

# Suppression of Aggressive Rorschach Responses Among Violent Offenders and Nonoffenders

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## Abstract

This Rorschach study explored the suppression of aggression content when violent offenders and nonoffenders are asked to present themselves as not posing a threat of dangerousness in a court role-playing context. Aggressive content and complexity in this suppressive role-play context was compared to a neutral control condition. A total of 41 participants, approximately half violent offenders and half nonoffenders took the Rorschach under both conditions. Results indicate that both groups suppressed aggression content on the Rorschach without altering response complexity. This large effect size for testing condition may partly explain the inconsistencies across previous studies. It is possible that violent offenders have typically been tested in highly suppressive conditions whereas nonoffender or normative groups may have been tested in relatively low suppression conditions. If so, aggression score differences may be a reflection of the testing condition, not group differences. Both instructional sets produced similar levels of complexity, so that individuals do not simplify responses when they screen

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out aggressive attributions. Violent offenders did not differ from nonviolent offenders in terms of aggression content, but did produce more simplistic records. In addition, this study also undertook a semantic, textual analysis and found that individuals in the suppressive condition tended to eliminate many response elaborations, particularly those with negative or threatening connotations.

## Keywords

forensic interviewing, child abuse, violent offenders, cultural contexts

The psychometric soundness of the Rorschach test has been debated for decades. A number of authors have raised doubts regarding its inter-rater reliability (e.g., Wood, Nezworski, & Stejskal, 1996) and its validity (e.g., Cronbach, 1949; Jensen, 1965; Lilienfeld, Wood, & Garb, 2000; Society for Personality Assessment, 2005). However, recent systematic reviews and meta-analyses indicate that such criticisms are not consistent with the evidence base.

In regards to inter-rater reliability, a large-scale meta-analysis reported that median intraclass correlations (ICCs) for statistically stable Rorschach scores range from .72 to .96 (Meyer et al., 2002). According to Cicchetti (1994) as well as Shrout and Fleiss (1979), these values are to be considered “good” to “excellent”. Thus, in terms of inter-rater reliability the Rorschach compares favorably to other meta-analyses published in psychology, psychiatry, and medicine (Meyer, 2004).

As for the validity, a recent *Psychological Bulletin* meta-analysis conducted by Mihura, Meyer, Dumitrascu, and Bombel (2012) indicated that 13 variables in the popular Comprehensive System (CS) have excellent support ( $r \geq .33$ ,  $p < .001$ , FSN  $> 50$ ), 17 have good support ( $r \geq .21$ ,  $p < .05$ , FSN  $\geq 10$ ), 10 have modest support ( $p < .05$  and either  $r \geq .21$ , FSN  $< 10$ , or  $r = .15-.20$ , FSN  $\geq 10$ ), 13 have little ( $p < .05$  and either  $r < .15$  or FSN  $< 10$ ) or no support ( $p > .05$ ), and 12 have no construct-relevant validity studies. Considering that the variables with the least support tended to be very rare or some of the more recently developed scales (Mihura et al., 2012), these findings reveal early criticisms on the validity of the Rorschach to apply only to a subset of Rorschach variables. Furthermore, relative to self-report tests, the Rorschach has proven to be less vulnerable to impression management or false self-presentation, and for this reason is thought to be valuable and is often used in forensic evaluations (Gacono & Meloy; 1994; Piotrowski, 1996; Viglione, 1999).

Considering the Rorschach's utility in forensic setting, both psychodynamic and cognitive behavioral theories suggest that aggressive tendencies are associated with aggressive perceptions, which in turn would be associated with the aggressive interpretation of Rorschach stimuli. Similarly, according to the behavioral representation approach to the Rorschach as a performance test (Meyer & Viglione, 2008; Meyer, Viglione, Mihura, Erard, & Erdberg, 2011; Viglione & Rivera, 2003), aggressive responses mirror behaviors in the real world. That is, aggressive perceptions and preoccupations with aggression in processing information on the Rorschach are likely to be expressed in the real world as aggressive cognitions behaviors *in vivo*.

However, results associating Rorschach aggression scores and content with people with violent histories have been mixed. Specifically, some research has linked various types of Rorschach aggressive content responses with aggressive or violent behaviors, internal tension, and aggressive thought content (Baity & Hilsenroth, 1999; Mihura & Nathan-Montano, 2001; Mihura, Nathan-Montano, & Alperin, 2003). In contrast, other studies support the finding of lower aggression Rorschach scores in violent populations (Gacono, 1990; Gacono & Meloy, 1992; Heaven, 1989, Kaser-Boyd, 1993), though the relationship has been rather weak (Hess, 2001). To date, there are no straightforward and robust studies demonstrating an association between these aggressive response contents and subsequent aggressive acts.

There are several possible explanations for the paradoxical finding of low aggression scores on the Rorschach in highly violent people. One explanation is the suppression of aggression, which suggests that in these forensic cases, simplistic/restricted protocols are an attempt to limit self-disclosure. Individuals who desire to present themselves in a positive way can intentionally limit the amount of obvious aggression they express on the Rorschach (Viglione, 1999). An empirical question of interest is the extent that individuals, violent or not violent, can suppress aggression content on the Rorschach when they are motivated to appear less violent.

