2021 – Single Case Studies, reporting Rorschach record

Authors	Language	Nation	Rorschach Method ¹	Setting	Murderer ²			Victim			Murder		Rorschach Test Record				
					Sex	Age	Diagnosis ³	Sex	Age	Type	Weapon	Type	Response Phase ⁴	Inquiry ⁵		Response Signature	Summary of Scoring
														Localizations	Determinants		
Rabin, 1946 (Beck, 1946)	English	USA	Beck, 1944	Clinical	M	39 y	Major Depression	F	39 y	Wife	Woodsmen Axe	Homicide and Attempted Suicide ^{6,7}	YES ⁸	NO	NO	NO	YES
De Waele, 1957, 1957a	French	Belgium	Klopfer & Kelley, 1942	Clinical	M	25 y (?)	Not Specified	M	54 y	Father	Poker	Parricide; test-retest ⁹	YES	YES	YES	YES	YES
Rizzo & Ferracuti, 1959	Italian	Italy	SRR	Forensic	M	29 y	Dissociative Psychosis	M	?	Colleague Policeman	Gun	Homicide and Attempted Suicide	YES	YES	YES	YES	NO
Kahn, 1960	English	USA	Schafer, 1954	Forensic	M	23 y	Sociopathic Character – Legally Sane	-	-	Mother and Passengers of Airplane	Timebomb	Matricide; Mass Murderer (44 persons)	YES	YES	YES	YES	NO
Michaux & Michaux, 1963	English	USA	Klopfer & Kelley, 1942	Forensic	M	17 y (32 y)	Schizophrenia	F	Young	Unknown	Knife	Sexual Homicide ¹⁰	YES	YES	YES	YES	YES
McCully, 1971 ¹¹	English	USA	NS	Forensic	M	17 a.	?	F, F	Unknown	Mother and Sister ¹²	Gun	Familicide And Suicide	YES	NO	NO	NO	NO
McCully, 1978	English	USA	NS ¹³	Forensic	M	18 y	Borderline Schizophrenia; Sociopathy	F, M, M	?, ?, 4y	Mother, Step-Father, Half-brother	Gun	Familicide ¹⁴	YES	NO	NO	NO	NO
McCully, 1980	English	USA	NS	Forensic	M	24	?	//	//	//	//	//	NO	NO	NO	NO	NO
Lewis & Arsenian, 1982	English	USA	NS	Clinical	M	?	Schizophrenia, Paranoid Type	F	?	Wife	Baseball Bat, Knife	Uxoricide; test-retest ¹⁵	YES	YES	YES	YES	NO
Lane, 1984 ¹⁶	English	USA	NS	Forensic	M	17 y (32 y)	Schizophrenia	F	?	Mother	Drowning In bathtub	Matricide, Delusional Based	YES	(YES)	(YES)	(YES)	(YES)

¹ NS: Not Specified; SRR: Scuola Romana Rorschach; R-PAS: Rorschach Performance Assessment System
² At the time of murder; age and diagnosis at the time of testing are reported in brackets if different
³ According to the Author(s)
⁴ Otherwise called 'Collection' or 'Association' or 'Performance' Phase
⁵ Otherwise called 'Clarification' Phase (CS; R-PAS)
⁶ The first Rorschach test was administered 2 months before homicide, the second, 6 months later, the third, 18 months later
⁷ The same Rorschach records were analysed by Beck (1946)
⁸ Only of the first test
⁹ The first Rorschach test was administered 4 months before homicide, the second, 3 months after the murder (7 months after the first test)
¹⁰ The same Rorschach record were analysed by Lane (1984)
¹¹ Reprinted with no changes in McCully, 1987
¹² Then, he killed himself
¹³ Three sets of inkplates were presented to the subject over a period of one month: Rorschach Plates, Be-Ro plates (Behn-Eschenburg, 1921) and Ka-Ro plates (Kataguchi, 1970)
¹⁴ The same subject was re-tested six years later, but the protocol is not published: see McCully (1980)
¹⁵ The first Rorschach test was administered approximately 10 years after homicide, the second, 1 year later, following one year psychotherapy
¹⁶ As a tribute to Robert Lindner, the Author gives a sequential psychoanalytical content analysis of the Charles's Rorschach, as published by Michaux & Michaux, 1963

6 Most likely, the date is wrong, due to a misprint.

Table 2 (continuation) – Rorschach Test in Murderers 1946-2021 – Single Case Studies, reporting Rorschach record

Authors	Language	Nation	Rorschach Method ¹	Setting	Murderer ²			Victim			Murder		Rorschach Test Record				
					Sex	Age	Diagnosis ³	Sex	Age	Type	Weapon	Type	Response Phase ⁴	Inquiry ⁵		Response Signature	Summary of Scoring
														Localizations	Determinants		
Gacono, 1992 ⁶ , Gacono, 1997	English	USA	Exner CS, 1986, 1993	Forensic	M	31y	DSM-III-R Personality Disorder	F	?	?	Strangulation	Sexual Homicide	YES	YES	YES	YES	YES
Meloy, 1992 ^{7,8} , Meloy, 1997	English	USA	Exner CS, 1986	Forensic	M	24y	Borderline Personality	M	43y	?	Gun	//	YES	YES	YES	YES	YES
Meloy & Gacono, 1993	English	USA	Exner CS, 1986	Forensic	M	21y	Borderline Personality; Psychopathy	M	56y		Pedophile church organist	Psychopathic Homicide	YES	YES	YES	YES	YES
Husain & Dreyfus, 2001	French	France	NS	Forensic	M	?	Perverse-Paranoid Personality	M	?		Policeman	?	YES	(YES)	(YES)	NO	NO
Claus & Lidberg, 2003	English	Sweden	Exner CS, 1993	Forensic	M	22y	Sadomasochistic Personality	M	?	?	Knife	Amicide	YES	(YES)	(YES)	NO	NO
Ravit & Roman, 2009	French	France, Switzerland	NS	Forensic	F	25y	?	F	4y	Daughter	Knife	Filicide	YES	YES	YES	YES	NO
Norbeck, 2020	English	Norway	R-PAS	Clinical and Forensic	M	Mid 40y	Rage Murderer	M	?	Acquaintance	Knife	Rage Murder	YES	YES	YES	YES	YES

¹ NS: Not Specified; SRR: Scuola Romana Rorschach
² At the time of murder; age and diagnosis at the time of testing are reported in brackets if different
³ According to the Author(s)
⁴ Otherwise called 'Collection' or 'Association' or 'Performance' Phase
⁵ Otherwise called 'Clarification' Phase (CS; R-PAS)
⁶ Reprinted, with major details, in Gacono, 1997
⁷ Reprinted, with no changes, in Meloy, 1997
⁸ Meloy re-examined the published Rorschach (Kaiser, 1970) of Sirhan Bishara Sirhan, the Palestinian immigrant man who assassinated democratic USA presidential aspirant, Robert F. Kennedy, on June, 5, 1968.

Due to space limitations, only the most relevant aspects are mentioned for each paper, while the interested reader is referred to the original articles for all further details.

Rabin (1946) described a case of a 39-year-old patient with recurring major depression, who was administered the Rorschach three times, according to Beck (1944): the first one during a hospitalization, one month before his discharge, and two months before the murder of his wife (when still depressed); six months after his homicide and attempted suicide (8 months after the first test; fully remitted); one year later (20 months after the first time; fully remitted). Only the performance phase of the first test is reported, without any indication of inquiry and response signature. The summaries of scoring are quite different: R risen from 15 to 38 and 46, M from 1 to 2 and 3, FC from 2 to 4 and 5, CF from 0 to 2 and 5, H from 1 to 3 and 4, Affectivity Index from 0.20 to 0.45 and 0.41. *“The total picture is that of greater relaxation and dilatation of personality... the reaction time for the first responses has been shortened markedly and the range of interests broadened... stereotypy has been substantially reduced and an increase in the popular responses may be noted. Affect has been liberated... Color shock has practically disappeared, since the repressed affect was released... A comparison of the two (first) records readily shows the extreme reduction of tension...”*. Anyway, *“The Rorschach has not solved the mystery of overt criminal and psychopathological act. It does, however, as shown in the first record, demonstrate the dangerous potentialities of the combination of color and shading shock. A combination of color and shading shock should be considered by the examiner as an ominous warning of the facets of aggression – homicide and suicide. A record of this type should always remain suspect, though of course it does not indicate the point at which dysphoric ideas and repressed emotionality become transformed into the explosive overt action”*.

Beck (1946), analyzing the same case, came to perhaps identical conclusions.

De Waele (1957) clinically described in great details the case of a 25-year-old male parricide, who was administered two times the Rorschach test according to Klopfer & Kelley (1942): the first test (R = 38), 2 months before the homicide of his 54-year-old father by means of a poker; the second one (R = 31), 3 months after the murder (7 months after the first test) (De Waele, 1957a). This case report is very interesting, as well as the two Rorschach records, including all the information for further evaluations, which can be fully re-evaluated according to different Rorschach methods. It deserves a careful reading because of the richness of ideas and suggestions offered, which is impossible to adequately summarize here, for reasons of space.

