Loyola University Chicago
Loyola eCommons

Master's Theses | Theses and Dissertations

1988

The Rorschach Erlebnistypus or Experience Type and Psychological Adjustment

Dianne DeSousa
Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/luc_theses

 Part of the Psychology Commons

Recommended Citation

DeSousa, Dianne, "The Rorschach Erlebnistypus or Experience Type and Psychological Adjustment" (1988). *Master's Theses*. 3551.
https://ecommons.luc.edu/luc_theses/3551

This Thesis is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Master's Theses by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License.
Copyright © 1988 DeSousa Dianne

THE RORSCHACH ERLEBNISTYPUS OR EXPERIENCE TYPE AND PSYCHOLOGICAL ADJUSTMENT

by

Dianne DeSousa

A Thesis Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

April

1988

(c) 1988 Dianne DeSousa

ACKNOWLEDGEMENTS

The author would like to thank those individuals who have made the completion of this project possible. The guidance and support of thesis director, Dr. Marvin W. Acklin and committee member, Dr. Alan S. DeWolfe, are here gratefully acknowledged. Gratitude is also extended to Jeffery K. Hoelzel, because without his help and encouragement this project would have been a much more difficult endeavor.

VITA

The author, Dianne Therese DeSousa, is the daughter of John Lester and Marlene (Manow) DeSousa. She was born February 15, 1964 in Chicago, Illinois.

Her elementary school education was obtained in the public schools of Chicago, Illinois. Her secondary education was completed in 1981 at the William J. Bogan High School, Chicago, Illinois, where she graduated as Class Valedictorian.

In September, 1981, Ms. DeSousa entered Lake Forest College. She graduated from there Magna Cum Laude, receiving the degree of Bachelor of Arts in psychology and business in May, 1985, and receiving Honors for Psychology and for her Senior Thesis. In 1985, while attending Lake Forest College, Ms. DeSousa was inducted into Psi Chi and was elected a member of Phi Beta Kappa. She also became a student member of the American Psychological Association.

In August, 1985, Ms. DeSousa was granted a University Fellowship at Loyola University of Chicago and entered the program in Clinical Psychology. From August, 1986 to July, 1988, Ms. DeSousa was a Clinical Psychology Trainee at the Charles I. Doyle Center in Chicago, Illinois. Ms. DeSousa completed the Master of Arts degree in 1988.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

LIST OF TABLES

INTRODUCTION

In his classic work, Psychodiagnostics, Hermann Rorschach (1942) devoted almost one third of his text to a discussion of the Erlebnistypus, or experience type. Rorschach believed this construct to be very important, so much so that

> if all the languages of the world were used, it would still be impossible to express all the nuances of personality which are found to have their foundation in the experience type. (p. 101)

The Erlebnistypus (EB) represents a ratio between the sum of human movement responses (M) and the weighted sum of chromatic color responses (C). To understand EB, one must first consider its components, human movement and color responses. Rorschach stated that M's are those responses "which are determined by form perceptions plus kinaesthetic factors" (p. 25). Color responses are those in which the chromatic color on the blot determines the response, alone or with form. There are three possible configurations; color can be involved but form is the dominant determinant (FC), color is the primary determinant but form also is used (CF), or there can be no significant contribution from form qualities (C). Human movement responses suggest a preoccupation with inner life, with fantasy preferred over the real world. Color

responses suggest a great responsiveness to the environment. While acknowledging the importance of considering color and human movement responses independently, Rorschach stressed that "the essential data concerns the relationship between M's and C's" (1942, p. 72).

The relationship between M's and C's -- the experience type -- is examined by placing the sum of the human movement responses in ratio with the weighted sum of the color responses. The color responses are weighted as such: FC is equal to 0.5, CF is equal to 1.0 and C is equal to 1.5. Although Rorschach did not elaborate on his reasons for this weighting system, Exner (1974) suggested that it was done because color responses often occur more frequently than human movement responses, and a weighting system would somehow balance this out. It also allows the degree of the use of form to be taken into consideration in the ratio.

Initial Conceptualization of the Experience Type

Rorschach (1942) proposed that the direction in which the ratio was weighted for an individual tells us a great deal about that individual. If the ratio is weighted on the Sum M side, the individual is considered introversive. If the ratio is weighted on the Sum Color side, the individual is extratensive. If there is very

little difference between the two sides of the ratio the individual is referred to as ambiequal or ambitent. Rorschach proposed that a record with many M and C was "dilated," and with zero or only one M or C was "coartative." The various combinations of M and C allow for four extreme possible combinations. These are

1. Many M and many C ("dilated")
2. Many M and no C (pure "introversive")
3. Many C and no M (pure "extratensive")
4. An absense of both M and C ("coartated").

Within these extemes are other combinations of M and C, which blend characteristics of these four conditions.

