AN ABSTRACT OF THE THESIS OF

Mark E. Rychlec for the Master of Science in Psychology presented on April 22, 1994

Title: THE EFFECT OF VISUAL STIMULI ON RORSCHACH RESPONSES

Abstract approved:

The purpose of this study was to examine the influence of the immediate visual environment upon the subject's responses to the Rorschach Inkblot Technique. There has been uncertainty about the nature of "projection" that occurs with the Rorschach. In other words, it is possible that the environment is contributing to the projection while being tested with the Rorschach. If this is the case, these influences may lead to an inaccurate diagnosis.

Subjects included 40 volunteer undergraduate students enrolled in psychology courses. Once the list of volunteers was complied, subjects were randomly assigned to one of two testing conditions. In Condition 1, subjects were tested with the Rorschach in a room containing a human anatomy chart. In Condition 2, subjects were tested with the Rorschach but had no exposure to the anatomical chart. It was hypothesized that individuals tested in a room containing an anatomical chart would have more content responses of human anatomy on the Rorschach protocol than a group that had no exposure to the chart.

A 2 X 2 (Gender, male/female X Testing Condition, exposure/no exposure to anatomy chart) analysis of variance (ANOVA) was conducted. The results did not support these
hypotheses.

We can conclude from this study that the individual’s responses on the Rorschach protocol do not seem to be influenced by the visual stimuli in the testing environment. Several possible reasons for these results are discussed.
The Effects of Visual Stimuli on Rorschach Responses

A Thesis
Presented to
the Division of Psychology and Special Education
Emporia State University
In Partial Fulfillment
of the Requirements for the Degree
Master of Science
by
Mark E. Rychlec
May 1994
Approved for the Division

Faye N. Uowell
Approved for the Graduate Council
ACKNOWLEDGEMENTS

My most sincere gratitude is extended to those who dedicated their time in helping me complete this project. Dr. David Dungan and Dr. Nancy Knapp offered their support and encouragement throughout the process, for which I am extremely thankful. I especially want to thank Dr. Cooper Holmes for all of his support and knowledge that he gave me from the beginning to the end. He provided me with direction and confidence to continue through the difficult times. I want to thank Laura Hendrickson for all of the long hours that she spent at the beginning stages of this project proof reading and giving encouragement. I want to thank the members of my family for their support, especially my parents, for if it weren't for them, this research may not have been possible.
# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ........................................ iii  
TABLE OF CONTENTS ......................................... iv  
LIST OF TABLES ............................................. v  

Chapter  

1 INTRODUCTION ............................................... 1  
    Literature Review ...................................... 2  
2 METHOD ..................................................... 13  
    Subjects ................................................. 13  
    Design .................................................. 13  
    Procedure ............................................. 13  
3 RESULTS ................................................... 17  
4 DISCUSSION ............................................... 20  
    REFERENCES ............................................. 23  
    APPENDICES ............................................ 26
LIST OF TABLES

TABLE

1 Analysis of Variance.................................18
2 Mean number of An responses, Standard
    Deviations, and Cell Size of the Four Subject
    Groups.............................................19
CHAPTER I
INTRODUCTION

The Rorschach inkblot technique has been used since 1921 to help in the evaluation of psychiatric disorders. The attractiveness of the Rorschach is generated in its ambiguous or unstructured characteristics. This ambiguous quality allows the freedom to respond, which supposedly exposes the subject's personality structure (Phares, 1988).

While the Rorschach is a commonly used test, some aspects of its validity have caused debate (Phares, 1988). Although the general characteristics of the Rorschach are widely agreed upon, there is much uncertainty about the nature of "projection" that occurs with the Rorschach (Mischel, 1986). For example, in certain cases, it is possible the environment or immediate situation is contributing to this projection. In other words, the responses on the Rorschach may not be the result of projections of the subject's personality, as assumed, but merely environmental influences prior to or during testing. If this is the case, these influences may lead to an inaccurate diagnosis. It may be necessary for the clinician to assess the testing environment prior to and during psychological testing in order to obtain accurate behavior prediction.