Rizzo & Ferracuti (1959) reported a very poor record of a patient with dissociative psychosis (10 responses; very long reaction times: 110-180 sec; 3 rejections: II, IX and X plate; no bizarre contents).

Kahn (1960) presented a psychological test evaluation (WAIS, Rorschach, TAT, Sentence Completion Protocols, Human Figure Drawings) of an individual who blew up an airliner killing forty-four people, by means of a time-bomb, in order to kill his mother. *“The patient’s psychiatric diagnosis was sociopathic character – legally sane. He was found guilty of murder, adamantly refused appeal, and was executed”*. Rorschach test consisted of 27 responses, and the report included all the information necessary for further interpretations. Analysis of the formal quality of responses evidenced an increasing tendency, as he continued the task, to combine precisely perceived elements into illogical combinations *“...culminating in combinations so arbitrary as to be scored minus. In fact, all of his minus form responses occurred on the latter three cards and all involved this type of distorted logic. Examples were the responses to Card VIII of the frog with pincers for a head; to Card IX, of a man with a turban looking through a fish bowl and grasping flowers below it; to Card X, of seahorses riding each other and carrying a torch and, also to Card X, of the dog with its*

heart showing. The patient's initial response to color was very impulsive and blatantly hostile and destructive. However, after this first rather direct expression of uncontrolled affect, it appeared that attempts at intellectual control of his angry impulses came to play... under stress he tended to fall back on rather primitive reasoning and to show considerably weakened reality-testing". Thematic content analysis revealed intense hostility, with prominent both sadistic and masochistic fantasies: "Almost forty percent of his Rorschach responses had sadistic or masochistic content in terms of Schafer's thematic analysis (1954). His several Rorschach responses of animal crashing into immovable objects, such as the cat smashed flat into a tree (Card VI) and the two horses smashing together (Card IX), were indicative of the prominent attacking themes, with self-destructive consequences". The Rorschach also clearly indicated his prominent anxious concern about impaired body image and his own masculine integrity, as suggested by "His Rorschach responses to Card VI, 'a giant with crippled, deformed hands', and to Card V, 'people with deformed legs', along with many other responses of severe body damage".

Michaux & Michaux (1963) studied Robert Lindner's 'Charles' in 1957, when he was 32 years old, i.e. 15 years after the sexual homicide of a young woman committed in 1942 and 13 years after he attempted to kill his psychotherapist, Robert Lindner, in 1944, after the first two years of treatment as a prisoner with a diagnosis of schizophrenia. Late in 1957, after 15 years in various prisons, 'Charles' became eligible for parole, made application, and was administered the Wechsler-Bellevue Intelligence Scale, Form I (Verbal IQ = 98, Performance IQ = 112, Full Scale IQ = 105), the Bender Gestalt test, the Sentence Composition Test, the M-H Sentence Completion Test, the Draw-A-Person test, the Thematic Apperception Test and the Rorschach test according to Klopfer & Kelley, 1942. The protocols of all tests are fully reported. "The Rorschach Test performance was an extremely guarded one, characterized by an acute need to maintain control and by feelings of not being equal to the task. Structurally, the personality depicted is more typically schizoid than hysterical, with indications of inertia, reality contact at a borderline psychotic level, and affective blunting. Ability to conform is retained, except under conditions of stress: (1) in a new and unknown situation, (he) may avoid expressing himself, and thus control himself, by becoming evasive, negativistic, or passively hostile, (2) in a highly charged emotional situation, where the formal requirements are not clearly outlined, he may lose reality contact and react with an outburst of infantile emotion". As a consequence, in 1958 'Charles' was committed to maximum security confinement in a mental hospital.

In his seminal book, McCully (1971) applied Carl Gustav Jung's archetypal psychology theories to the interpretation of the Rorschach test, with some example case reports. Case 5 is dedicated to "The ego against fate in the adolescent world: a double homicide and a suicide", i.e. to a male adolescent, 13 years and 7 months of age at the time of testing (Rorschach and Thematic Apperception test -

TAT), who underwent a complete personality assessment by the school psychologist, at the request of his sister, 12 years older, who perceived that something was amiss in her brother, and insisted that he obtained expert psychiatric evaluation. The professional's recommendation was for treatment, which went underheeded. Exactly one year later, early one evening, when his father was not at home, he took a gun, killed his mother, and then killed his sister, apparently as she attempted to interfere. Then, he killed himself. McCully reported the performance and the inquiry phase of the Rorschach test. Unfortunately, no indication occurs regarding locations, determinants and signature of the Rorschach responses, so that a re-evaluation of the Rorschach record according to other methods is almost impossible. In addition, content analysis of the responses is highly conjectural, by explicit admission of the same Author.

McCully (1978) reported the results of the examination, in 1972, of an 18-year-old male, awaiting trial in the psychiatric ward of a state prison for the murder of his mother, his step-father (third husband of his mother) and his 4-year-old half-brother, all fired from a gun after the thanksgiving dinner, five months before the testing ("The laugh of Satan: a study of a familial murderer"). Detailed biographical data were provided; a descriptive psychiatric diagnosis of 'borderline schizophrenia' and 'sociopathy' was suggested. The subject had been given an initial Rorschach immediately upon entering the prison psychiatric unit, four months before the additional sets included in the paper. Three sets of inkplates were presented to the subject, over a period of one month: the usual Rorschach at the first session, the Behn-Rorschach plates (Behn-Eschenburg, 1921) in the second session, the Ka-Ro plates (Kataguchi, 1970) in the last session. Since the author focused on content interpretation in the light of Jung's concepts, only the performance phase of testing is verbatim reported, and no information is provided regarding inquiry (localizations and determinants of responses), response signature and summary of scoring.

The same subject was re-tested with the Rorschach in 1978, six years after the first administration, when he was 24 years old (McCully, 1980) ("Satan's eclipse: a familial murderer six years later"): "In the interest of objectivity, the original Rorschach materials (1972) and present findings (1978) were submitted blindly to a Rorschach analyst, Dr. Rosemary Gordon-Montagnon of London, a founding member of the British Rorschach Register, who was known not to have read the original article and who had no knowledge about the subject". During the test-retest period, the subject remained in a psychiatric prison hospital for a time, then was removed to an ordinary prison environment; in 1978, he requested a transfer to a different, more open as regards security, and less crowded prison setting: this request led to the 1978 examination. He received no formal psychotherapy at all during the 1972-1978 period. The paper presented only a few and brief citations from the retest Rorschach, and from the blind evaluation of test and retest by the independent expert. From a blind com-

parison of two sets of Rorschach data obtained seven years apart, this experienced clinician drew conclusions similar to the subject's own appraisal of significant changes in his inner world and outer attitudes, taken place without any professional intervention. The subject attributed them to a religious orientation. McCully (1980) conclusive remarks are as follows: "*The findings have significance for reports by criminals in prison who report changes in themselves due to religious involvement. Society is often skeptical of these reports perhaps justifiably in many instances. However, this adolescent was not in midlife with a fixed personality structure, and was favoured perhaps by his youth, intelligence and advantaged education... Lastly, the materials point toward spontaneous corrective sources within the human psyche, a feature we need to learn to better identify*".

Lewis & Arsenian (1982) studied "*Rorschach projective imagery, artwork, and behavior of an artistically trained*" white male (age not specified) who had killed his wife ten years before, attacking her as she slept first using a baseball bat and then a wood carving knife, because "*she was sleeping with hippies*": ten years before the murder, he had suspected his wife of sexual infidelity and had received a psychiatric diagnosis of paranoid schizophrenia. The murder "*...occurred during a period of intensified psychological disturbance (he was not eating or sleeping well, had been experiencing hallucinations and restless anxiety for a period of several days)*"; he was arrested the day following the death, and found not guilty by reason of insanity two years later. He passed his first nine years after the murder in locked seclusions of psychiatric hospital (for threat of serious physical harm to staff), suffered repeated periods of regression, had almost completely stopped painting, and made only escorted trips into the community. During the last year, he has shown considerable progress: he left the hospital regularly on his own to attend art school, he stayed overnight with his parents and he was not perceived as threatening by staff or other patients: for these reasons, he was considered suitable for a psychotherapeutic treatment. "*A major focus of psychotherapy has been a thorough reliving of the murder, remembering detail by detail actions, thoughts, and feelings as the crime unfolded. Remembering was emphasized to allow him to discharge pent-up emotions and thereby reduce guilty associations, and hopefully revise his self-concept to enable him to spend time living and painting outside an institution*". The Rorschach test (not specified the method) was administered twice: before and after one year of individual psychotherapy. Response and clarification phases were verbatim reported, but locations of response are sometimes unclear, and response scoring completely lacked: therefore it is rather difficult, but not impossible, to re-read the two Rorschach protocols according to a different methodological approach. Denial and blocking dominated the first Rorschach, with repeated verbalizations of avoidance of anxiety by denial, intellectualization and disowning statements and images; failure to respond to Card IV (which could be seen as a brutish male with a club) can be interpreted as he disowns an image that recapitulates the fatal act. On his second