Rorschach (1942) compiled the following summary of characteristics of Kinaesthesias Predominant (introversives) and Color Predominant (extratensives) individuals:

Kinaesthesias Predominant	Color Predominant
More individualized intelligence	Stereotyped intelligence
More reproductive ability	Greater creative ability
More "inner" life	More "outward" life
Stable affective reactions	Labile affective reactions
Less adaptable to reality	More adaptable to reality
More intensive than extensive rapport	More extensive than intensive rapport
Measured, stable motility	Restless, labile motility
Awkwardness, clumbsiness	Skill and adroitness

(Rorschach, 1942, p. 78)

Rorschach further suggested that introversives demonstrate the following characteristics: "Predominance of personalized productivity; intensive rapport; stable affect and motility, awkwardness, [and] insufficient

adaptibility to reality" (1942, p. 81). They are prone to turn inward into themselves. He reported that extratensives display "the urge to live in the world outside oneself; restless motility; and unstable affective reactions" (p. 83). Ambiequals are able to balance features of both introversive and extratensive characters. Rorschach considered the ambiequal with a dilated experience type to be the most adaptive experience type. He stated that "the normal ambiequal type represents the ideal result of the development of the experience type" (p. 119). Rorschach also believed extratensives to be more naturally adapted to living than introversives, but felt that with the exercise of disciplined thought, introversives could function just as adequately as extratensives.

Explaining their nature, Rorschach stated that "introversive and extratensive features are not acquired, but are inherent, primary qualities of the constitution" (p. 87). Rorschach believed that the individual can develop disciplined thought which can control the extratensive or introversive features in their "constitution" but this disciplined thinking cannot change the individual's constitutional response style. Because behavior can be determined by this disciplined thought instead of

by the individual's response style, Rorschach stated that the EB "indicates how the person experiences, but not how he lives, or toward what he is striving" (p. 87). Rorschach warned that overreliance on disciplined thinking to hold down natural introversive or extratensive characteristics could result in "stereotypy and inability to experience fully" (p. 87).

Rorschach chose to use the terms "introversive" and "extratensive" in full awareness of their similarity to Jung's concepts of "introversion" and "extroversion." Nevertheless, Rorschach wished to disassociate his use of the terms from Jung's meaning because of the pathological process attributed to introversion in Jung's early writings. Rorschach wished to use the term introversion as it was used colloquially, implying a capacity to turn inward upon one's self in favor of the world outside. In Psychodiagnostics, Rorschach (1942) gave a somewhat lengthy description of the evolution of Jung's concepts, yet at the end of this discussion he stated that "I wish to emphasize that I am going to use the concept 'introversion' in a sense which has almost nothing except the name in common with Jung's" (p. 82). Despite this denial, numerous authors have attempted to demonstrate that Rorshach did, in fact, use the terms "introversion" and

"extratension" in a manner very similar to Jung's.

Jung (1920), distinguishing between introverted and extroverted psychological reactions, stated that an individual

> is extraverted when he gives his fundamental interest to the outer or objective world, and attributes an all-important and essential value to it; he is introverted, on the contrary, when the objective world suffers a sort of depreciation, or want of consideration, for the sake of the exaltation of the individual himself. (p. 290)

He later explained that the basis of the first was thought and the basis of the latter was affect. Bash (1955) elaborated on this point, stating that "he (Jung) then considered the basic function of the introverted type to be thinking and that of the extraverted type to be feeling" (p. 237). This conceptualization appears to be quite similar to what Rorschach was implying with the use of the concepts "introversion" and "extratension" since he defined his terms in such similar ways. Bash (1955) suggests that had Rorschach lived long enough to see Jung reverse his conviction that there was something pathological about introversion, he would have acknowledged the similarity between his and Jung's use of the terms introversion and extroversion. Mindness (1952) reports that Bruno Klopfer claimed Rorschach's loyalty to the Freudian tradition was responsible for his rejection of

Jung's terms, since his publication came only eight years after the bitter split between Freud and Jung. Whatever the reason, it seems clear that there is a great deal of similarity between the work of Rorschach and Jung in regard to experience types.

Rorschach cautioned against the inclination to consider the Erlebnistypus as a psychological type. He stated that "psychologically, the types [introversive and extratensive] cannot be said to be contrasting, any more than one could speak of movement and color as antitheses" (p. 79). He further explained that "the psychological processes producing introversion and extratension are not opposite but different. They are as different as thinking and feeling, as motion and color" (p. 83).

Rorschach's conclusions about the usefulness of the Inkblot Test and the examination of the experience type were derived to a great degree from an analysis of the records of clinical populations. Rorschach found that most depressives and demented individuals had coartated experience types, while most manic patients had dilated ambiequal experience types. An introversive experience type was most commonly found among paranoid schizophrenics and Korsakoff patients, while an extratensive experience type was most noted for hebephrenic schizophrenics and

epileptics.

After Rorschach's death in 1922, many researchers set out to understand and expand the use of Rorschach's inkblot technique and of his theory of Erlebnistypus.

Later Conceptualizations of the Experience Type

Beck. In his early writings, Beck (1949) referred to the Erlebnistypus as an "index of inner potential," emphasizing Rorschach's original tenet that the EB tells how the individual experiences life, but not necessarily how he lives it. Beck (1952) suggested that the EB was not something "mystical," but was simply "one more personality factor, or rather, cluster of two factors..." (p. 58) useful in understanding an individual. Beck (1960) stressed the importance not so much of the direction of the EB but rather the EB total, what he coined EA or experience actual. Beck stated that EA

> reflects the inner state in the subject's present mental phase -- the inner state as total psychologic vitality, whether exerting pressure outwardly [extratensive] or converted into dream living [introversive]" (p. 16).