In addition, such mixed results are possibly related to the many methods of scoring aggressive or hostile content (e.g., Elizur, 1949). Currently, the dominant methods are the CS aggressive movement (AG; Exner, 2003) and the extended aggression scores (Gacono & Meloy, 1992, 1994), both of which have demonstrated some validity so that they have been adopted by the new Rorschach Performance Assessment System (Meyer et al., 2011). According to Exner, aggression (AG) is scored for "any movement response (M, FM, or m) in which the action is clearly aggressive, such as fighting, breaking, tearing, stalking, exploding, arguing, looking angry, and so on," (Exner, 2003, p. 142). Gacono and Meloy (1992, 1994) expanded beyond the CS scoring system of aggression to include: (a) Aggressive Content

(AgC) is “any content popularly perceived as predatory, dangerous, malevolent, injurious, or harmful.” (b) Aggressive Past (AgPast) is “any response in which an aggressive act has occurred or the object has been the target of aggression,” (c) Aggressive Potential (AgPot) is “any response in which an aggressive act is getting ready to occur,” and (d) Sado-Masochism (SM) is “any response in which devalued, aggressive, or morbid content is accompanied by pleasurable affect expressed by the subject” (Gacono & Meloy, 1994, pp. 265-266). These additional categories are more subtle and expansive measures of aggressive Rorschach content. For our purposes, we will explore the variables, AG, AgC, AgPast, and AgPot. Reliability of the extended aggression scores has been supported (Baity & Hilsenroth, 1999; Gacono, 2008).

The generally accepted view (Exner, 2003; Meloy, 1992) is that respondents can manipulate content, particularly aggressive content more easily than structure. This holds particularly true when conducting forensic evaluations, in that the respondents have a strong motivation to appear nonviolent. Compared with CS normative data, examination of records from violent offenders, antisocial personality disorder, and other character disordered individuals indicates that violent offenders offer fewer AG responses than the adult normative samples (Exner, 2003). The protocols of violent offenders tend to be more restricted and simplistic (Viglione, 1999). By using the enhanced subtle aggression categories of Gacono and Meloy (1992, 1994), a more sensitive measurement of aggression cognition and imagery may be possible (Gacono & Meloy, 1992; Margolis, 1992; Meyer, Erdberg, & Shaffer, 2007).

In addition to identifying the frequencies of aggressive content, the degree of complexity in Rorschach protocols has the potential for being an important variable to examine in trying to identify individuals at risk for aggression. Viglione (1999) defines complexity “as the amount of productivity, precision, differentiation, and integration involved in the aggregate of all the responses” (p. 259). Research suggests that complex protocols are related to psychological health and restricted or simplistic protocols are associated with more negative qualities (Greco & Cornell, 1992; Kaser-Boyd, 1993; Keltikangas-Jarvinen, 1982; Meyer et al., 2007).

Further, this research seeks to clarify the differences between violent and nonviolent populations in the aggression measures of the Rorschach. By employing a test–retest design and measuring both violent and nonviolent participants under both a suppression and control (nonsuppressive) as it relates to suppression versus a control testing condition, the present research hopes to clarify the relationship between Rorschach aggression variables, group differences, the conditions of testing, and complexity.

If aggressive responses can be suppressed easily, then violent offenders and nonoffenders would produce fewer aggressive Rorschach responses when instructed to demonstrate that they are not aggressive. Previous research has focused on AG and AgC as primary variables as of interest, as we will do in this study, but AgPast, AgPot and the sum of these four variables will also be examined. Whether aggressive responses distinguish between violent and nonviolent males will also be explored. An implication of this hypothesis is that the amount of aggression in the response of violent offenders would correlate with the complexity of responses, as measures by Protocol Complexity and the proportion of simplified pure form (F%). Thus, more complexity in the Rorschach responses of violent offenders should be associated with more aggressive content among violent offenders, but not necessarily among nonoffenders. In addition, the content differences in terms of how respondents change their responses to the Rorschach when asked to present themselves in nonaggressive fashion will be explored with linguistic analysis of the verbatim responses themselves. Such analyses have not been applied to the Rorschach CS. Refining and adapting such computer-based approaches to the Rorschach may lead to more reliable and complete thematic analysis.

## Method

For this investigation, a  $2 \times 2 \times 2$  mixed design involving an experimental manipulation and between group comparisons was used. Independent variables include within group variables (instructional set with suppression vs. control instructions), and two between group variables, (a) group (violent male offenders vs. nonoffenders), and (b) order of instructional set. Dependent variables are Rorschach aggressive content and complexity variables, although complexity might also act as a moderator.

## Participants

Participants were 26 men previously charged with acts of physical violence (violent offenders) and 20 men from the general population without a known history of violence (nonoffenders). In the offender group, five participants did not return for the second testing and their data was excluded from the analysis, leaving 21 participants in the offender group. All participants were between the ages of 18 to 55, spoke English, denied currently abusing substances, and had a verbal intelligence quotient estimated as being above 70 based on the Shipley Institute of Living Scale (Zachary, 1986).