Rorschach, following a year of psychotherapy (with evidence of 'uncovering' effect), "*...he is less constricted, elaborates more responses, shows a number of human movement responses, and expanded productivity to color cards suggesting greater freedom to express feelings. Also in line with the hypothesis of intrusion, responses involving pointed objects have doubled with more variety, and without disowning verbalizations...the second go-round on the Rorschach also produced the image of 'horns' on Cards V and VII. Elsewhere in connection with his drawing we mention the symbolism of horns as a mark of the deceived husband, the cuckold...the second Rorschach Card I shows two men seducing and copulating with the same woman, followed by the phrase 'I remember it from long ago'*". On the second Rorschach, he responds "*...to Card IV, that he rejected on Rorschach I, with 'looks like a real big man with big feet and small arms... the whole thing... depressed... too much black... monster with a strange head'. At a risk of overinterpreting this image, we submit that it encapsulates and recapitulates what happened: strange ideas got into his head... he behaved like a monster... he the big man acted on the strange ideas. He now wishes he had weak arms so that the black deed might never have been done. Now feeling depressed and apprehensive that all might come to a black ending, he worries that the monster might yet destroy him (retaliatory anxiety)*". As conclusive remarks, the Authors pointed out that: "*This case demonstrates in Rorschach imagery, 'acting out' behavior, and in the artist's choice of subject matter, the repetition compulsion familiarly associated with trauma. A continuing struggle both to express and hide from himself the violent deed invites a corollary 'murder stays in' to the adage 'murder will out'. In summary, if killing induces trauma, it is followed by catharsis: psychic re-doing and undoing, sometimes directly, sometimes symbolically, in an attempt to unburden the guilty mind. Following trauma, if one engages in creative or projective expression, visual residues of the trauma will intrude and occasionally usurp the field. Symbolically or more directly, the imagery will reveal related artifacts and forces. There are cases where total avoidance with representation by the opposite (saints for devils) may be seen to subvert the thesis, but behind such vigilance is discerned what is guarded against or excluded. The alternation between expression and denial often takes on a phasic appearance. Finally, with the passage of time, while other trauma may dissolve and become assimilated and their pain neutralized, with murder, the irreversible death negates such resolution. It is never complete. Murder stays in, in this case producing a continued psychological conflict after more than 10 years*".

Lane (1984) re-reads the Rorschach protocol of 'Charles', as published by Michaux & Michaux (1963), in light of Lindner's analysis of the case. The paper offers a beautiful example of Rorschach sequential content analysis, response by response and card by card, which integrates in a coherent framework the knowledge of the different stimulus value of the single Rorschach tables, the suggestions of the psychoanalytical theory and the biographical information about the subject: it deserves careful direct reading by anyone more interested.

McCully (1987), is a reprint of the same case reported in 1971, without modifications.

Gacono (1992) (reprinted in Gacono, 1997, with major details), studied 'Brinkley', a 31-year-old white male, who had served 5 years of a 25-year sentence for the sexual murder of a female stranger by strangulation after rape; he was eligible for parole in 7 years, and met DSM-III-R criteria for four personality disorders: Antisocial, Borderline, Narcissistic and Histrionic. 'Brinkley' was administered the Rorschach according CS, and completed the Shipley Institute of Living Scale (WAIS-R IQ equivalent = 110), the Minnesota Multiphasic Personality Inventory (MMPI) (4-5 profile, Pd scale 4 = 85 T score), the Millon Clinical Multiaxial Inventory (MCMI) (elevations on Scales 5–Antisocial and D–Depression), the Self-Focus Sentence Completion Test (SFSC) (score of 21, greater than the mean score – 15.20 – reported for an offender sample), and a semistructured interview designed to complete the Hare Psychopathy Checklist-Revised (PCL-R) (total score = 34, placing him in the severe range of psychopathy > 30). Brinkley's Rorschach was scored with the Exner (1986) CS, and interpretive hypotheses were generated with the Rorschach Interpretation Assistance Program, Version 3. The protocol was also scored for psychoanalytic indices including primitive modes of relating and borderline object relations (Kwawer, 1980), primitive defenses (Cooper, Perry, & Arnow, 1988; Lerner & Lerner, 1980), impressionistic responses (IMP; Gacono, 1990; Gacono, Meloy, & Heaven, 1990), and aggressive content (AgC), aggressive potential (AgPot), aggressive past (AgPast) & sadomasochism (SM) (Gacono, 1990; Meloy, 1988; Meloy & Gacono, 1992). Complete verbatim recording of Rorschach protocol, including response and clarification phases, as well as CS Sequence of Scores and Structural Summary, were reported. As regards his methodological approach, Gacono (1992, 1997) preliminarily and clearly stated: "*Analysis of Comprehensive System (CS) data (Exner, 1986, 1993) alone greatly limits the Rorschach's usefulness for differential diagnosis. A combined methodology is particularly helpful in elucidating the nuances of character style (Gacono, Meloy, & Berg, 1992) and in forensic cases where diagnostic questions arise. In some cases, content analysis (Lane, 1984; Lerner, 1991; Lindner, 1946), in conjunction with CS data, provides added insight into the perpetrator dynamics and can aid in differentiating the psychopath from the sexual psychopath (Gacono & Meloy, 1994; Meloy et al. 1994)*". Major CS variables were selected, as well as the prevalence of primitive (borderline) object relation indices (N = 4; Kwawer, 1980) and of primitive defences such as splitting (N = 4), idealization (N = 4), devaluation (N = 8), projective identification (N = 6), omnipotence (N = 6), dissociation (N = 4) and lower level denial (N = 3). A detailed sequential examination of protocol is reported, response by response and card by card, looking both to CS scores (structural data) and (psychoanalytically oriented) content analysis, in the light of biographical data. These two articles deserve a careful reading, because of the richness of ideas and suggestions

offered, which is impossible to adequately summarize here, for reasons of space.

Meloy (1992) (reprinted with no changes in Meloy, 1997) re-examined the published Rorschach (Kaiser, 1970) of Sirhan Bishara Sirhan, the 24-year-old Palestinian immigrant man who assassinated democratic USA presidential aspirant, Robert F. Kennedy, on June, 5, 1968. Psychostructural and psychodynamic analyses were conducted using reliable and valid methodology that was unavailable at the time of examination. Sirhan Sihran was administered the Rorschach on two occasions, first by Richardson, and then by Schorr, several months later, in the presence of a team of deputies, an attorney, a writer and a legal assistant. Only the first Rorschach was published (Kaiser, 1970), and studied by Meloy, who preliminarily evidenced three difficulties: first, the examiner did not limit the number of responses, yielding a protocol with 63 responses; second, the examiner failed to inquire on 19 (30%) of the responses; third, 'testing of the limits' was made for sex and texture to response 44 (Card VI). The protocol was scored using the Exner (1986) Comprehensive System and interpretive hypotheses were generated with the Rorschach Interpretation Assistance Program, Version 2. The protocol was also scored for defense mechanisms (Cooper & Arnow, 1986, Cooper, Perry, & Arnow, 1988), primitive (borderline) object relations (Kwawer, 1980), Mutuality Of Autonomy (MOA) responses (Urist, 1977), Rorschach indices of predatory violence (Meloy, 1988), and impressionistic responses (Gacono, 1990). The Rorschach was compared to results of a study by Miner and De Vos (1960) concerning Algerian males, and the question of malingering was also considered. Interrater agreement was determined by a second independent scoring. Rorschach data were then compared to psychiatric and psychological diagnoses at the trial, major developmental events in the childhood and adolescence of Sihran Sihran, and his behavior around the time of the assassination. Response (Association) Phase and Inquiry (Clarification Phase) were verbatim reported, as well as CS Sequence of Scores and Structural Summary. Briefly, in contrast to the defense experts at trial who diagnosed paranoid schizophrenia, the data suggested a depressed and suicidal individual organized at a borderline level of personality, with a character pathology consistent with hysterical, paranoid and dependent traits.