The Experience Actual "indicates what we can expect of the subject in terms of emotional force, timber, depth, range" (p. 21). Beck stressed that EA is not temporally stable as is the direction of the EB. Later, Beck (1978) stated that the EA "is a statement of the S[ubject]'s

total inner life" (p. 11).

Beck (1960) questioned, in light of his clinical experiences, whether a relationship should be posited between the ambitent Erlebnistypus and mental illness or "between the EB types and the healthier personality structures" (p. 19). Beck hesitates to attribute a cause-and-effect explanation to this hypothesis, since it is difficult to ascertain whether a particular EB leads to mental illness or results from it.

Klopfer. Klopfer and Kelly (1942) viewed EB as a way of discriminating between people "who are predominantly prompted from within (introverts) [or] stimulated predominantly from without (extraverts)" (p. 221). They suggested that "the importance of the Erlebnistyp as one of the structural elements lies in the fact that the Erlebnistyp may be a source of conflict or maladjustment" (p. 252). Thus, EB becomes most important clinically when an individual attempts to deny his "natural inclination." Klopfer, Ainsworth, Klopfer and Holt (1954) suggest that introversive, extratensive and ambiequal individuals all can be well adjusted, none having "a corner on good (or bad) adjustment" (p. 372). They state further that merely having a balance between introversive and extratensive features does not guarantee good psychological adjustment,

because this balance "may be found with constricted or pathological tendencies, characterized by impoverished inner resources and faulty emotional responsiveness" (p. 372).

Piotrowski. Piotrowski (1952) did not place much emphasis on the experience type in his work with the Rorschach Test. He stated that an individual's record,

> with many M and many CR, because of the presence of both components, would be interpreted as an indicator of a great capacity for direct and strong emotional contacts with people and the world at large, as well as of a great capacity for a inner intellectual absorption and creative elaboration of the numerous perceived environmental stimuli." (p. 150)

Piotrowski characterized the M type as being more selective in response to stimulation, being more influenced by his own personal values and more capable of delay than the C type of individual. Piotrowski also proposed that a record devoid of both M and C indicates "extreme personality impoverishment" (p. 150).

Rapaport. Rapaport, Gill and Schafer (1960) state quite clearly that they reject the dichotomy suggested by the Experience Type, because "such dichotomous thinking does not prove to be clinically fruitful" (p. 389). They do believe that "the relation of M to C, and the amount of each, provide a crucial indication of the ideational and affective inclinations of the subject, and of the effect

upon them of maladjustment" (p. 390) and that

> the 'experience balance' (sum M : sum C) -- the balance between impulses and affects on the one hand, and delay and ideation developing in it on the other-- becomes a crucial diagnostic indicator in the Rorschach test. (p. 391)

Rapaport and his colleagues suggest that the degree of coartation or dilation can be diagnostically important, the first found in the records of depressives and many schizophrenias, the latter found in labile preschizophrenics and obsessive-compulsive individuals. The direction of the EB can also be important diagnostically within a clinical population.

Exner. Exner (1974, 1986) has incorporated much of the work on EB from Rorschach's and Beck's writings into his Comprehensive System. Exner (1974, 1978, 1986) suggests that the EB provides information regarding the basic response or coping style of an individual. The extratensive person tends to respond in an emotional way and is highly responsive to the external environment. The introversive individual responds to stress in an ideational manner, relies on delay and fantasy, and is less responsive to the outside world. The ambitent individual fluctuates between these two response styles. Because of this, Exner (1986) suggests that

> the ambitent is much more vulnerable to difficulty in coping situations than either the introversive or extratensive [because of] their failure to develop a consistent preference or style in their coping behaviors ...[which leads] to less efficiency and more vacillation. (p. 325)

Exner (1978) has also incorporated Beck's Experience Actual (EA) into the Comprehensive System, suggesting that "the EA represents an index of accessible resources" (p. 83).

Reliability

Before we can discuss the personality and behavioral correlates of the experience type, it must be condered whether or not EB can be reliably measured. Problems with the assessment of reliability of the Rorschach have plagued researchers for years. Early researchers (Hertz, 1934; Thornton & Guilford, 1936; Vernon, 1933) employed a split-half methodology in an attempt to determine the reliability of the Erlebnistypus, and generally reported unsatisfactory reliability coefficients. Piotrowski (1937) argues strongly against the use of a split-half measure of reliability, because of the nature of the test. Piotrowski states that

> none of the single inkblots elicits responses which contain all components necessary for an adequate personality description...All the inkblots are one undivided series and form the tool with which the experimental data for a personality analysis are collected...[Therefore] it is an incorrigible error to

> split the series into halves and treat the halves as two different but equivalent forms of the whole series. (1937, p. 440)

Hertz (1951) herself stated that "because of the global nature of the test, it is not possible to split it and work with isolated variables" (p. 316).

Alternative form studies of reliability have been attempted (Buckle & Holt, 1951; Eichler, 1951; Harrower & Steiner, 1949; Swift, 1944), but since no comparable alternative set of inkblots has been standardized, these studies do not shed much light on the reliability of Rorschach's standard set of blots.