Since environmental influences may be operating during psychological testing, one must ask to what degree are these influences having an effect on Rorschach responses. Research
has been conducted on various elements of the testing environment with the Rorschach, but nothing has been done on the immediate visual effects of the environment. The purpose of this study is to determine the importance of visual stimuli upon Rorschach responses. It will also attempt to explore whether these influences can create test bias when interpreting the Rorschach.

Review of the related literature

In the past 50 years, personality theorists have shown an increased interest in how the testing environment affects test results. This interest in the environment has taken place due to the dissatisfaction with traditional assessment that has assumed individuals could be adequately assessed without taking the testing environment into account (Mischel, 1986).

During the 1960s and 1970s, an Interaction Model was developed. This particular model focused on the "ongoing, multidirectional interaction between an individual and his or her environment, especially the situations in which behavior occurs" (Magnusson & Endler, 1977, p. 4). This model also assumes that the person and situations are joined together during the process of interaction. Magnusson and Endler summarized the basic elements of this Interactional Model:

1. Actual behavior is a function of a continuous process of multidirectional interactions....
2. The individual is an intentional, active agent in this interaction process.

3. On the person side of the interaction, cognitive and motivational factors are essential determinants of behavior.

4. On the situational side, the psychological meaning of situations for the individual is the important determining factor. (p. 4).

Cattell (1950) agreed with this model of interaction. Cattell believed behavior was determined in a given situation by the importance of the situation for the individual and also by the traits that operate within it.

Gestalt psychology views the environment using the framework of a "field theory" (Hergenhahn, 1988). Field theory refers to the belief that the total environment consists of interdependent events. Field theory also assumes that behaviors and cognition "are a function of many variables that exist simultaneously, and a change in any one of them change the effects of all others" (Hergenhahn, 1988, p. 269). Kurt Lewin, a Gestalt psychologist, suggested that behavior is determined by the summation of psychological facts being experienced at a particular point in time. According to Lewin, psychological facts are certain cues or stimuli that have an effect on behavior, such as being hungry, or being in a certain physical setting. Lewin refers to the collective of all psychological facts as the person's "Life Space," which in
turn determines his/her behavior (Hergenhahn, 1988).

Rotter (1955) agreed that a person reacts to the totality of his or her psychological environment. Rotter believes it is important to break down specific cues within the environment for the analysis of behavior. Rotter’s views appear to parallel Cattell’s in that Rotter believes that "how we describe a specific situation must be determined by our immediate purpose" (Rotter, 1955, p. 259).

Obviously, the environment appears to be an important aspect in the field of psychology for the analysis of behavior. One must ask, if the environment is an important determinant of behavior, how much does the environment influence psychological testing? In the article "The Test-Situation and the problem of prediction," Sarason (1950), examined some variables that have an effect upon testing. They are the nature of the stimulus materials, the nature of the instructions, the purpose of testing, the psychologist, and attitudinal factors related to previous conditions of learning (Sarason, 1950,). Sarason concluded that these particular variables have been neglected in the field of testing which presumably can affect the predictive value of test results.

In another study, Miller (1953) utilized the Rorschach in an attempt to identify certain aspects of the testing environment that may have an effect on results. His findings were consistent with Sarason’s (1950) findings. However,
Miller discovered that the subject's reactions to testing and the relationship of the subject to the examiner are also important environmental factors.

Another attempt to demonstrate the significance of the testing environment was conducted by Moos (1968). Moos examined various reactions by a staff and psychiatric patient to different settings in a hospital. They rated nine different situations along a "sociable, friendly, peaceful" dimension versus an "unsociable, hostile, angry behavior" dimension. Moos found that many of the individuals responded differently to the different settings. He also found that a person may be high on one dimension at one particular period of the day, but low at another.

In a study by Kimble in 1945, social influences on Rorschach records were examined. This experiment involved administering the Rorschach to 14 college students first under standard conditions, then administering the Rorschach to the same 14 students in a social situation. The results of the research found that in most cases there were not any significant differences on the Rorschach results between the two conditions. However, there were differences between the ratio of movement and color responses. This research demonstrated that there is at least a minor effect caused by the environment upon Rorschach results.