Meloy & Gacono (1993) presented the case of a 21-year-old white man, 'Chet', who committed a robbery and homicide; his Rorschach was analyzed and interpreted using both psychostructural (Exner, 1986) and psychodynamic (Cooper, Perry, & Arnow, 1988; Gacono & Meloy, 1992; Kwawer, 1980) methodologies. The study is the fourth in a series of idiographic explorations of personality organization and character formation (Gacono, 1992; Meloy, 1992, Meloy & Gacono, 1992a), using the Rorschach findings to empirically understand two dimensions of personality: the borderline level organization and the psychopathic character. 'Chet' was arrested five days after the homicide of a 56-year-old church organist and

retired Baptist minister, and confessed to the crime. Two weeks after the homicide, when he was in prison, he was administered the Rorschach test, and then the MMPI, the Wechsler Adult Intelligence Scale – Revised (WAIS-R) (VIQ = 96, PIQ = 90, FSIQ = 94) and the Thematic Apperception Test (TAT). The Rorschach was administered using the Exner (1986) Comprehensive System, and Sequence Scores and Structural Summary were generated by Rorschach Scoring program, Version 2. The protocol was also scored for defense mechanisms (Cooper, Perry, & Arnow, 1988), primitive interpersonal modes of relating (Kwawer, 1980), and Aggression scores (Exner, 1986; Meloy, & Gacono, 1992a). Response (Association) Phase and Inquiry (Clarification Phase) were verbatim reported, as well as CS Sequence of Scores and Structural Summary. Rorschach findings indicated both borderline personality organization and psychopathic character formation. On the basis of Chet's personal history, background and behavior, the Authors formulated seven expectable clinical hypotheses, searching for Rorschach data which could support these hypotheses. *Hypothesis 1: There is a strong identification with the aggressor, in this case, the father*, supported by several Rorschach indices: the abundance of aggressive indices, the absence of anxiety and felt helplessness (suggesting the egosynthonic nature of Chet's aggression), the high frequency of space responses ($S = 4$, suggesting a characterologically angry individual who will be sullen and oppositional). *Hypothesis 2: There is a secondary identification with the victim*, confirmed by: 3 aggressive past responses, linked to masochistic orientation; 5 Morbid responses, strongly suggesting a sense of self as injured and damaged; and 3 anatomy responses, indicating a serious preoccupation with physical vulnerability. *Hypothesis 3: There is a primary object relation marked by violent attachment*, as proved by the high frequency of responses indicating violent symbiosis, separation and reunion ($N = 6$), according to Kwawer (1980). *Hypothesis 4: There is a poor modulation of affect and an absence of unpleasant emotion*: as in typical psychopathic subjects, Rorschach indices of violent object relational world, as previously outlined, coexist with the absence of dysphoric or anxious affect. Chet is avoidant of external stimuli emotionally provoking ($Afr = .42$, two standard deviations below the mean for nonpatient men), and highly defended against his own affect ($\Lambda = .93$). *Hypothesis 5: There is a fusion of aggressive and sexual drives, linked to sadomasochism, in the context of the self as an injured object*, as evidenced by SM SadoMasochistic responses where pleasurable affect accompanies a Morbid, aggressive or devalued response. *Hypothesis 6: There is a borderline personality organization*, as evidenced by an analysis of the Rorschach data concerning reality testing, unintegrated identity and defensive operations. Chet's cognitive mediation is unconventional and idiosyncratic ($X+ \% = 30$, $F+ \% = 38$), and his gross distortions of perceptual reality is significant ($X- \% = 30$), but this last index, suggesting severely impaired reality testing, is still within 1 standard deviation of a sample of antisocial personality disordered

men without a diagnosable psychosis ($M = 23$, $SD = 11$; Gacono & Meloy, 1992). Formal thought disorder is also pervasive in this record ($WSum6 = 45$), but all the level 2 scores occur within a violent symbiosis response, suggesting a psychodynamic, rather than structural, basis for thought disorder (Meloy & Singer, 1991): thought disorganizes only when early emotional trauma surrounding the differentiation subphase of separation-individuation is recathected. Second, Chet's lack of an integrated identity is manifest in his use of splitting between good and bad objects, and to alternate between his primary identification as an aggressor and his secondary identification as a victim. Confusion between internal and external reality, pathognomonic of borderline rather than psychotic organization, is evident in the Kwawer (1980) category of boundary disturbance, identifiable in 3 responses, and implicates the defensive use of both projection and introjection, pointing to the borderline person's confusion with the origination of stimuli: is it within me or out here? In psychotic states, we see no confusion, because the boundary is lost (Meloy, 1991). Likewise, Special scores that mark psychotic perception (CONTAM) and psychotic association (ALOG) are absent in Chet's Rorschach protocol (Meloy & Singer, 1991). And third, the defensive operations also implicate a borderline personality organization: of the identifiable defenses in this protocol, 58% are borderline (20% devaluation; 20% projection; 7% projective identification, 11% splitting), 27% are psychotic, and 15% are neurotic. Prominent borderline defenses include devaluation and projection, findings consistent with psychopaths in general (Gacono, 1990). *Hypothesis 7: Psychopathic character formation is present*. Chet is positive to four of the five select Comprehensive System variables that discriminated between psychopathic and nonpsychopathic criminals (Gacono & Meloy, 1991; Gacono, Meloy, & Heaven, 1990), related to pathological narcissism ($Rf = 1$), chronic emotional detachment ($T = 0$), increased self-absorption ($EgoC = .41$) and absence of anxiety or felt helplessness ($Y = 0$).

Husain & Dreyfus (2001) discussed the case of a male murderer tested twice, for forensic purposes, with the Rorschach (method not specified) and the TAT: the first time, when he was suspected for the murder of a policeman but tried for drug traffic and exploitation of prostitution; the second one, two years later, by a different psychologist, when accused and convicted of previous murder. The Authors focused on test-retest as a means that allows to give an answer to the problems (1) of the stability over time of the personality structure and (2) of the relationships between perversion and paranoia. In their opinion, the case in question is particularly interesting, due to the intertwining of perverse aspects and more archaic paranoid psychotic mechanisms. The first Rorschach was interpreted as more typical of a perverse structure, evidenced by the manipulation of the other, the criticism of the object, the lack of responsibility, the suspicion of hidden intentions, the denigration of values, the infantile omnipotence and the presence of narcissistic

traits. In the re-test, persecutory traits are more marked, so that the forensic conclusions of the second psychologist were quite different. According to the Authors, it is not possible to give a conclusive answer to the two questions mentioned above. The paper is an example of the French school of Rorschach evaluation, focusing on behavior during testing and on content and verbalization analysis, and paying little or no attention to quantitative response scoring, not reported. Anyway, Rorschach response and clarification phases were verbatim reported for test and re-test, and, even if location of response is sometimes unclear, and response scoring completely lacked, it is rather difficult, but not impossible, to re-read the two Rorschach protocols according to another methodological approach.

Claus & Lidberg (2003) described an obscure case of deliberate amicide in a patient with hypochondriac preoccupation with internal organs, aiming at exploring relationships between ego-boundary disturbances, as effects of deranged internalization of the parental object, and the formation of sadomasochism. Twenty years later, they analyzed a Rorschach protocol recorded by a female examiner in 'Mario', a 22-year-old male who had never had a girlfriend and killed his only friend, a young Swedish man, whom Mario admired for having dated several girls, met four days after paying a prostitute for a whole night, without any sexual act because he was too drunk for intercourse, and fell asleep, so that Mario felt "...that he had lost both his money and his last self-respect". "Mario felt a sudden impulse to stab his friend in the back and pulled out his knife. According to Mario's account, the friend cried out, 'Mario! Don't do it. Don't do it!'. But Mario said, 'where do you want it? We'll finish this fast? You may choose for yourself, since you have been such a good mate'. Mario stabbed him in the stomach and, to save him from pain, cut his chest and throat. After the murder, Mario bought a can of crab meat to celebrate this 'forceful' act. Mario later explained that he had to kill his best friend, who had become too superior and would have left Mario anyhow. The friendship was a constant reminder of how painful it would be to be forsaken. The death of his friend preserved the relationship and released him from the fear of abandonment". On the basis of a detailed reconstruction of Mario's life, the Authors suggest he was a sadomasochistic subject, characterized by an "...ambivalent relationship with his mother, or rather with an internal maternal object. She was his only close relation, but she was also a dangerous, sadomasochistic person". "In what might be described as sadomasochistic fury, the mother would alternately turn her aggression upon herself, with numerous suicide attempts by means of pills, gas, or knives, or upon her partner, hitting him and blaming him for her misery. Also her behavior towards Mario was extremely unpredictable. He was sometimes accused of having ruined her life and sometimes treated as her only ally against a cruel world. When Mario was 11 years old, he witnessed his mother stabbing his stepfather in the back. The stepfather survived, but Mario's loyalty to his mother was dying. Hitler became his new inner ally. He identified with the Nazi leader as someone who was once ridiculed by everybody but had turned himself into a