Piotrowski (1937) proposes that the only acceptable manner of measuring the reliability of the Rorschach method in general, and the Erlebnistypus in particular, is through a retest after a reasonable period of time. Klopfer, et al. (1954) agreed with this suggestion. This method would seem acceptable as there is no practice effect with the Rorschach. The more serious issue would be determining whether a change in the Erlebnistypus over time was the result of unreliability of the method or of a meaningful personality change.

Another issue related to reliability that has been raised is the possible influence of examiner expectations on the frequency of movement or color responses (Singer &

Brown, 1960). However, evidence has suggested that tester expectancy does not bias the determination of Erlebnistypus in the Rorschach (Strauss, 1968a, 1968b; Strauss & Marwit, 1970).

Temporal Stability

Since the experience type is considered a basic response type characteristic to an individual, it should be a stable feature. The temporal stability of the EB has been examined. Rorschach (1942) proposed that the introversive or extratensive features of an individual were relatively stable, unchanging personality characteristics. Exner, Armbuster and Viglione (1978), in a sample of 100 non-patients, found that of 77 subjects who were classified as either extratensive or introversive, 75 subjects showed the same directionality when retested three years later. Of 20 individuals classified as ambitent, 11 of these classifications remained stable over the three-year period. Exner (1986) reported that in a one year test-retest study, 38 of 39 non-patients classified as either introversive or extratensive were classified the same one year later. Exner (1978) stated that "the EB is clearly the most consistent [Rorschach variable] for direction or non-direction for both patients and non-patients" (p. 78).

Developmental Changes

Temporal stability in the EB appears to be supported with an adult population, but has not been demonstrated with children. In very young children, there appears to be a preponderance of extratensive styles and very few introversive styles (Exner, 1986). Ames (1960) found a shift from a predominance of extratensives to greater introversives at the age of seven for boys and the age of eight for girls. These data suggest that the EB tendency might still be forming in young children. Exner, Thomas and Mason (1985) found a great deal of inconsistency in the EB style of 57 children who were tested 5 times over a 10 year period, the first testing occurring at age eight. Stabilization of a response style, if it is to take place, is most likely to occur during early to mid-adolescence. Through the age of 14 there appear to be more ambitents than would be expected in a "normal" non-patient adult group (Exner, 1986). Rabin and Beck (1950) suggest that there is a significant decline in the number of extratensive individuals as children age from six to thirteen. They also reported an increase in the number of ambitents as adolescence approaches. It appears from their data that some young children who are initially extratensive change to ambitent at the time of adoles-

cence, but young children who are initially introversive remain introversive as they enter adolescence. Hertz (1943) suggests that between the ages of 12 and 15, individuals who are extratensive may switch to introversive or remain extratensive; Hertz did not report any instances of introversives switching to extratensives. Exner (1982) concludes that

> few [children] show the characteristics of a prominent coping style, either extratensive or introversive, during the first ten to twelve years, and in those instances, the likelihood of change is apparently substantial. But at some time during the teen years, usually between the ages of 14 and 18, the more permanent style does take form, and, with few exceptions, it does not change over time. (p. 28)

Changes Due to Psychotherapy

As suggested above, fluctuations in the experience type or experience actual (EA) over time can be due to meaningful personality change, the kind of change that might be expected to take place after participation in psychotherapy. Piotrowski and Schreiber (1952) reported that the experience type became more dilated in patients participating in psychoanalytic psychotherapy.

Exner (1978) reports a study carried out by Exner, Wylie and Kline (1977) which attempted to examine the changes in EB and EA over time as a result of various forms of psychological treatment. Two hundred and seventy nine individuals were tested four times: before treatment

began, eight to nine months after the beginning of treatment, 16 to 18 months after the beginning of treatment and 27 to 29 months after the beginning of treatment. Patients were seen in one of the seven different forms of treatment which were included in the study: psychoanalytically oriented; Gestalt; modeling; assertiveness training; systematic desensitization; group psychotherapy; and biofeedback. The study also contained a control group of individuals who were not involved in treatment, but whom were tested at the four time-intervals. Very few individuals in this study showed a change in the direction of their experience type. Results showed that there was very little change in the magnitude of the EA in the control group, the assertiveness training patients, the desensitization patients or the biofeedback group. Modest increases in the EA were found in the records of individuals participating in group psychotherapy. Larger increases in EA were found in the individuals participating in psychoanalytically oriented and Gestalt psychotherapies. Intuitively, this seems reasonable, because the dynamic and Gestalt therapies focus on expanding or reorganizing personality structure.

Clinical Correlates

Since the 1921 publication of Rorschach's

Psychodiagnostic, there have been numerous attempts to correlate certain clinical disorders with particular experience types. Rorschach himself suggested relationships between extratension and epilepsy, between introversion and paranoid schizophrenia and between coartation and depression. Guirdham (1936) also proposed that a relationship exists between depression and a coartated experience type. Phillips and Smith (1953) report a correlation between obsessional disorders and introversion, and between compulsive disorders and extraversion.