In many studies, researchers attempted to demonstrate the significance of the environment by examining the effects of
the examiner on Rorschach results. The earliest study that attempted to do so was performed by Lord (1950). Lord examined the influence of positive and negative rapport on Rorschach results. In this study, 36 males between the ages of 19 and 27 who were enrolled in Introductory Psychology courses participated. This study involved administering the Rorschach under three different conditions. In condition one, the tester was to avoid any positive or negative behaviors. The tester was to be "courteous but business-like in manner." In condition two, the test administrator took the role as acting harsh, rejecting, and authoritarian. The administrator was also instructed not to look or smile at the subject. In condition three, the test administrator took the role as being "personally warm, charming, appreciative in manner." The tester was also instructed to smile and to use an encouraging tone of voice. Lord found that the examiners did have an effect on how the subjects responded to the Rorschach, further indicating that various elements of the testing environment do influence test results.

Another study that attempted to test the examiner’s influence upon Rorschach results was performed by Gibby, Miller, and Walker (1953). This study involved using three different examiners to administer the Rorschach to subjects in an outpatient mental hygiene clinic. The objective of this study was to see if a blind judge could identify each of the examiners by examining the subject’s test protocols. There
were significant differences in the determinants obtained by each examiner who had administered that Rorschach. Hence, the judge who was blinded for the purpose of this study was able to identify each examiner by observing the individual protocols.

Other studies attempting to examine the significance of the testing environment have explored the effects of various instructions on the Rorschach. Hutt, Gibby, Milton, and Pottharst (1950) examined the effects of various instructions using 83 undergraduates enrolled in Introductory Psychology classes. This study involved testing all subjects with the Rorschach under standard conditions, then retested them again two weeks later by the same examiner under one of the four experimental conditions. "Condition I (Control), standard situation; Condition II (D and Dd), subjects asked 'to tell everything he saw' and in addition to pay particular attention to the 'segmented' areas of the blots; Condition III (M), subjects asked 'to tell everything he saw' and in addition to find as many human movement responses as he could; Condition IV (F+, FC, H), subjects asked 'to tell everything he saw' and in addition to give only good form, combined form and color, and human movement response" (Hutt, Gibby, Milton, & Pottharst, 1950, p. 182). Subjects were randomly assigned to one of these four conditions. The results revealed that all four conditions were significant in the retesting of the Rorschach. Each subject's protocol was a reflection of the
instructions that were given in relation to the condition that the subject was in. This research demonstrated that altering the instruction (changing the testing environment) during testing can have enormous effects on the results. Hutt, Gibby, Milton, and Pottharst concluded, "....the reliabilities of all of these variables in the experimental groups, when the situation was structured, were considerably higher. We believe that a major reason for the lower reliabilities in the control group was the absence of a 'structured' situation; hence, each subject entered the test with a variable frame of reference depending upon how he uniquely perceived the situation each time" (Hutt, Gibby, Milton, & Pottharst, 1950, p. 184).

A contradictory view is offered in the Fosberg study (1938). Fosberg's study consisted of two individuals who were given the Rorschach four different times under four different sets of instructions. The purpose of this study was to determine if individuals could "fake good" or "fake bad" on the Rorschach. By using chi-square analysis, Fosberg found that the Rorschach upheld all attempts of the subjects falsifying their personalities. Fosberg concluded by mentioning that "The Rorschach test does not lend itself to manipulations based upon the subjective personal estimation of character, good, bad or indifferent....but faithfully traces the more permanent picture" (Fosberg, 1938, p. 30).

Fosberg (1941) performed another study using a larger
sample of 129 subjects. Fosberg again attempted to demonstrate that giving a "good impression" or a "bad impression" would not alter the direction of the personality structure. This time, Fosberg used a correlational approach as opposed to a chi-square as he did in his 1938 study. Fosberg's findings again suggested that the Rorschach was able to withstand any attempts by the subjects to manipulate the results in order to make a "good impression" or a "bad impression."