Nonoffender participants reported no history of charges or convictions of any physically violent acts. Criteria for inclusion in this study for offender participants were (a) committing a violent act within the past 12 months in which police intervention occurred and/or a police report was made; and/or (b) if not within the past 12 months, the participant must have committed multiple acts of violence that resulted in incarceration at least once in the past 3 years; and/or (c) the participant had been court ordered to treatment within the past 12 months related to committing a violent act; and/or (d) the participant had been placed on probation or parole within the past 12 months related to a charge involving a violent act. All of these were determined by participant self-report during the screening phone call.

Recruitment flyers were placed in local publications and flyers were posted in various local establishments where probationers were known to congregate. All potential participants were screened over the telephone with a structured interview. Individuals were informed of the procedure and nature of this study prior to their informed consent. Participants were advised that they would complete the same procedures twice, 1 to 2 weeks apart and would be compensated with US\$30.00 or four free movie passes at the completion of the study. All participants received US\$15.00 at the conclusions of both conditions. No significant difference was found between groups in terms of age (offenders  $M = 39.7$ ,  $SD = 8.5$ ; nonoffenders,  $M = 40.2$ ,  $SD = 6.7$ ). Groups did differ in terms of education, with almost 13 years for the violent offender group ( $M = 12.6$ ,  $SD = 2.3$ ) and almost 15 years for the nonoffender group ( $M = 14.9$ ,  $SD = 2.2$ ). The sample consisted of mostly Caucasian individuals ( $n = 26$ ), with 16 participants in the nonoffender group and 10 in the offender group (see Table 1). Fisher's Exact Tests revealed significantly more African Americans and fewer Caucasians in the violent offender group ( $p < .05$ ). No significant difference was found in marital status. Eight violent offenders reported being unemployed compared to two of the nonoffenders, a statistically significant difference ( $p < .05$ ). These differences are expected in that they typically accompany criminal status.

## Variables and Measures

**Instructional Set.** This experimental manipulation was operationally defined by introducing the Rorschach in two different ways in the suppression vs. control condition. The suppression instructions are:

This is a study concerning aggression. For the next portion of the study you will be introduced to a research assistant who will give you the inkblot test to complete. While completing the inkblot test, imagine you are in a court-ordered evaluation

**Table 1.** Categorical Descriptive Statistics for Sample.

Category	Violent Offender	Nonoffender
<b>Marital status</b>		
Married	2	6
Single	12	6
Divorced	6	7
Separated	1	1
<b>Employment</b>		
Full time employed	6	16
Part-time employed	4	1
Unemployed	8	2
Disabled	3	0
Retired	0	1
<b>Ethnicity</b>		
African American	5	0
Asian/Pacific islander	1	2
European	10	16
Latino	4	2
Other	1	0

for determining sentencing and likelihood of re-offense of a violent crime. You are to respond in a manner that will convince the judge you are a nonaggressive individual and will never reoffend, thus the lowest level of sentencing is appropriate. For your participation you will receive \$5.00 or a movie pass (your choice). Following the completion of the Rorschach administration, if the examiner is convinced that your responses are nonaggressive, you will receive an additional \$10.00 or movie pass (a total of \$15.00 or two movie passes) at the conclusion of the study.

These instructions were designed to suppress aggression by activating three components believed to influence the suppression of aggression: (a) evaluation apprehension, (b) test definition, and (c) instructional set (Calden & Cohen, 1953; Hutt, Gibby, Milton, & Pottharst, 1950; Morgan & Viglione, 1992).

The control (nonsuppressive) neutral instructions are:

This is a study concerning a graduate student’s ability to administer the Rorschach. For your participation you will receive \$15.00 or two movie passes. Since the student is inexperienced, your responses and test results will remain confidential to this researcher and will not be provided to anyone.

To reduce the situational pressure for desirable responding, we followed recommendations according to Paulhus (1991). Participants were assured of anonymity, they were instructed to put no identifying marks on the questionnaires and they placed all forms in an unmarked manila envelope, sealed it, and dropped it off in a pile of other unmarked envelopes.

**Rorschach.** The Rorschach provided the aggression and complexity dependent variables for the study. Each participant was administered the test twice according to the guidelines of the CS at the time of the research (Exner, 1993), once in the suppressive condition and once in the nonsuppressive condition. All examiners were doctoral students who have successfully completed a graduate course on the Rorschach, and were supervised by the second author. Different research assistants administered the Rorschach at each time and were blind to instruction set (suppression vs. nonsuppression), offender status, and dependent variables. In addition, the research design was planned to ensure that each research assistant would conduct around half suppression instruction assessments and half nonsuppression instruction assessments. Indeed, post hoc analyses revealed that the differences in the research assistants did not account for the observed differences on the Rorschach responses.