Rorschach (1942) believed that the ambiequal or ambitent individual was the most well developed. Beck (1960) questioned this belief, and Exner (1974) also suggested that ambitents may be less well-adapted than introversives or extratensives. There is research evidence to support the views of Beck and Exner. It appears that ambitents are over-represented in inpatient populations. Mason, Cohen and Exner (1985) found more ambitents among depressive and schizophrenic inpatients than in non-patients. Exner (1985), in the norms developed for the Comprehensive System, reported that only 24% of 600 non-patients were classified as ambitent whereas ambitents accounted for 42% of 320 inpatient schizophrenics, 52% of 210 inpatient depressives and 56% of 200 character

problems. Acklin and Bernat (1987) reported that in a sample of 33 chronic pain patients, 63.6% of the individuals were ambitent. It is obvious, then, that ambitence occurs much more frequently in individuals displaying severe psychopathology. Exner and Murillo (1975) also found that in a population of released psychiatric patients, ambitents were more likely to relapse than either introversives or extratensives.

Exner (1986) has suggested that the ambitent individual may be more vulnerable to stress and may vacillate more in situations where coping is required. Exner states that

> the ambitents are more pliable, less consistent under stress, more subject to change and more 'unsure' in problem solving situations. The ambitent is probably a vacillator -- that is, one who tends to fluctuate between alternatives rather than manifest a firm style. (Exner, 1978, p. 101)

Exner states that this does not necessarily lead to the conclusion that the ambitent is less effective or well adjusted, but it may suggest that "they are less consistent in their behavior; and that lack of consistency can be a liability under various circumstances" (p. 101).

Lovitt and Lefkof (1985), analyzing the Rorschach records of three individuals diagnosed as having a multiple personality disorder, found that all three primary personalities were ambitent, although the experience types

of their secondary personalities varied. They suggest that this lends support to the fact that ambitents are the most likely to shift coping strategies. Thus, multiple personality disorder may be an "extreme manifestation of an ambitent orientation" (p. 292) in which individuals shift and vacillate between styles.

Personality Correlates

Some of the earliest research concerned with personality characteristics and experience type utilized simple questionnaire measures of introversion -- extraversion. Thornton and Guilford (1936) and Wysocki (1957) found no relationship between experience types and introversion as measured by the Nebraska Inventory. Hertz (1943) concluded that the failure of these measures to correlate with the experience type did not invalidate the Rorschach constructs, but instead demonstrated that Rorschach's meaning of introversion and extratension differed substantially from that meaning being measured by questionnaires.

Further attempts to correlate attitudes and experience type have utilized the MMPI. Palmer (1956) hypothesized that the EB groups could be differentiated according to the MMPI scales. This hypothesis was not supported. There were no significant differences between

experience types on the MMPI scales, including Scale 0, the social isolaton scale. Tamkin (1980) and Kunce and Tamkin (1981) similarly found no differences in MMPI scores on single scales related to experience type. Kunce and Tamkin did find some support for the existence of a prototypical introversive MMPI profile, with high scores on Scales 7 and 8, but found no such prototypical profile for extraverts or ambitents.

The relationship between experience type and creativity has been examined. Rorschach (1942) stated that talent, creativity and the experience type are all inextricably linked. Palmer and Lustgarten (1962) examined the Thematic Apperception Test stories produced by introversives, extrotensives and ambiequals. They found that the introversives produced the most complete stories and the stories rated as most creative or original. Kincel (1983), using the number of unusual-original responses to the blots as the measure of creativity, reports that introversive individuals are more creative and imaginative.

Other approaches have been taken to relate personality characteristics empirically to the experience type. Hays, Gellerman and Sloan (1951) examined the relationship between the Verb-Adjective Quotient (VAQ) and EB. They

calculated the VAQ by analyzing samples of speech from TAT stories. Results suggest that introversives use more verbs and extratensives use more adjectives. Unfortunately, the authors did not attempt to offer any explanation for this finding. Wehr and Gilroy (1986) attempted to use scores on the Bem Sex-Role Inventory to predict EB. The authors suggested that masculine subjects would be extratensive and androgynous subjects would be introversive. Results did not support these hypotheses, but did demonstrate a relationship between feminine subjects and ambitence. This led the authors to suggest a link between more detrimental states of psychological adjustment and ambitence.

Behavioral Correlates

Singer and Brown (1977) conclude their review of the behavioral correlates of the experience type by proposing a "tenative theoretical formulation" of the EB. They postulate that

> two dimensions of variation in human behavior exist at birth which have relevance for the concept of the experience type...One dimension might be termed 'capacity for internal experience' and it may be reflected in speed of assimilation of visual percepts, general tendency for rapid formation of associations, general intelligence, and capacity for development of imagery...The other dimension might be termed 'activity' or 'motility' and includes rapidity of autonomic arousal,...rapidity of movement, and a low threshold for affective response. (pp. 362-63)

Singer and Brown base their conclusion on empirical evidence from many studies.

Singer and Spohn (1954) examined the relationship between EB and motor inhibition. They asked a sample of schizophrenics to write the phrase "New Jersey Chamber of Commerce" as slowly as they possibly could. They found that introversives showed longer inhibition times in this motor inhibition task than extratensives. They also found that, during a waiting period, introversives showed less motor activity than did extratensives.