In the Fosberg studies (1938, 1941), the Rorschach results appeared not to be effected by varied instructions. However, Carp and Shavzin (1950) challenged Fosberg's earlier studies by examining the susceptibility of falsification on the Rorschach test. In this study, the Rorschach was administered to a group of individuals twice within a three-week interval. Just as in the Fosberg studies, subjects were told to give a "good impression" during the first time of testing, and to give a "bad impression" the second time of testing. The authors found that individuals could alter or distort their Rorschach results by either giving a good or bad impression. Carp and Shavizin concluded, "The results of this study do not agree with those obtained by Fosberg, which he states, indicate that "The Rorschach withstood all attempts at manipulation by the subjects" (Carp & Shavizin, 1950, p. 232).

A study concerned with the beliefs of the subjects in
relation to how they affect their test responses was conducted by Henry and Rotter (1956). This study consisted of 60 female college students randomly assigned to a control group and an experimental group. The control group was administered the Rorschach under standard conditions; however, the experimental group was given different instructions such as "This test is designed to discover emotional disturbances of a serious nature in mental patients" (Henry & Rotter, 1956, p. 457). Henry and Rotter hypothesized that by using loaded instructions like the ones in the experimental group, subjects will give responses they consider to be "safe." Also, it was predicted they would give fewer responses than the control group. The findings of this research revealed that the subjects in the experimental group did appear to give more conforming responses, as well as giving fewer total number of responses. Henry and Rotter concluded by suggesting that the beliefs of the subject regarding the purpose of testing needs to be examined to ensure accurate clinical interpretation. They also suggested that "situational determinants significantly influence test responses" (Henry & Rotter, 1956, p. 461).

Klatskin (1952) attempted to demonstrate the effects of the environment on the Rorschach test results. This study involved administering the Rorschach to a group of clerical workers and to a group of individuals in a hospital setting. The finding of this research were that the individuals in the
clerical group submitted significantly more responses, more determinants, and more content responses. On the other hand, the individuals in the hospital gave poor quality of responses, as indicated by a higher incident of minus responses. The hospital group also gave a higher content of anatomy responses. This research demonstrated that the physical place of testing has a significant affect on Rorschach test results.

Summary

With the development of the Rorschach in 1921, different projective techniques have been utilized in order to obtain information about individuals personalities. One of the most popular projective techniques is the Rorschach. While this technique continues to be a popular test, many believe that it is highly influenced by the environmental influences (Mischel, 1986; Phares, 1988).

Beginning in the 1930’s, psychologists realized the importance of the environment. Gestalt psychologists, social learning theorists, and other theorists have demonstrated that the environment does in fact shape and influence human behavior. They have also suggested that the testing environment needs to be accounted for in order to predict behavior accurately.

Many researchers have attempted to assess the significance of the environmental influences utilizing the Rorschach. Past research has involved examining the effects
of examiner characteristics, social settings, varied instructional sets, as well as testing in different physical settings. It has also found that various elements of the testing environment do in fact influence responses on the Rorschach. Additionally, the research suggests that certain environmental variables create bias and can lead to inaccurate test results. More research is needed on exploring the effects of visual stimuli on psychological tests results.
Subjects

Subjects consisted of 20 male and 20 female freshman college students enrolled in Introduction to Psychology and Developmental Psychology at Emporia State University. These students received extra credit from their instructor for their participation. When the pool of volunteers was established, the subjects were randomly assigned to Condition 1 or Condition 2.

Design

The research method employed was quasi-experimental. The method is quasi-experimental because two groups were being compared under controlled conditions. Additionally, it is considered quasi-experimental because the sampling procedures are considered nonrandom.

The appropriate design for this study was a posttest-only control group design. This design was appropriate for this study because two groups were formed by random assignment. One of these groups received treatment while the other received no treatment.