**Aggression Variables.** The primary aggression hypotheses were examined with the dependent variable AG+AgC. This variable, as noted and defined earlier in this article, is the sum of two most numerous and most commonly used aggression response variables: AG and AgC. AG is a human, animal, or inanimate movement response in which the action is clearly aggressive (Exner, 2003). AgC is “any object popularly perceived as predatory, dangerous, malevolent, injurious, or harmful” such as “a gun” or “a demon with claws” (Gacono & Meloy, 1994, p. 263). Other aggression variables were also examined in exploratory analysis including Aggression Potential (AgPot), Aggression Past (AgPast) and the grand sum of all these aggression variables (SumAg). Inter-rater reliability in scoring the Rorschach was determined by Cohen’s  $\kappa$  (Cohen, 1960). The kappa from independent ratings of 40 protocols was 0.80 for AG, 0.92 for AgC, and 0.82 for AgPast, and 0.85 for AgPot.

**Productivity and Complexity Variables.** Protocol Complexity was selected as the focal measure of complexity and engagement (Dean, Viglione, Perry, & Meyer, 2007; Viglione, 1999) because it is the most comprehensive measure of complexity and productivity. To produce Protocol Complexity location/developmental quality, determinants, and contents, are each given point



values that are combined to obtain a complexity score for each response. In turn these scores are then summed to produce the Protocol Complexity score. For example, all locations with a  $DQ_v = 0$  points,  $DQ_o = 1$  point, and  $D$  or  $Dd$  locations with  $DQ_+ = 2$  points. Three points are for  $DQ_+$  responses with  $W$ ,  $WS$ ,  $DS$ , and  $DdS$  locations. Determinants are given point values corresponding to the number of determinants of the response; pure  $F$  responses are given 0 points. Similarly, the content point value corresponds to the number of contents provided in response; however, responses with only one content that is either  $A$ ,  $Ad$ ,  $(A)$ , or  $(Ad)$  are given no points. Thus, this yields information on the level of overall complexity of Rorschach protocols, with higher scores reflecting greater complexity. In addition, Protocol Complexity is highly correlated to the first factor on the Rorschach and has been associated with respondent engagement and cooperation with the test (Meyer, Viglione, Mihura, Erard, & Erdberg, 2011). Protocol Complexity subsumes  $R$ , (the number of responses in the protocol),  $F\%$ , (the number of simple form—Pure  $F$  responses divided by the total number of responses in the protocol; Meyer, Viglione, & Exner, 2001) and Response Complexity (Protocol Complexity score divided by number of responses), all four of which were also explored in this study to more specifically ascertain whether any aspects of productivity relate to how people attempt to suppress aggression responses.

## Procedure

The primary researcher, participants, and research assistant met at a mutually convenient time at public locations to assure the safety of the examiner and research assistant. Participants were provided with the appropriate consent form, corresponding to the suppression instructional set or control instructional set to which they were randomly assigned. After the primary researcher answered any questions, the participants' completed the Demographic Questionnaire and the Shipley Institute of Living Scale (Zachary, 1986).

Of those who participated, all met the IQ criteria, and were provided with a written copy of the suppressive or nonsuppressive instructions depending upon their random assignment of condition. Participants were then introduced to the research assistant who administered the Rorschach Test. These research assistants were blind to the nature and purpose of the study and to the group membership of the participants.

A second meeting time approximately 1 to 2 weeks later was scheduled with each participant. The same procedures were followed except the other instructional set was given, and a different research assistant administered the Rorschach test. As a manipulation check, after the second session, participants were asked to respond to a few brief statements, a Testing Survey, to

determine whether they were able to follow the instructions. Debriefing the participants and providing the remuneration previously mentioned concluded the experiment.

## Results

Results with the Testing Survey affirmed the effectiveness of the instructional set intervention: Participants reported that they suppressed more aggression content in response to the suppression instructional set. Descriptive data along with effect sizes for Rorschach variables are presented in Table 2. The control, nonsuppressive instructions produced twice as many AG+AgC responses than did the aggression suppression instructions. The control instruction condition averaged 6.24 AG+AgC responses per protocol ( $SD = 4.45$ ) with considerable more variability, whereas the suppression instruction condition averaged 3.15 responses per protocol ( $SD = 2.5$ ;  $F[1,37] = 29.6, p = .001$ ). The effect according to Cohen's (1988) criteria is large ( $d = .97$ ) indicating less than 50% overlap in the scores from the two instructional set conditions. The violent vs. nonoffenders contrast was not significant ( $F[1,37] = 0.96, p = 0.33$ ) nor ordering of instructions ( $F[1,37] = 0.02, p = 0.90$ ). Moreover, there was no significant main or interaction effects on Protocol Complexity, (condition,  $F[1,36] = 1.16, p = .29$ ; instructional set,  $F[1,36] = 1.49, p = .23$ ; interaction,  $F[1,36] = 1.89, p = .77$ ). Protocol Complexity appears to not be moderator or mediator of AG+AgC aggression responses in the Rorschach due to the absence of a significant difference between the conditions.