Bieri and Blancher (1956) assumed that the reaction time for movement responses would be longer than those for color responses, because, whereas the color responses are determined by external constraints, the movement responses are internally mediated, and thus require a further step in processing. Results showed that introversives had longer total reaction times than did extratensives. This is consistent with the characterization of introversives as more thoughtful and capable of delay than extratensives.

Buchwald and Blatt (1974) studied EB and time perception. They found that introversives overestimate time, whereas extratensives underestimate time. They explained the results as consistent with the impulsive/

ideational dichotomy suggested in Rorschach's concepts of extraversion and introversion.

Studies of impulsiveness and reaction to frustration as related to EB have been conducted by Gardiner (1951) and Palmer (1957) using the Rosenzweig Picture-Frustration Test. Gardiner (1951) found that EB correlates with an impulsivity-inhibition continuum, with extratensives at the impulsive pole and introversives at the inhibited pole. Palmer (1957) found that extratensives responded more affectively to frustration, whereas introversives were better able to delay an immediate reaction to their frustration.

Exner, Bryant and Leura (1975) studied problem-solving skills in relation to EB. Forty-five subjects were used, 15 being introversive, 15 being extrotensive and 15 being ambitent. The subjects were given four problems using the Logical Analysis Device. Problems varied in complexity. Solving the problems involved finding the correct combination of operations that would illuminate a light on the panel of the apparatus. Finding this combination of operations is a task of "logical analysis, developed by trial and error" (Exner, 1978). Results were analyzed in a three-way analysis of variance, using total operations, total number of errors and average

time between operations as the dependent variables. Results indicated that introversives used fewer operations, had longer periods of time between operations and repeated errors less frequently than the other two groups. Extratensives used the most operations, had the shortest periods of time between operations, and made the greatest number of errors. The ambitent group had a significantly greater total time to solution than did the introversive or extratensive subjects. They also repeated significantly more operations and repeated more errors. Thus, it would appear that the introversive and extratensive, although they use different strategies, are equally effective problem solvers. It was noted that the ambitent was a poorer problem solver. Exner (1978) suggested that this is because "the ambitent needs to verify each maneuver or operation, and...does not profit as much from mistakes as do either of the other kinds of subjects" (p. 101).

The finding that introversives and extratensives are equally effective problem-solvers is congruent with Rosenthal's (1962) conclusion that introversive and extratensive subjects are equally effective problem solvers. Rosenthal administered the Katona match stick problem to introversive and extratensive normals. The

groups differed only in the style of approach they took to solving the problem.

Chu and Exner (1981) attempted to determine conditions under which one response style might be more effective than another. Results demonstrated no differences between the two groups of subjects in adding columns of numbers in a no distraction condition. In an interference condition, however, the introversive group made fewer errors and completed more columns than the extratensive group. It seems logical that the introversive, who is "turned inward toward himself," could better ignore the distractions in the environment than the extratensive could, since extratensives are more responsive to their environments.

This suggests that in some situations, an extratensive style might be most adaptive, whereas in others, like the Chu and Exner (1981) study, an introversive style might be most desirable. As mentioned earlier, Rorschach believed the ambiequal to be the most adaptive experience type. Although Exner (1978) has clearly stated, as Rorschach did more than 60 years ago, that the response style is not necessarily demonstrated in all behavior, it seems likely that one's experience type would influence one's overall psychological adjustment. To date, no study

has asked the question as to whether experience type can predict psychological adjustment as measured by multiple assessment criteria.

Hypotheses

This study attempted to determine whether or not there exists a relationship between the experience type and psychological adjustment. Psychological adjustment was measured through the use of the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway & McKinley, 1983), the Profile of Mood States (POMS) (McNair, Lorr & Droppleman, 1971), the Beck Depression Inventory (BDI) (Beck, 1972), Wechsler's Adult Intelligence Scale -- Revised (WAIS-R) (Wechsler, 1981) and a number of other Rorschach variables. It was decided that this study would employ traditional clinical assessment tools as dependent measures of psychological adjustment.

The majority of the evidence cited throughout this review seems to suggest that introversive and extratensive individuals are better adjusted than ambiequals, because ambitents lack a consistent approach to life. Although some research suggests that ambitents, because of their greater flexibility in problem-solving situations, might demonstrate greater psychological adjustment, this study attempted to demonstrate that introverts and extraverts

are better adjusted than ambitents. This study also explored whether there exists a difference in psychological adjustment between introversives and extratensives.

The breadth of the experience type, or the EA, was also hypothesized to be related to psychological adjustment, independent of experience type, such that the greater (or more dilated) the EA, the better the psychological well-being of the individual. This was examined in this study as well.

Finally, it was hypothesized that EB and EA may interact, such that ambitents with dilated EA's might be better adjusted than coartated ambitents, and that introversives and extratensives with dilated EA's might show greater psychological adjustment than those with coartated EA's.

Therefore, the specific hypotheses to be tested were:

1. That greater psychological adjustment would be demonstrated by introverts and extraverts than by ambitents,
2. That introverts and extraverts would display differing levels of psychological adjustment,
3. That individuals with dilated EA's would show greater psychological adjustment on the measures

of adjustment used in the study than individuals with coartated EA's, and

4. That EB and EA would interact, such that ambitents with dilated EA's would display higher levels of psychological adjustment than ambitents with coartated EA's.