powerful avenger. In puberty, Mario would follow girls at night, carrying a knife in his pocket to feel powerful. He fantasized about rape, but felt too physically inferior, short, and thin to overpower any potential victim. On his 18th birthday, Mario found his mother dead from suicide. An initial sense of relief was soon replaced by deep depression. He spent his inheritance on alcohol and was eventually admitted to institutional care for alcoholism". The Rorschach test was rescored according to the Comprehensive System (Exner, 1993), by the computer program RIAP 3 Plus (Rorschach Interpretation Assistance Program). In addition, the numerous anatomy responses were categorized according to Phillips and Smith (1953), and the 'barrier and penetration score' was calculated (Fisher & Cleveland, 1968). The transference in the test relation, as evidenced by verbalizations, is taken into account, too (Lerner, 1991). Rorschach response and clarification phases were verbatim reported for test and re-test, anatomy responses category and barrier and penetration responses are clearly identified. Even if detailed response localization is sometimes lacking, it is possible to re-read the Rorschach protocol according to another methodological approach. Mario gave 20 responses, "...was positive on the Coping Deficit Index, indicating social inaptitude and sense of inadequacy, and had an S-% of 0.33 (an excessive use of the white space instead of the blots), showing inner defiance and rancor impairing his relating to the environment and his reality testing (shown by the bad form quality; X-% of 0.3)". Mario gave 8 anatomy responses (40% of total R): 3 'General Anatomy' (responses 4, 5, and 17), 5 'Bony Anatomy' (responses 1, 6, 9, 17, and 19), and 2 'Visceral Anatomy' (responses 8 and 17). According to Phillips & Smith (1953) (p. 127), "...visceral anatomy is developed by persons whose hostility is directed against the mother (nurturing) figure and is expressed in whining, querulousness, and resentment. In general, the amount of anatomy content developed is inversely related to the level of maturation". Mario gave also 4 'barrier responses' (hard or protecting content) (20% of total R) (3 = beetle, 7 = eskimo dogs protected from cold, 8 = wolves and 18 = furry animals), and 10 'penetration responses' (soft or exposed contents) (50% of total R) (1, 4, 5, 6, 9, 17, 19 = inner organs or body parts; 10 = starving prisoners, 2 = toothless men, and 20 = bacteria), so that barrier and penetration score is very low (4/10), showing extreme vulnerability. Several responses reveal the quality described by Kwawer (1980) as 'malignant internal processes' (the bacteria) or 'primitive incorporation' (wolves eating intestines), indicating a primitive mode of relating, as found in borderline patients, and representing a common finding among perpetrators of sexual homicide, where 20% produces at least one response with malignant internal processes (Gacono & Meloy, 1994). Finally, "Looking at the sequences of the bony or soft anatomy responses, we find a clear alternation between hard, bony inner contents and soft inner organs: responses 1 (bony), 4, 5 (soft), 6 (bony), 7 (soft dogs), 8 (dangerous wolves), 9 (bony) and 17 (soft and bony). Diffuse inner body images conflict with inner representations of protection for somebody in a defence-

less position. In the diffuse inner body images, hard protection and soft exposure are conflicting aspects. The skeleton and skull responses may be the inner representations of protection for someone in a vulnerable position, somewhat with an early sense that 'there is nobody here to take care of me, I must mobilise inner hardness'. The soft and vulnerable inner organs are representations of the hypochondriac fear of exposure to outer danger at any time". The Authors extensively discussed the clinical, biographical and Rorschach data in the light of psychoanalytical views on sadomasochism.

Ravit & Roman (2009), in a clinical jail context, commented the Rorschach and the TAT test of two females, 25 and 30 years old, who respectively killed (Madame A.) her only daughter, 4 years old, by cutting her throat after giving her sleeping pills to put her to sleep, and (Madame B.) her little daughter, 18 months old, throwing her out of the window. The first mother was immediately hospitalized for attempted suicide after the murder, while the second one entered the jail after fifteen days of hospitalization in a state of shock, astonished by her act; like a nightmare she thinks of waking up every morning. The paper is centered on the psychoanalytic interpretation of the infanticides on clinical basis, paying little or no attention to quantitative scoring of Rorschach responses. According to the Authors, 'Madame A' Rorschach test was characterized by a marked prevalence of narcissistic defences, frequent responses that underline symmetry and the mirror dimensions of the relationships (in order to deny the conflicting aspects), prevailing themes of rupture and of attacks on linking, mechanisms of splitting, movements of strong idealization that involve narcissistic wounds, reduced K related to the impairment of the ability of elaborate phantasmatic life: all aspects consistent with a global picture of a narcissistic depression where the subject is under the influence of omnipotent and persecutory internal objects. 'Madame B' Rorschach test was characterized by a constant search for support in the perceptual data and in the examiner, the prevalence of pure form responses related to the need for delimitation inside/outside, contents that repeatedly refer to the lost object, mirror and double responses, animal contents expressing archaic phantasms of devouring, 'envelope' responses to express the need for delimiting boundaries: all aspects consistent with a borderline personality organization (etat-limite). Anyway, Rorschach response and clarification phases were verbatim reported, locations of response are clear and each response is scored so that it is very easy to interpret the two Rorschach protocols according to a different methodological approach.

Norbech (2020), describes in great details the case of Paul, an incarcerated male in his mid-40s, high school graduate, with unstable work history, divorced twice and currently in a new relationship, who had been on welfare for the past few years due to alcohol problems, without psychotic symptoms or other past psychiatric problems, with normal cognitive abilities, who had a previous conviction for fraud and threats toward his ex-wife. Paul contacted medical services for about a year during his prison

stay, resulting in a referral to the prison psychiatric services for voluntary treatment of his panic attacks. The Rorschach was administered according R-PAS (Meyer, Viglione, Mihura, Erard, & Erdberg, 2013) over two separate sessions, because Paul experienced a panic attack during testing; a week later he received the Adult Attachment Interview (AAI), in order to identify the patient's attachment pattern and signs of trauma, while the Rorschach was used to illuminate aspects of the patient's internalized relational model, aggression, and coping, that might not be accessible via the AAI. This multimethod assessment took place in prison, as well as the following once-weekly treatment, lasting for about two years, but ended abruptly after Paul was transferred to a different prison. Paul stabbed an acquaintance 18 times and cut his throat in a fit of rage: his impulsive and brutal murder, without psychotic or criminal motivation, falls within a category of homicide termed as 'rage-type' or 'sudden' murder; like other rage offenders, he had not seriously hurt people before. He experienced a blackout shortly after and his recall of the event was fragmented. "The victim had suddenly made sexually offensive claims about Paul's girlfriend. Paul fetched a knife and the situation rapidly escalated into a deadly conflict. Paul insisted that he had acted in self-defense, depicting the situation as two adversaries in a battle of life or death where he was the weaker of the two, but he was found guilty of second-degree murder and received a 14-year sentence". "Paul presented as polite and well-spoken during our first sessions, describing himself as a writer who depended on women... Most notable was the marked contrast between Paul's ordinary appearance and the brutality of his act, and that he denied responsibility for the murder". Whereas AAI depicts an emotionally constricted individual with a positive and deluded self-narrative (see the original paper for full details), "...the Rorschach portrays an angry, self-centered, and sexually preoccupied man flooded by primitive fear and rage. The juxtaposition between his ideal mother AAI representation and his sexually sadistic, part-object female Rorschach imagery is especially noteworthy". Rorschach protocol ('Response phase' and 'Inquiry'), R-PAS code sequence, and R-PAS Summary Scores and Profiles were reported. Briefly, Paul's record only yielded 15 responses, but normal values of complexity score (Cmplx, SS = 104) and of pure form responses % (F%, SS = 89) support the protocol's interpretability. Main quantitative features were (SS = standard score): highly elevated Ego Impairment Index (EII-3, SS = 133), indicating severe difficulties with adaptive functioning; high Thought and Perception Composite (TP-Comp, SS = 119), more related to disturbed thought processes (WsumCog, SS = 132; SevCog, SS = 135) than difficulties with perceptual accuracy (FQ-%, SS = 97; WD-%, SS = 103); significantly elevated Critical Content Score (CritCont%, SS = 149), revealing that his disturbed thinking was associated to breakdowns in his ability to keep intrusive and primitive processes and ideas at bay (significantly, of six responses that garnered a Cognitive Score, five were also coded for CritCont); highly elevated Poor to Good Human Re-

sponses Ratio (PHR/GPHR, SS = 131) and Mutuality of Autonomy/Pathology to Health ratio (MAP/MAHP, SS = 125), highlighting the presence of a model of relating characterized by confusion, disturbed logic, and malevolence; elevated Non-Pure Human ratio (NPH/SumH, SS = 124), with nearly all of human representations imbued with aggressive or sadistic features, or both. As regards content analysis, “*Four out of seven sexual content responses involved female genitalia presented in a highly degrading manner. Three of these responses (7, 10, 12) depicted violently mutilated vaginas, two of which contained salient sado-masochistic elements. These markers relate not only to an unusual sexual preoccupation, but also signal a perverted and dehumanizing internalized model of women*”. Subsequently, Norbech (2020) reported a “...comprehensive analysis of the response sequence, including content, determinants, and the specific verbalizations and behaviors used during test-taking”, that provides “...information about how Paul copes with, defends against, and recovers from conflicting impulses, relational needs, states and memories”, and deserves careful direct reading by anyone more interested.