Procedure

Before experimentation took place, an application for the approval to use human subjects was submitted to Emporia State University's Review Board. In obtaining subjects to participate in this research, the researcher attended
Introductory Psychology and Developmental Psychology classes and asked for volunteers to participate in this research. When the list of potential subjects was compiled, individuals were randomly assigned to either Condition 1 or to Condition 2. Each condition had 10 males and 10 females.

All subjects were administered the Rorschach under the standard conditions according to Exner’s system. According to Exner’s standardization procedures, it was critical to follow testing procedures accurately. He recommends that the tester and the subject sit side by side throughout testing. He also suggests that the tester have all testing materials ready before testing. He also suggests that the introductory overview phrase be stated in this manner "...one of the tests we will be doing is the inkblot test, the Rorschach. Have you ever heard of it, or have you ever taken it?" (Exner, 1990, p. 4). If the subject had no knowledge of the Rorschach, he or she was told: "Its just a series of inkblots that I’ll show you and I want you to tell me what they look like to you" (Exner, 1990, p. 4). After the introductory phrase was completed, the tester handed each card individually to the subject with the remaining cards facing down then said, "What might this be?" (Exner, 1990, p.5).

To eliminate experimenter bias, the Rorschach was administered by three independent female researchers with experience in administering projective techniques. An additional female researcher was used to score only the
content of the subject’s responses. These independent researchers were blinded to the purpose of this study.

Upon arrival for testing, all subjects signed a informed consent form. This confirmed their permission to participate in this study. Confidentiality was observed by retaining only the gender and age of the subjects on the testing form. No names were listed. Also, for identification purposes, the testing form contained either a numeral 1 representing those subjects tested in condition 1, or a numeral 2 representing those subjects tested in condition 2.

**Description of Condition 1:** In Condition 1, the testing room contained a colored anatomical drawing 20" x 25.5" of a male displaying the vascular and viscera system. This drawing was displayed at approximately eye level and 7 feet away from the subject. The background of this picture was white. The examiner did not mention this picture to the subject. If the subject asked the examiner about this picture, the examiner replied by saying, "It was already in the room." There were two chairs and a desk in this room and no other pictures were on the walls during testing.

**Description of Condition 2:** In Condition 2, there were no pictures or any other objects on the walls where the tests were administered. Other than this, the arrangement was the same as Condition 1.

A female researcher scored only the content of the individuals' responses based on Exner's scoring system. The
remaining determinants of the Rorschach scoring system were not scored or used for the purpose of this research. From all the content scores, only anatomy (An) scores were counted for each of the four subject groups.
CHAPTER 3
RESULTS

The data were analyzed using a 2 X 2 (Gender, male/female X Testing Condition, exposure/ no exposure to anatomy picture) analysis of variance (ANOVA). Content scores of the Rorschach served as the dependent variable in each of the four subject groups. An alpha level of .05 was utilized to determine statistical significance.

The data in Table 1 indicates that the main effect for gender was not significant $F(1, 39) = .018, p > .05$. It was also found that the main effect for the experimental conditions was not significant $F(1, 39) = .863, p > .05$. There also was no significance in the 2-way interaction between gender and the two testing conditions $F(1, 39) = .44, p > .05$. See Table 2 for Means, Standard Deviations, and Cell Size. This research concluded that the human anatomy picture did not significantly affect the way individuals respond to the Rorschach cards.
Table 1

Analysis of Variance

Tests of significance of the four subject groups

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER</td>
<td>.025</td>
<td>1</td>
<td>.025</td>
<td>.018</td>
<td>.895</td>
</tr>
<tr>
<td>EXPERIMENTAL</td>
<td>1.225</td>
<td>1</td>
<td>1.225</td>
<td>.863</td>
<td>.359</td>
</tr>
<tr>
<td>Gender X Experimental</td>
<td>.625</td>
<td>1</td>
<td>.625</td>
<td>.440</td>
<td>.511</td>
</tr>
<tr>
<td>Explained</td>
<td>1.875</td>
<td>3</td>
<td>.625</td>
<td>.440</td>
<td>.726</td>
</tr>
<tr>
<td>Residual</td>
<td>51.100</td>
<td>36</td>
<td>1.419</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>52.975</td>
<td>39</td>
<td>1.358</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2