METHOD

Subjects

Subjects were 195 undergraduate students at Loyola University of Chicago who volunteered to participate in a psychological testing experiment in order to earn experimental credits required by their Introduction to Psychology courses. Subjects ranged in age from 17 to 31 years, with a median and modal age of 18. There were 130 female (66.7%) and 65 male (33.3%) subjects. The ethnic composition of the sample was 71% Caucasian, 12% Asian, 6 % Black, 5 % Hispanic and 6% of unknown ethnicity.

Materials

Subjects were administered a battery of personality and intellectual assessment measures, which included the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway & McKinley, 1983), the Profile of Mood States (POMS) (McNair, Lorr & Droppleman, 1971), the Beck Depression Inventory (BDI) (Beck, 1972), the Wechsler's Adult Intelligence Scale -- Revised (WAIS-R) (Wechsler, 1981) and the Rorschach Inkblot test.

Minnesota Multiphasic Personality Inventory (MMPI). The MMPI is composed of 566 self-reference statements, to which an individual is required to respond true or false.

The MMPI is a popular objective measure of personality functioning. Scoring of the test yields three Validity Scales (Scales L, F and K) and 10 Clinical Scales. These clinical scales are Scale 1 (Hypochondriasis), 2 (Depression), 3 (Hysteria), 4 (Psychopathic Deviance), 5 (Masculinity-Femininity), 6 (Paranoia), 7 (Psychasthenia), 8 (Schizophrenia), 9 (Hypomania) and 0 (Social Introversion). For purposes of this study, the mean clinical T score was computed, and the number of clinical scales elevated over a T score of 70 was recorded for each subject.

Two additional MMPI measures served as dependent variables. The Goldberg Index (Goldberg, 1965) was computed for each subject. The Goldberg Index is obtained by inserting T scores into the following formula:

$$L + Pa + Sc - Hy - Pt.$$

This index was developed as a method for discriminating between psychotic and neurotic MMPI profiles. Graham (1982) stated that "higher Goldberg values suggest greater psychopathology" (p. 154).

For 48 of the MMPI profiles, the College Maladjustment Scale (MT Scale) (Kleinmuntz, 1960, 1961) was scored and served as a dependent measure. The College Maladjustment Scale is a 43-item scale derived from an item analysis of the MMPI which has been shown to

discriminate between adjusted and maladjusted college students. In total, there were 17 dependent measures from the MMPI included in this study.

Profile of Mood States (POMS). The POMS is a self-report measure which asks subjects to rate the way they have been feeling the past week according to 65 common adjectives. The ratings range from 0 "not at all" to 4 "extremely." This inventory attempts to measure an individual's "typical and persistent mood reaction to his current life situation" (McNair, et al., 1971, p. 5).

Factor analysis of the items has led to the identification of six affective or mood states. Scale T, "Tension-Anxiety," measures heightened musculoskeletal tension, using adjectives including "tense," "on edge," "shaky" and "restless." Scale D, "Depression-Dejection," identifies a mood of depression and accompanying feelings such as "blue," "hopeless," "discouraged," "lonely" and "guilty." Scale A, "Anger-Hostility," examines anger directed outward, ranging from mild to intense feelings of hostility, such as "annoyed," "ready to fight," "bitter," "angry" and "bad-tempered." Scale V, "Vigor-Activity," measures a mood of vigorousness and high energy through use of adjectives including "lively," cheerful," "alert" and "carefree." Scale F, "Fatigue-Inertia," groups

together adjectives related to a mood of weariness, such as "worn out," "exhausted" and "sluggish." Scale C, "Confusion-Bewilderment," provides a measure for bewilderment and muddleheadedness which may be related to cognitive inefficiency, characterized by adjectives such as "confused," "bewildered," forgetful" and "unable to concentrate."

The scores from the six scales are summed (with the Scale V score weighted negatively) to obtain a Total Mood Disturbance score. There were a total of 7 dependent measures from the POMS used in this investigation.

Beck Depression Inventory (BDI). The Beck Depression Inventory is a 21 item self-report measure designed to assess depressive symptoms, including somatic symptoms, feelings of hopelessness and helplessness, and lowered self-esteem. Subjects complete the questionnaire by choosing one of 4 multiple choice answers for each item. The responses are weighted according to the degree of depression they indicate. A total score is obtained by summing these weighted answers. Scores can range from 0 to 63. Beck (1972) has proposed the following cut-off scores to serve as a general guideline: 0 - 9, Normal range; 10 - 15, Mild depression; 16 - 19, Mild-moderate depression; 20 - 29, Moderate-severe depression, and 30 - 63, Severe depression.

Wechsler's Adult Intelligence Scale -- Revised (WAIS-R). The WAIS-R is a commonly used instrument for measuring the intelligence of individuals 16 years of age and older. The WAIS-R is viewed by many as an assessment measure of ego functions (Blatt & Allison, 1968), and thus is pertinent to the hypotheses tested in this study.