Miscellanea (N = 6)

By means of step-wise multiple discriminant analysis, Kendra (1974) developed a regression equation based upon the Rorschach scoring categories, able to identify suicidal people. Applying the same method to the Rorschach test of 100 male murderers and 50 men incarcerated in the same state penitentiary for crimes other than homicide, Lester, Kendra, Thisted, & Perdue (1975), after four steps of multiple discriminant analysis, derived two equations ‘predictive’ of homicidal behaviour, leading to correct classification of 71% of murderers and 66% of non-murderers.

Lester, Kendra & Perdue (1974) applied to a sample of 100 male murderers from a state penitentiary (aged 16 to 57; mean age: 31, 33 black and 67 white) the regression equation developed by Kendra (1974) in order to identify suicidal people. Data from the 100 murderers were inserted into the regression equation and each murderer was classified as non-suicidal, an attempted suicide, or a completed suicide. Of the murderers, 77 were classified as non-suicidal, 22 as completed suicides and one as an attempted suicide. Assuming that the murderers were not suicidal, the percentage of hits was 77% and that of false positives was 23%.

Lester (1976) analyzed the Rorschach protocols of 16 Nazi leaders who were tried at Nuremberg, published by Miale & Selzer (1975), by means of Kendra’s (1974) equation, in order to discriminate completed suicides from attempted suicides and non-suicidal persons, and by means of Lester, Kendra, Thisted, & Perdue (1975) equations, in order to discriminate murderers from other criminals. Twelve of the Nazi leaders were classified as murderers, four as non-murderers (Frank, Kaltenbrunner, Schacht and Speer); eleven as completed suicides (of these, Goring killed himself prior to his execution), two as attempted

suicides and three as non-suicides.

Lester, Kendra and Thisted (1977) employed the same method in a healthy risk-taking group of 32 male astronaut candidates, classifying 24 of them as murderers (8 as non-murdering criminals) and 30 as non-suicidal (2 as attempted suicides).

Munnich (1993) intended to validate, by means of projection tests, the Megargee’s (1966) proposal of two-type classification of violent criminals, both in normal and psychotic populations: “(a) those with strong behavioral brakes, who need extremely intense direct stimuli to commit crimes, and (b) those of poor socialization who, due to weak behavioral brakes, are characterized by overt, but less severe acts of aggression”. For these purposes, he focused his data processing “...on information supplied by projection tests, such as Rorschach, Szondi, Luscher and P.F.T.”. Psychotic status, mental disease or limited moral responsibility due to severe nervous damage were regarded as exclusion criteria. Three groups of males, matched for age and education, were considered: 36 wilful murderers undergoing long-term imprisonment; 25 non-violent criminals (selected for embezzlement, theft or fraud), 25 normal controls (‘Sine morbo’). Only 4 prisoners had spent more than 3 years in prison. A rich clinical picture is reported for each group and subgroup, no projective test data are shown. According to the Author, based on convergent clinical and psychodiagnostic data “...three types can be distinguished within the groups of homicidals, where the homicidal act resulted from different psychodynamical mechanisms: (a) disinhibited, amoral – 13 persons; (b) depressive-inhibited – 8 persons; (c) anxiety, inhibited, aggression-saturated – 15 persons”.

Finally, Piotrowski (1997) briefly discussed some methodological issues in the field, highlighting the need of confirmatory research through multimethod psychological assessment of murderers.

Last but not least, Zizolfi, et al. (2022) compared the results obtained by means of CS and SRR methods in the psychodiagnostic assessment of homicides in a forensic setting. The Rorschach records of 30 murderers with no psychiatric history and without any psychiatric disease according to DSM-5 diagnostic criteria, tested according to the SRR in a forensic setting, and judged as ‘fully responsible’ (i.e. legally sane), were rescored according to CS. The Rorschach protocols, collected according to SRR method, were included in the study only if two of the Authors, well experienced in CS, judged them suitable for the re-scoring according to CS. The results were statistically analyzed with SPSS (Statistical Package for Social Science, Version 15.0), by means of Student two-tailed ‘t’ and Pearson r. SRR results were compared with normative SRR control group (Giambelluca, Parisi & Pes, 1995). CS data were compared with those from the international normal control sample (Abbate & Porcelli, 2017; Meyer, Erdberg, & Shaffer, 2007), by means of Student two tailed ‘t’ test (level of significance: $p < 0.05$). The correlations between CS and SRR variables and indexes were investigated by means of Pearson’s product-moment correlation

coefficient; only the statistically significant correlations were considered ($p < 0.001$).

The results highlighted a similar psychodiagnostic picture with both Rorschach methods: a mild impairment of cognitive processing as well as marked difficulties in interpersonal relationship, confirming preliminary previous findings in a similar sample of murderers (Zizolfi, Catanesi, Grattagliano & Zizolfi, 2017). The lower S in murderers as compared with international normal control group is somewhat intriguing: perhaps S responses did not always indicate interpersonal oppositionality (Mihura, Dumitrascu, Roy, & Meyer, 2018), but a repression of opposite behavior in murderers has been frequently described in forensic setting evaluations (Martino, et al., 2016). Strong correlations were found (Pearson's r , $p < 0.001$) between CS and SRR variables and indexes associated to cognitive mediation and accuracy of thinking (CS: XA%, WDA%, X-%, X+%, Xu%; SRR: R+%, F+%, V, O) along with interpersonal perception (CS: Human Content, Pure H, Isolation Index; SRR: H, H%, Hd, H+Hd, H%+Hd%).

Discussion

Single case studies, without Rorschach protocol (N = 10)

The majority of these studies are only of historical interest; they have been mentioned only for the purpose of completeness of the present review: the Rorschach test is not the focus of these papers, which deserve only descriptive and not specific lines to Rorschach test. Neither they specify the Rorschach method nor do they report quantitative data or a full Rorschach picture (Bernstein, 1979; De Ruiter, 2013; Kulkarni, Deshmuck, Sorter, & Barzman, 2012; Orellana et al., 2013; Sacerdoti & Rigo, 1960; Schlesinger, 1998 and 2002).

Two more recent studies reported a detailed, though not yet complete, CS picture (Exner, 2003), and may serve as a useful comparison in single case studies respectively of cathartic infanticide (Meloy, 2010) and normal female adolescent murderer (Cardoso De Souza & Resende, 2012).

Finally, Acklin's (2017) paper, using R-PAS method (Meyer, Viglione, Mihura, Erard, & Erdberg, 2013), stands out as a methodologically almost flawless contribution to the study of rage murder surrounded by acute paranoid delusions and hallucinations in the context of heavy amphetamine abuse, and should serve as a benchmark for all single case studies of this type of murder.

Single case studies, reporting Rorschach record (N = 21)

The main interest of such studies is their suitability for subsequent re-analysis according to different Rorschach scoring and interpretation methods. However, it is possible to reach this aim only if a very careful verbatim transcription of the test is available, including collection ('Response' or 'Association' or 'Performance' Phase), inquiry (otherwise called 'Clarification' Phase), reasonably

clear and satisfactory, if not complete, indications about localization and determinants of each single response, scoring of each response and summary of scorings. The need for all these data is obviously even more essential for the purposes of psychodynamically oriented sequential content analysis (Lindner, 1946; Nielsen & Zizolfi, 2005; Schafer, 1954).

8 (eight) studies lack sufficient data to allow subsequent re-analysis of Rorschach protocols (Beck, 1946; Claus & Lidberg, 2003; Lewis & Arsenian, 1982; McCully, 1971, 1978, 1980, 1987; Rabin, 1946). Anyway, the interested reader can refer to these papers in the case of single case studies of uxoricide and attempted suicide in major depressed male (Beck, 1946; Rabin, 1946), adolescent familicide and suicide (McCully, 1971, 1987), adolescent familicide (McCully, 1978, 1980), uxoricide in schizophrenic male (Lewis & Arsenian, 1982), and amicide in sadomasochistic personality (Claus & Lidberg, 2003).

13 (thirteen) remaining studies fulfilled all requested criteria, even if information on the locations of the responses is sometimes just enough (De Waele, 1957a; Gacono, 1992, 1997; Husain & Dreyfus, 2001; Kahn, 1960; Lane, 1984; Meloy, 1992, 1997; Meloy & Gacono, 1993; Michaux & Michaux, 1963; Norbeck, 2020; Ravin & Roman, 2009; Rizzo & Ferracuti, 1959).

The interested reader can refer to these papers in the case of single case studies of dissociative psychosis (Rizzo & Ferracuti, 1959), young male parricide (De Waele, 1957a), matricide and mass murderer (44 persons) (Kahn, 1960), sexual homicide and attempted homicide of therapist (Lane, 1984; Michaux & Michaux, 1963), sexual murderer male (Gacono, 1992, 1997), borderline personality murderer who assassinated Robert F. Kennedy (Meloy, 1992, 1997), borderline personality killing a pedophile (Meloy & Gacono, 1993), perverse-paranoid personality who killed a policeman (Husain & Dreyfus, 2001), mothers who kill their young daughters (4 and 1.5 years old) (Ravit & Roman, 2009), and rage murderer (Norbeck, 2020).