Statistical tests of main effects were calculated for the other aggression variables and subcomponents. Specifically, AG, AgC, AgPot, AgPast individually and AllAg, and other measures of Rorschach complexity and productivity, Response Complexity, R, F%. Results indicated that there was no effect for AG for instructional set. This could be due to the paucity of data: 55 of every 82 protocols recorded zero AG responses. Nevertheless, a trend was observed for the offender group producing more AG ( $F[1,37] = 3.84, p = .06, d = .49$ ). Noteworthy, the effect size for this difference was medium, so that a larger sample might yield statistically significant results (Cohen, 1988).

Additionally, AgC offender responses were more frequent in the control instruction condition, ( $M = 5.51, SD = 3.94$ ) than in the suppression instruction ( $M = 2.61, SD = 1.95$ ). This difference was statistically significant and large ( $F[1,37] = 27.18, p = .001, d = 0.94$ ). Thus the effect for instructional set was largely due to AgC and not AG. On the contrary, there was no significant difference for offender versus nonoffender group for AgC. In other words, AG yields marginally significant differences when comparing violent offenders with non offenders, while no differences are observed when

**Table 2.** Rorschach Descriptive Statistics by Instruction Set and Group ( $N = 41$ ).

Variable	Sample	Control Condition		Suppression Condition		<i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
AG + AgC	Nonoffenders	5.45	3.27	2.90	2.51	0.97
	Violent offenders	7.00	5.31	3.38	2.56	1.01
	Entire sample	6.24	4.45	3.15	2.52	0.97
All AG	Nonoffenders	6.60	3.62	3.75	3.45	1.02
	Violent offenders	8.48	6.70	3.86	2.89	1.16
	Entire sample	7.56	5.44	3.80	3.13	1.00
Protocol complexity	Nonoffenders	66.90	28.44	63.30	20.54	0.26
	Violent offenders	60.24	20.21	55.05	21.29	0.18
	Entire sample	63.49	24.49	59.07	21.08	0.19
Response complexity	Nonoffenders	3.41	0.96	3.56	0.80	0.31
	Violent offenders	2.86	0.84	2.84	0.79	0.03
	Entire sample	3.13	0.93	3.19	0.87	0.11
R	Nonoffenders	20.00	8.20	18.20	6.23	0.44
	Violent offenders	22.14	8.96	19.52	5.33	0.27
	Entire sample	21.10	8.56	18.88	5.75	0.30
F%	Nonoffenders	0.34	0.20	0.28	0.13	0.28
	Violent offenders	0.50	0.17	0.47	0.20	0.19
	Entire sample	0.42	0.20	0.38	0.19	0.21
AG	Nonoffenders	0.40	1.35	0.30	0.80	0.11
	Violent offenders	1.05	1.40	0.76	0.94	0.28
	Entire sample	0.73	1.40	0.54	0.90	0.19
AgC	Nonoffenders	5.05	2.89	2.60	2.06	0.85
	Violent offenders	5.95	4.77	2.62	1.88	1.07
	Entire sample	5.51	3.94	2.61	1.95	0.94
AgPot	Nonoffenders	0.45	0.69	0.45	1.05	0.00
	Violent offenders	0.67	0.91	0.19	0.40	0.63
	Entire sample	0.56	0.81	0.32	0.79	0.29
AgPast	Nonoffenders	0.70	0.92	0.40	0.68	0.36
	Violent offenders	0.81	1.29	0.29	0.46	0.46
	Entire sample	0.76	1.11	0.34	0.57	0.42

Note. There are 20 Nonoffenders and 21 Violent Offenders. *d* values refer to the comparison between Control and Suppression, and are computed according to Morris and DeShon's (2002) equation 8 for repeated measures Cohen's *d*.

comparing the two groups in terms of AgC. Conversely, a significant main effect for instructional set is observed for AgC, but not for AG.

Although, AgPot responses were rare, the difference for instructional set approached significance ( $F[1,37] = 3.30, p = .08$ ). No main effects were evident for AgPot. In addition, AgPast produced a significant effect for instructional set ( $F[1,37] = 5.99, p = .02, d = 0.42$ ). All aggression variables were summed to create AllAG. Similar to AG+AgC, AllAG produced about twice as many responses in the control condition than the suppression condition (7.56 vs. 3.80). This difference was statistically significant with a large effect size ( $F[1,37] = 31.19, p < .001, d = 1.00$ ). As with the other variables, there were no significant differences for offender group.

Analysis of the variable *R* with instructional set revealed a trend for higher *R* with the suppressive instructional set ( $F[1, 37] = 3.39, p = .07, d = 0.30$ ), however no statistically significant differences between group ( $F[1,37] = .85, p = .36$ ) and no effect of the order of the instructional set ( $F[1,37] = .95, p = .34$ ) were observed.

Response Complexity ( $F[1,37] = 5.94, p = .02, d = 0.75$ ) and  $F\%$  ( $F[1,37] = 12.47, p = .01, d = 0.98$ ) was lower for the violent offender group than the nonoffender group. However, there was not a statistically significant difference between instructional set conditions for Response Complexity ( $F[1,37] = 0.41, p = .52$ ). There was an interaction for order and condition regarding AG ( $F[1,37] = 4.29, p = .045, d = .16$ ) and  $F\%$  ( $F[1,37] = 5.48, p = .025, d = .21$ ). However, there were no significant order or interaction effects for any other variable.