Means Number of An Responses, Standard Deviations, and Cell Size of the Four Subject Groups

<table>
<thead>
<tr>
<th>Testing Condition</th>
<th>Condition 1</th>
<th>Condition 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>M</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>Male SD</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>10</td>
</tr>
<tr>
<td>Female</td>
<td>M</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>Female SD</td>
<td>1.34</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>10</td>
</tr>
</tbody>
</table>
CHAPTER 4
DISCUSSION

Starting in the late 1930's, researchers began focusing on the testing environment and its effect upon responses. Much of this research involved using psychological testing, especially the Rorschach, as a means to gather data on the environment. Then in the early 1960's, this research started to decline. In many cases it was found that certain aspects of the testing environment can have an effect on Rorschach responses. Nearly 30 years have gone by with very little research performed on this topic. There has been no research conducted to measure the effect of visual stimuli on Rorschach responses. With the environmental stressors that confront individuals in their daily living due to our growing changing society, one must question whether is the environment having more of an impact on behavior than it did in the past.

This study was created to examine the effects of the immediate visual environment upon the Rorschach responses. It was hypothesized that individuals who were exposed to a picture of a torso displaying human anatomy would have more content responses of human anatomy on the Rorschach protocol than the group that had no exposure to the picture. However, upon analysis of the data, this hypothesis was not supported. This research found the human anatomy drawing did not significantly influence the way individuals responded on the Rorschach protocol.
Several speculations concerning these results may be offered. Cattell (1950) suggested that behavior is determined by the importance of the situation for the individual and also by the traits that operate within it. Magnusson and Endler (1977) believed that the individual’s psychological meaning and cognitive factors of the environment are what determines behavior for the individual. Based on these notions, it could be hypothesized that the human anatomy picture in this experiment did not possess any importance or psychological meaning to the subjects.

Phares (1988) questioned the validity of the Rorschach because of environmental factors that may be operating in the testing situation of the Rorschach. We can speculate that individuals were not influenced by the anatomical drawing and that it was not a predominant aspect of the testing environment for the experimental group. We may conclude from this study that an individual’s responses on the Rorschach do not seem to be influenced by visual stimuli in the testing environment.

The findings of this research are limited due to the selection of a homogeneous sample. This study generalizes to students enrolled in selected undergraduate psychology courses. For those seeking psychiatric treatment in which the Rorschach is used in their evaluation, these results may not be valid. Since this study focused on college students and not on psychiatric patients for whom the Rorschach Inkblot
Technique was developed, this topic should be investigated further.

Replications of this study might involve using a heterogeneous sample that includes psychiatric patients. As with any research, a larger sample size would increase the validity of the results found.
REFERENCES


APPENDIX A

INFORMED CONSENT
INFORMED CONSENT

The Department/Division of Psychology and Special Education supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

You will be administered the Rorschach Inkblot Test. This particular test consists of ten separate inkblots in which it will be asked of you to describe what each one of them looks like to you. The information gathered will be used to help understand the validity of this projective technique. For the purpose of this research, your name will remain confidential and will not be used for this research. This research does not involve any risk and should not bring about any discomforts to you. The information gained will be helpful for clinicians to more accurately predict behavior.

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risk involved and assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

__________________________  __________________________
Subject or authorized representative  Date
I, Mark E. Rychlec, hereby submit this thesis/report to Emporia State University as partial fulfillment of the requirements for an advance degree. I agree that the library of the University may make available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purpose of a nonprofit nature. No coping which involves potential financial gain will be allowed without written permission of the author.

Mark Rychlec  
Signature of Author

May 5, 1994  
Date

The Effect of Visual Stimuli on Rorschach Responses  
Title of Thesis/Research Project

Cooper  
Signature of Graduate Office Staff Member

May 5, 1994  
Date Received