Many of these studies present further reasons of great interest.

In 4 (four) studies (Beck, 1946; De Waele, 1957; McCully, 1971; Rabin, 1946), a Rorschach record was collected for diagnostic purposes before the murder, and not, as usual, in a jail context, after the murder, mainly for forensic purposes; in addition, in 3 out of 4 studies, a re-test is available too, so that it is possible to compare the test collected before the murder with that/those administered after.

Rabin (1946) reported, and Beck (1946) discussed, the three Rorschach records collected in a 39-year-old patient with major recurring depression: the first one, when still depressed, during a hospitalization, one month before his discharge, and two months before the murder of his wife; the second one, when fully remitted, six months after the homicide and attempted suicide; the third one, when fully remitted, 20 months after the first record, and

18 months after the murder. Unfortunately, only the performance phase of the first test was reported, and only the main scorings are available for the three records, perhaps showing great changes, as previously noted.

More interesting is De Waele's (1957) paper, reporting the two complete Rorschach records, including all the information for a re-evaluation according to different Rorschach methods, of a 25-year-old parricide, tested 2 months before and 3 months after the murder. This work stands out as a methodologically flawless contribution, serving as a benchmark for all single case studies of this type of murder, and surely deserves a careful re-reading, because of the richness of ideas and suggestions offered, which is impossible to adequately summarize here, for reasons of space.

McCully (1971) also reported the performance and the inquiry phase of the Rorschach of a male adolescent, tested for diagnostic purposes when he was 13 years and 7 months old, one year before killing his mother and his sister, and then himself. Unfortunately, there is no indication of the locations, determinants and scoring of the Rorschach responses and content analysis of the response is highly conjectural, by explicit admission of the same Author.

6 (six) studies reported test-retest findings with time interval between the two administrations of 5 months (De Waele, 1957), 8 and 20 months (Beck, 1946; Rabin, 1946), 12 months (Lewis, & Arsenian, 1982) and six years (McCully, 1978; 1980). Great changes are evidenced between the first and the subsequent records: a surprisingly different result from data on Rorschach test-retest literature. In addition, the re-test always showed a psychodiagnostic picture more similar to normal ones, perhaps because of the extreme reduction of tension (De Waele, 1957; Beck, 1946; Rabin, 1946), the full remission of a major depression (Beck, 1946; Rabin, 1946), the spontaneous and/or psychotherapy induced partial remission of a paranoid type schizophrenia (Lewis, & Arsenian, 1982), and the "...spontaneous corrective sources within the human psyche, a feature we need to learn to better identify" (McCully, 1980). Anyway, the available data are very limited, the problem is still far from a solution and more research is needed.

12 out of 21 studies reported only Rorschach data and did not administer other tests.

McCully's (1978) subject was administered three sets of inkplates, over a period of one month: the usual Rorschach at the first session, the Behn-Rorschach plates (Behn-Eschenburg, 1921) in the second session, the Ka-Ro plates (Kataguchi, 1970) in the last session.

According to multi-method assessment criteria, the remaining 8 out of 21 studies administered the Rorschach and the following other tests: the Draw-A-Person test (Michaux & Michaux, 1963), Human Figure Drawings (Kahn, 1960), the TAT (Kahn, 1960; McCully, 1971; Meloy & Gacono, 1993; Michaux & Michaux, 1963; Ravit & Roman, 2009), the Sentence Completion Test (Kahn, 1960), the M-H Sentence Completion Test

(Michaux & Michaux, 1963), the Self-Focus Sentence Completion Test (SFSC) (Gacono, 1992, 1997), the Bender Gestalt Test (Michaux & Michaux, 1963), the WAIS (Kahn, 1960; Meloy & Gacono, 1993), the Wechsler-Bellevue Intelligence Scale (Michaux & Michaux, 1963), the Shipley Institute of Living Scale (Gacono, 1992, 1997), the Minnesota Multiphasic Personality Inventory (MMPI) (Gacono, 1992, 1997; Meloy & Gacono, 1993), the Millon Clinical Multiaxial Inventory (MCMI) (Gacono, 1992, 1997), the Hare Psychopathy Checklist-Revised (PCL-R) (Gacono, 1992, 1997), the Adult Attachment Interview (AAI) (Norbeck, 2020).

As shown in table 1, 8 out of 21 studies did not specify the Rorschach method (Husain & Dreyfus, 2001; Lane, 1984; Lewis & Arsenian, 1982; McCully, 1971, 1978, 1980, 1987; Ravit & Roman, 2009). As regards the remaining 13 out of 21, 1 out of 21 used the SRR method (Rizzo & Ferracuti, 1959), 1 out of 21 the R-PAS (Norbeck, 2020), 1 out of 21 Schafer (1954) method (Kahn, 1960), 2 out of 21 Beck's (1944) method (Beck, 1946; Rabin, 1946), 2 out of 21 the Klopfer & Kelley (1942) technique (De Waele, 1957; Michaux & Michaux, 1963), 6 out of 21 the Exner CS (Claus & Lidberg, 2003; Gacono, 1992, 1997; Meloy, 1992, 1997; Meloy & Gacono, 1993). In this respect, it must be remarked that only three Rorschach methods may be considered well standardized and psychometrically valid according to more recent criteria: the SRR, the Exner's CS and R-PAS (Zizolfi, 2016).

Five studies by Gacono and/or Meloy (Gacono, 1992, 1997; Meloy, 1992, 1997; Meloy, & Gacono, 1993), all using Exner's CS, scored the protocols also for '*psychoanalytic indices*', including primitive modes of relating and borderline object relations (Kwawer, 1980) (Gacono, 1992, 1997; Meloy, 1992, 1997; Meloy, & Gacono, 1993), primitive defenses (Cooper, Perry, & Arnow, 1988; Lerner & Lerner, 1980) (Gacono, 1992, 1997), impressionistic responses (IMP; Gacono, 1990; Gacono, Meloy, & Heaven, 1990) (Gacono, 1992, 1997; Meloy, 1992, 1997), aggressive contents (AgC; AgPot; AgPast & SM) (Gacono, 1990; Meloy, 1988; Meloy & Gacono, 1992) (Gacono, 1992, 1997; Meloy, 1992, 1997), defense mechanisms (Cooper & Arnow, 1986; Cooper, Perry, & Arnow, 1988) (Meloy, 1992, 1997; Gacono & Meloy, 1993), and Mutuality Of Autonomy (MOA) responses (Urist, 1977) (Meloy, 1992, 1997).

Claus & Lidberg (2003) used Exner's CS; in addition, they categorized the numerous anatomy responses according to Phillips and Smith (1953), calculated the 'barrier and penetration score' (Fisher & Cleveland, 1968), and had also taken the transference into account in the test relation, as evidenced by verbalizations (Lerner, 1991).

Finally, in five papers (De Waele, 1957; Gacono, 1992, 1997; Lane, 1984; Norbeck, 2020), a detailed sequential examination of protocols is reported, response by response and card by card, looking at both formal scores (structural data) and (psychoanalytically oriented) content analysis, and integrating, in a coherent framework, the knowledge

of the different stimulus value of the single Rorschach tables, the suggestions of the psychoanalytical theory and the biographical information about the subject. These five articles deserve a careful reading, because of the richness of ideas and suggestions offered, which is impossible to adequately summarize here, for reasons of space.

Miscellanea (N = 6)

Some of these studies suffer from severe methodological limitations, and have been mentioned only for the purpose of completeness of the present review.

The article by Munnich (1993), intended to validate, by means of projection tests (i.e.: Rorschach, Szondi, Luscher and P.F.T.), the Megargee's (1966) proposal of two-type classification of violent criminals. The working hypothesis is quite suggestive, and a rich clinical picture of each group and subgroup was offered, but quantitative data from the projective test are not shown, nor was an adequate statistical analysis carried out.

On another hand, the papers by Lester and collaborators need and lack confirmatory research.

Lester and coworkers applied to Rorschach protocols three regression equations, derived on the basis of Rorschach scoring categories by means of step-wise multiple discriminant analysis: one developed by Kendra (1974), able to identify suicidal people, and two developed by Lester, Kendra, Thisted, & Perdue (1975), 'predictive' of homicidal behavior.

By this way, Lester, Kendra & Perdue (1974) examining the Rorschach protocols of 100 male murderers, classified 77 as non-suicidal, 22 as completed suicides and one as an attempted suicide. Lester (1976), analyzing the Rorschach protocols of 16 Nazi leaders who were tried at Nuremberg, published by Miale & Selzer (1975), classified twelve of the Nazi leaders as murderers, four as non-murderers (Frank, Kaltenbrunner, Schacht and Speer); eleven as completed suicides (of these, Goring killed himself prior to his execution), two as attempted suicides and three as non-suicides.