### Thematic Analysis

As an exploratory post hoc analysis, we attempted to investigate how participants modified the content and themes of their responses in response to the instructional set. We considered the response phase verbalizations, rather than inquiry verbalizations, to address what was spontaneously given by the respondent and to minimize the effect of the examiner in the inquiry phase of the test.<sup>1</sup> Moreover, we attempted to isolate changes in verbalizations in the two instructional sets. We undertook two thematic analyses with both quantitative and qualitative features, one with a standard linguistic analysis program using inferential statistical group comparisons and a second using individual words and the binomial theorem for contrasts.

**Standard Linguistic Analysis.** Two research assistants, who were blind to the nature and purpose of the research and each other's work, identified differences between participant's response verbalizations with each. They identified how each individual changed their Rorschach Response Phase descriptions as a function of instructional set. They identified passages that were the same in the two conditions (i.e., words or phrases that appeared in

both Rorschach transcripts) and those that were different (i.e., words or phrases that appeared in one condition on the Rorschach but not in the other). Examiners were instructed to ignore differences in conjunctions, articles, and minor differences in shades of meaning, grammar, wording, or syntax.

Among the 41 pairs of records, these two raters identified 1,218 instances of verbalizations. A kappa of .91 for the phrases and sentences revealed that inter-rater reliability for these decisions was excellent. Of interest were the verbalizations rated as “different” because they constitute actual changes in verbalizations in response to instructional set to a given card. This process left us with only those substantive words produced in either one of the two response phases (i.e., not shared in both) provided by each of the 41 individuals. One would expect suppression only verbalizations to be generally positive and less aggressive whereas control condition only verbalizations to be more negative and aggressive.

The Linguistic Inquiry and Word Count (LIWC-2007; Pennebaker, Booth, & Francis, 2007) was used for the semantic analysis. LIWC is a widely used linguistic or textual analysis text software program that categorizes and counts words according to linguistic categories such as parts of speech and semantic content. Verbalizations that were different across conditions were included in the analysis. LIWC categorized and counted words according to its 70 standard semantic categories. Individual category distributions were often nonnormal with many small or zero values. To produce a variable with an adequate distribution, we combined across categories to create a single variable which we called Net Positive Content. The second and third author classified the 53 semantic categories as positive, negative, and neutral, in terms of their implication within Rorschach verbalization, with the aim of including those categories which both agreed were either positive or negative. We agreed on 13 of the semantic categories, six positive categories (i.e., achievement, family, friends, humans, positive emotions, and social words) and seven negative categories (i.e., anger, anxiety, body, death, negative emotions, sadness, and sexual words). The negative words were subtracted from positive words to produce Net Positive Content with the expectation that it would be higher in the suppression condition than in the control condition. Skewness was corrected through Sheppard corrections.

As anticipated, the main effect for condition was significant ( $F_{1,39} = 7.56$ ;  $p < .05$ ;  $p = .009$ ) with a small to medium effect size ( $d = .45$ ). The overall mean for Net Positive Content, is 3.67 ( $SD = 9.04$ ) for the suppression condition and 0.32 ( $SD = 5.00$ ) for the control condition. No main effect was found for violent offender vs. nonoffender groups nor the interaction between condition and group were significant. Thus, evidence suggests that content of the responses differed between the suppression and control conditions.

*Individual Word Binomial Analysis.* We investigated individual words to discern specific semantic qualities of responses between conditions. Within each card for each participant, we selected only words in one condition but not the other. We eliminated words often used in Rorschach responses (as in “looks like,” “inkblot,” “guess,” “probably”), Rorschach location words (“shape,” “here”), obviously neutral words and nonwords (“huh, hmmm”) articles, prepositions, pronouns, conjunctions, numbers, and obviously neutral nouns, adjectives, verbs. We consolidated words to the related words sharing roots (e.g., aggression and aggressive). This procedure left 1,188 words used a total of 3,634 times.

We expected the frequent suppression condition words would be more positive, favorable, peaceful, and affirmative, whereas the control condition words would be more negative and suggestive of aggression and danger. We then used the cumulative binomial frequency to test the hypotheses that a given word was used more in either condition. We used  $p < .10$  because we wanted to produce enough words so that one could derive a sense of the meaning or implication of the words. Words that were only used three or fewer times were not considered, because it takes four words to produce probabilities less than  $p < .10$ . For calculating the binomial, the frequency of a word in the suppression condition was used as number of successes. The total frequency of that word (frequency in the suppression condition + frequency in the non suppression condition) served as total number of trials, and the probability for each trial was set at 0.5. For example, “happy” had a frequency of four in the suppression condition and zero in the control condition, so that number of successes is four, the number of trials was considered to be four, and the probability for each trial is 0.5. According to the binomial distribution, the probability of four successes on four trials (with 0.5 of success at each trial) is 0.06.