Lester, Kendra and Thisted (1977) employed the same method in a healthy risk-taking group of 32 male astronaut candidates, classifying 24 of them as murderers (8 as non-murdering criminals) and 30 as non-suicidal (2 as attempted suicides).

Unfortunately, we have not been able to find the original unpublished doctoral dissertation by Kendra (1974), and no short papers by Lester and collaborators detailed the regression equation developed to identify suicidal behavior. In addition, in our knowledge, this equation is never mentioned elsewhere in the Rorschach literature and it is surely superseded by more modern, reliable and valid Rorschach indexes of suicidality.

On the other hand, as concerns the two equations proposed as 'predictive' of homicidal behavior, the discriminant validity is still quite low, if they allow a correct classification of 71% of murderers and 66% of non-murderers (Lester, Kendra, Thisted, & Perdue, 1975).

As previously mentioned, Piotrowski (1997) briefly discussed some methodological issues in the field, highlighting the need of confirmatory research through multimethod psychological assessment of murderers.

Finally, the work by Zizolfi, et al. (2022), retrospectively analyzed the Rorschach records of 30 murderers with no psychiatric history and without any psychiatric disease according to DSM-5 diagnostic criteria, tested according to the SRR in a forensic setting, and judged as 'fully responsible' (i.e. legally sane), rescored according to CS. The results highlighted a similar psychodiagnostic picture with both Rorschach methods and evidenced strong correlations (Pearson's r , $p < 0.001$) between CS and SRR variables and indexes associated to cognitive mediation and accuracy of thinking (CS: XA%, WDA%, X-%, X+%, Xu%; SRR: R+%, F+%, V, O) along with interpersonal perception (CS: Human Content, Pure H, Isolation Index; SRR: H, H%, Hd, H+Hd, H%+Hd%). This study is very interesting, because it suggests that SRR and CS methods lead to similar results as concerns Rorschach variables and indexes more reliable and valid and, what is more important, more significant as regards forensic evaluations. Anyway, the study is quite preliminary, and needs confirmatory research.

Conclusions

Miscellanea (N = 6)

The majority of miscellaneous studies (4 out of 6) suffer from severe methodological limitations, so that they have only been mentioned for the purpose of completeness of the present review (Lester, 1976; Lester, Kendra & Perdue, 1974; Lester, Kendra & Thisted, 1977; Munnich, 1993).

Piotrowski (1997) briefly discussed some methodological issues in the field, highlighting the need of confirmatory research through multimethod psychological assessment of murderers.

Zizolfi, et al. (2022), according to a retrospective reliable and valid methodology, report suggestive data supporting the hypothesis that SRR and CS methods lead to similar results in 30 murderers, as concern Rorschach variables and indexes more reliable and valid and, what is more important, more significant as regards forensic evaluations. Anyway, the study is quite preliminary, and needs confirmatory research.

Single Case Studies (N = 31)

Single case-focused, multi-method/multi-source evaluations are standard, recommended practice in clinical and forensic mental health assessment which involves the Rorschach (Erard, & Evans, 2017). It is not surprising, therefore, that single case studies represent 34% (31 out of 91) of the studies identified in our systematic literature review on the Rorschach test in murderers.

We have described in full details and critically discussed from a methodological point of view both Single

case studies, without Rorschach record (N = 10) and Single case studies, reporting Rorschach record (N = 21).

All 10 single case studies without Rorschach protocol, and 17 out of 21 single case studies reporting Rorschach protocol, i.e. 27 out of 31 papers, presented data from test administration after the murder, in a jail context, for forensic purposes. Only in 4 (four) studies (Beck, 1946; De Waele, 1957; McCully, 1971; Rabin, 1946), a Rorschach record was collected for diagnostic purposes before the murder, thus offering the opportunity to take a look at the personality of these subjects two months (Beck, 1946; De Waele, 1957; Rabin, 1946) and one year (McCully, 1971) before the murder.

Therefore, it must be kept in mind that almost all the studies concern tests administered in prison, for forensic purposes, after a variable time from the murder. Consequently, the results are not generalizable, except to populations of a similar type, taking into consideration and possibly controlling all the variables involved. In no case, data may be considered 'predictive' of homicidal behavior.

Finally, homicide is a rare and highly variable behaviour, different from case to case, and the very existence of a 'murderous mind' common to all or some murderers, is a dubious and questionable working hypothesis. A fortiori, the search for a 'Rorschach homicidal sign' (such as the 'color-shading response', according to Beck, 1946 and Rabin, 1946), or a 'Rorschach homicidal configuration' (such as the 'equation' proposed by Lester, 1976; Lester, Kendra & Perdue, 1974; Lester, Kendra & Thisted, 1977) appears to be a dead-end street.

In addition, single-case studies here considered concern very unique and exceptionally rare types of murder, quite different from the majority of 'normal' homicides: uxoricide and attempted suicide in major depressed male (Beck, 1946; Rabin, 1946), adolescent familicide and suicide (McCully, 1971, 1987), adolescent familicide (McCully, 1978, 1980), uxoricide in schizoprenic male (Lewis & Arsenian, 1982), amicicide in sadomasochistic personality (Claus & Liddberg, 2003), dissociative psychosis (Rizzo & Ferracuti, 1959), young male parricide (De Waele, 1957a), matricide and mass murderer (44 persons) (Kahn, 1960), sexual homicide and attempted homicide of therapist (Lane, 1984; Michaux & Michaux, 1963), sexual murderer male (Gacono, 1992, 1997), borderline personality murderer who assassinated Robert F. Kennedy (Meloy, 1992, 1997), borderline personality killing a pedophile (Meloy & Gacono, 1993), perverse-paranoid personality who killed a policeman (Husain & Dreyfus, 2001), mothers who kill their young daughters (4 and 1.5 years old) (Ravit & Roman, 2009), and rage murderer (Norbech, 2020). Results from these studies couldn't in any way be generalized to the majority of 'normal' murders.

In conclusion, single case studies must be considered as a very useful pilot investigation in order to generate hypotheses to be consequently tested through descriptive and/or controlled studies on larger samples. To achieve this goal, it is necessary to collect reliable and valid data,

according to a methodological flawless design, that meets the following criteria:

- full personal history, as detailed as possible, including murder and his sentencing;
- detailed description of: setting (forensic, clinical, experimental), characteristics of cases (sex, age, schooling or education, marital status, job, full psychiatric state examination, psychiatric diagnosis according to DSM-5-TR and/or ICD-11), features of murder (weapon; types: familicide, parricide, matricide, sexual homicide, rage murder, catathymic homicide, and so on), features of victim/victims (sex, age, schooling, marital status, relationship with the murderer);
- multi-method/multi-source evaluations including interviews, Rorschach test, self-rating questionnaires (Convertini, Greco, Grattagliano, & Catanesi, 2020; De Fidio, & Grattagliano, 2007), malingering evaluation test and so on (Erard, & Evans, 2017);
- use of well standardized and psychometrically reliable and valid Rorschach methods, i.e. those (Zizolfi, 2016) of the Scuola Romana Rorschach (SRR) (Cicioni, 2020; Parisi, & Pes, 2010; Rizzo, Parisi, & Pes, 1980), the CS Comprehensive System (Abbate & Porcelli, 2017; Exner, 1986), and the R-PAS, Rorschach Performance Assessment System (Meyer, Viglione, Mihura, Erard, & Erdberg, 2013, 2015; Mihura & Meyer, 2018);
- full report of the Rorschach record, including: 1) a careful verbatim transcription of the test, including both collection ('Response' or 'Association' or 'Performance' Phase) and inquiry (otherwise called 'Clarification' Phase); 2) reasonably clear and satisfactory, if not complete, indications about localization and determinants of each single response; 3) scoring of each response; 4) summary of scorings;
- possibly, as recommended by Scuola Romana Rorschach (SRR) (Cicioni, 2020; Parisi, & Pes, 2010; Rizzo, Parisi, & Pes, 1980), scoring of the reaction time for each table and of choc reaction to each table;
- detailed sequential examination of Rorschach protocol, response by response and card by card, looking at both formal scores (structural data) and (psychoanalytically oriented) content analysis, and integrating, in a coherent framework, the knowledge of the different stimulus value of the single Rorschach tables, the suggestions of the psychoanalytical theory and the biographical information about the subject.

In conclusion, Rorschach test offers an extremely in-depth and detailed analysis of personality, when combined methodology is adopted, looking at both structural data and psychoanalytically oriented content analysis (Gacono, 1992, 1997; Lindner, 1946; Nielsen & Zizolfi, 2005; Schafer, 1954).

It would therefore be of greatest interest to deepen the knowledge of some particular types of homicide (parricide, matricide, familicide, mothers killing children, mass

murder, etc) through single case Rorschach studies following the methodological criteria mentioned above.

The Authors of these future contributions could usefully take into account previous research findings in similar types of murder, as reported in the papers considered in our present full comprehensive systematic literature review.

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