Of the 235 words that occurred four or more times, 10 words were significant greater for the suppression condition and 69 for the nonsuppression condition. Only 47 words would be expected by chance, so that the likelihood of 79 significant by chance is extremely low ( $1.94 \times 10^{-19}$ ). Results of this analysis are presented in Table 3.

## **Discussion**

The main purpose of this study was to increase our understanding of the suppression of aggression content on the Rorschach, and to understand the occasional paradoxical findings of less aggression content in a population of violent offenders compared to nonviolent controls. Three primary issues were explored relative to aggression content suppression. First, are

**Table 3.** Individual Word Binomial Analysis.

<i>p</i>	Words More Frequent in the Suppression Group	Words More Frequent in the Control Group
< .01		little, red, middle, bow, heart, leg, evil, century, space, tie, mouth, map
.01		head, bat, crab, dance, mask, bug, insect, leaf, dark, hanging, rib, sea
.02	real	butterflies, wings, bodies, alien, drum, explosion, paint, poodle, world
.03	child, friends	coming, try, hair, beat, coral, design, jumping, kicking, lobster, lung, orange
.04		get, go
.05		arm, play, rock
.06	happy, kiss, made, painting, stepped, sun, talking	skin, female, alligator, cave, dive, flame, frog, guitar, hip, king, leaning, native, pull, surgery, totem, white
.07	green, rabbit	
.08	tree	
.09	old	

individuals able to reduce the amount of aggression responses produced on the Rorschach when motivated to do so? Second, is there a difference in amount of aggression content produced between violent offenders and nonoffenders? Third, is response complexity and productivity different in protocols of violent offenders and nonoffenders, and is response complexity reduced when individuals attempt to suppress aggression responses? Also, through textual or semantic analysis we explored how respondents might manipulate response content more broadly when attempting to minimize the impression of aggressive risk.

Participants produced about half as much aggression content on the Rorschach when asked to appear as if they are not dangerous regardless if they were violent offenders or nonoffenders. Thus, this finding demonstrates that individuals can reduce Rorschach aggression content in half when motivated to do so. The suppression instruction was designed to simulate the suppressive testing context of forensic evaluations, in which a criminal offender may wish to convince the examiner or court that he or she poses no risk to the community and is not dangerous. The nonsuppressive instructional set was designed to simulate a neutral or practice testing context. Evidence suggests individuals can modify some dimensions of Rorschach responses (Abramson, 1951; Coffin, 1941; Hutt, Gibby, Milton, & Pottharst, 1950; Morgan &

Viglione, 1992; Seamons et al., 1981). Together, these findings suggest that easily recognizable content of some Rorschach responses, in this case aggression and threats of danger, can be screened out when one is requested or motivated to do so, as is the case in everyday social situations. Less obvious content, for example dependent content (Bornstein, 1999), is not as readily screened out or manipulated.

In the present study, the impact of instructional set was nearly identical for both the violent offender and nonoffender groups for all aggression content variables. Not all differences for aggression variables were statistically significant, at least in part due to the paucity of responses.<sup>2</sup> The AG, AgPast, and AgPot content categories averaged less than one response per protocol with many zero responses, even in the control condition. This low score of AG is consistent with revised CS normative expectations and emerging international norms (Meyer et al., 2007; Meyer, Viglione, Mihura, Erard & Erdberg, 2011; Viglione & Meyer, 2008). Among these variables, it is only AgC that has an adequate distribution, and it accounts for a great deal of the differences between conditions.

This study found no significant difference between people with a history of violence and people without a history of violence in relation to their production of aggression content within the two instructional sets. Only a trend was observed, with the offender group producing more AG than the nonoffender group, with a medium effect size. The results of the present study therefore do not align with theoretical expectations that, if the quantities of aggressive responses on the Rorschach are associated with violent behavior, then violent males will produce more aggression responses than nonviolent males on the Rorschach. However, the results of the present study are also in contrast to previous research that found violent males produce fewer aggression responses than less-or nonviolent participants (Gacono, 1988, 1990; Gacono & Meloy, 1992; Heaven, 1989; Kaser-Boyd, 1993). A possible explanation for these inconsistent findings is that our small sample lacks power to detect small or medium between-groups differences. Thus, one may speculate that had more protocols been collected, a small difference might emerge between violent offender and nonoffender groups, especially for AG. However, another plausible explanation is that Rorschach responses are not useful for explaining and/or predicting violent offending, and that past findings are just random fluctuations around a true null effect. More research is needed to settle this debate.

In any case, our study provides a potential explanation for the paradoxical finding that violent participants produce fewer aggression content responses on the Rorschach than nonpatient, nonoffender normative groups (Kaser-Boyd, 1993; Margolis, 1992). Like our participants in the suppression



condition, individuals in a forensic setting are likely motivated to create a favorable impression of themselves by censoring aggression responses. It is reasonable to speculate that the violent offenders in previous research were tested in implicitly adversarial and suppressive examination contexts, whereas the normative samples were tested under a nonsuppressive context. Thus, these differences in an implicit examination context could explain the finding of lower aggression scores for violent offenders than for nonoffenders, in that aggression responses on the Rorschach are sensitive to the testing context. Applying our results to examinations of violent individuals to assess dangerous risk suggests that violent individual should be able to screen out aggressive and obvious negative content. If such content appears in any volume in a record, one can conclude that the person is unable or unwilling to suppress such elaborations.

Protocol Complexity was also similar between violent offender and non-offender participants regardless of instructional set. These findings suggest people with and without histories of violence produce similar Protocol Complexity at the protocol level and do not significantly alter a variety of response components when they suppress aggression content. Thus, they selectively suppress aggressive content and do not suppress other response elaborations and descriptions. The present study's results are consistent with the conclusion that response protocol complexity is not a mediating or moderating variable in aggression responding on the Rorschach.

However, complexity (Response Complexity lower and F% higher) of the individual responses was significantly lower for violent offenders. Violent offenders produce significantly less complex and more simplistic responses on the Rorschach than nonoffenders. This finding of simplistic records suggests that simplistic cognitive processing, poor coping with limited response alternatives, or possibly low motivation that are common one among offenders (Viglione, 1999).

This study also explored linguistic or semantic analysis as another avenue to understand response content manipulation. The findings were similar to those with aggression content. First, from the most global perspective considering within subject changes and conditions, participants tended to add positive and pleasant content to the nonsuppressive conditions and suppressed negative and problematic content found in their control condition Rorschach records.

A review of the words which were more common in the suppression condition in which participants were attempting to appear nonviolent reveals that pleasant, innocent, positive descriptions were added (child, friends, happy, kiss, sun) as well as offering benign elaboration. The surfeit of words, 69 found in the control, nonsuppressive instructional while only 10 words in

the suppression condition set suggests that individuals suppressed a notable amount of response description in the suppression condition in their effort to be careful (evil, bat, crab, dark, explosion, kicking, alligator, flame, surgery, totem, old). Words with negative aggressive and threatening implication characterization found in the control condition were suppressed in the respondents' attempt to appear not dangerous. Another category that participants censored in the suppression condition were anatomy related (leg, mouth, head, wings, hair, lung, arm, skin, hip). Apparently, such description spontaneously offered in the response phase, are considered to have some negative connotation and thus suppressed. Then, there is a large number of apparently neutral elaborations for which the reason to suppress is may not be clear.

The present experimental study has a number of limitations, so that its conclusions should be interpreted with some caution. The small sample size and the fact that many of the records were collected in public places limits generalizability to forensic contexts. The violent offenders were not seriously violent or dangerous people which may limit the contrast to the control condition. Another possible limitation of this study is that primarily only female research assistants gave the Rorschach to a purely male participant group. Additionally, participants were not equivalent on education, marital status, ethnicity, or income. There is no research suggesting these factors significantly affects aggression Rorschach responses; however, the actual influence of these factors is unknown. Conversely, offender groups tend to be lower than the general population on education and income, and are less often married, so that such difference should be expected as intrinsic to the groups. Educational and cognitive limitations are likely related to the more simple responses found in violent offenders' responses. Replication of this study is necessary to validate the aggressive content response manipulation findings. Research conducted within an actual forensic setting is recommended. Considering the racial diversity of the sample, replication using race as grouping factor would be of interest. Further, a replication that included the gender of the research assistants administering the Rorschach as a variable may illuminate underlying mechanisms for the results.

The exploratory thematic analyses demonstrate some potential for Rorschach study. We found that the LIWC was not particularly well suited and the common expressive and meanings attributed to Rorschach responses. Possibly, another linguistic analysis system or one designed for Rorschach expression might prove more productive. Also, discriminating between substantive description of Rorschach imagery, expressions of the level of confidence, or uncertainty in giving responses as wells as implicit criticisms of the task, responses, examiner, or the respondent may be research areas to explore. Analysis of positive and negative emotional reactions might also yield

important information as does nonsensical verbalizations as measured by cognitive special scores (Exner, 2003).

In conclusion, we would urge you not to underestimate the effect on examination conditions on the obvious content in the Rorschach, other performance-based, self-report, and collateral report psychological tests, as well as interview methods (Greene, 2000; Gacono & Evans, 2008). As needed, people can suppress negative and aggressive content on the Rorschach as they often do in everyday life.

### Author's Note

This research is based on the doctoral dissertation of Sue TaVoularis Benjestorf completed in 2002 at Alliant International University, San Diego, CA.

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### Notes

1. The way the data were processed and preserved did not allow post hoc inferential statistical comparisons for the number of words produced during the Rorschach free association. However, it was clear that offenders gave fewer words, consistent with their more simplistic responses. The average number of words for the free association for the offenders was 145.8 and for the nonoffenders 247.8, about 70% more and 10 more words per card.
2. There were no significant correlations on the Rorschach between aggression variables and the productivity and complexity variables. Thus, respondents can suppress aggression themes without producing less or providing less complex records that is without affecting the overall record.

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## Author Biographies

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