The WAIS-R is composed of 11 subtests, which are grouped into Verbal and Performance Tests. The Verbal Tests include Information, Digit Span, Vocabulary, Arithmetic, Comprehension and Similarities. These scores together determine the Verbal Intelligence Quotient (VIQ). The Performance Tests include Picture Completion, Picture Arrangement, Block Design, Object Assembly and Digit Symbol. These scores together determine the Performance Intelligence Quotient (PIQ). The Full Scale Intelligence Quotient (FSIQ) is a gross indicator of an individual's overall intellectual functioning.

The Kaufman (1975) factors were also included in analyses in this investigation. These are Verbal Comprehension (average score of Information, Vocabulary, Comprehension and Similarities), Perceptual Organization (the average score of Picture Arrangement, Picture Completion, Block Design and Object Assembly) and Freedom from Distractibility (the average score of Digit Span, Arithmetic

and Digit Symbol). Thus, there were 17 dependent measures obtained from the WAIS-R.

Rorschach. Seven variables from the Rorschach test (Exner, 1974, 1985) pertinent to psychological adjustment were used as dependent measures in this investigation, as were the number of responses to the Rorschach. The seven variables related to psychological adjustment include the D Score, the Adjusted D Score, the Egocentricity Index, Lambda, the Depi Index, the Sczi Index and the Suicide Constellation.

The D Score is a difference score between EA and es (which is the sum of FM, m and shading responses). According to Exner (1985), the D Score "relates to stress tolerance and elements of control" (p. 53). The Adjusted D Score removes the influence of situational elements from the D Score. The Egocentricity Index is calculated as 3 (rF + Fr) + Sum (2) / R and relates to self-centeredness and can indicate excessive self concern or a lack of self-concern. Lambda is computed as the ratio of Pure F responses to non-F responses. It is a measure of emotional lability or constrictedness.

The Depi Index has been used to identify depression. It is calculated by summing the number of positive scores on the following five criteria:

1. Sum FV + VF + V > 0
2. Color-Shading Blend > 0
3. Ego-centricity Index < .30
4. Sum FC' + C'F + C' > 2
5. Sum MOR > 3.

The Sczi Index has been used to identify schizophrenia, and represents the sum of the variables scored positive on the following five criteria:

1. X+% < 70
2. Sum FQ- > Sum FQu OR X-% > 20
3. M- > 0 OR WSum6 > 11
4. Sum DV + DR + INCOM + FABCOM + ALOG + CONTAM > 4
5. Sum DR + FABCOM + ALOG + CONTAM > Sum DV + INCOM OR M- > 1.

The Suicide Constellation has been used in an attempt to predict suicide risk. It represents the sum of the variables scored positive from the following 12 criteria:

1. FV + VF + V + FD > 2
2. Color-Shading Blend > 0
3. Ego-centricity Index < .30 or > .45
4. MOR > 3
5. Zd > + or - 3.5
6. ep > EA
7. CF + C > FC
8. X+% < .70
9. S > 3
10. P < 3 or > 8
11. H < 2
12. R < 17.

In addition, an "indicator" variable was created by recording the number of the seven Rorschach variables which were more than one standard deviation away from the group mean for each dependent variable. Thus, there were

9 dependent measures obtained from the Rorschach protocols.

Procedure

Subjects were tested individually by first-year clinical psychology graduate students who performed the testing batteries to fulfill the requirements for their Personality Assessment course. The batteries were administered in one or two sessions, and sessions lasted between one and three hours in length. On the average, each subject spent about five hours with the tester.

In the first testing session, the tester became acquainted with the subject by conducting a brief clinical interview. Subjects were then administered, in different orders and across a number of sessions, the battery of psychological tests. The Rorschach was administered according to the instructions from Exner's (1972, 1978) Comprehensive System.

The tests were scored by the graduate students under the supervision of an advanced clinical psychology graduate student. The protocols were subsequently rescored in totality by the supervising graduate student. Finally, the scoring of the protocols was reviewed by a doctoral level clinical psychologist with expertise in personality assessment. Exner's (1974, 1978) Comprehen-

sive System was used to score the Rorschach protocols. Exner (1978) has reported inter-rater reliability coefficients of 0.85 or more for all scores and ratios.

RESULTS

Table 1 presents descriptive statistics for all of the dependent variables (see Table 1). Each dependent variable was analyzed by using a 3 x 2 x 2 analysis of variance (EB Type x EA x Sex). Experience Type (EB) was determined by examining the difference between Movement responses and Sum Color responses (Exner, 1985). If movement responses were greater than Sum Color responses by 2 or more, the ratio was classified as introversive. If Sum Color responses were greater than Movement responses by 2 or more, the ratio was classified as extratensive. If the difference between Movement and Sum Color responses was between -1.5 and 1.5, the ratio was classified as ambitent.

Two EA groups, Low and High, were formed by cutting the EA distribution at the 33rd and 67th percentiles. An EA score was classified as Low if it was less than or equal to 5.0, and an EA score was classified as High if it was greater than or equal to 8.5.

Experience Type (EB) and Psychological Adjustment

Table 2 presents descriptive statistics for all of the dependent measures by experience type (see Table 2). Hypotheses 1 and 2 postulated a relationship between the Rorschach experience type and psychological adjustment.

TABLE 1

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES

Variable	Mean	S.D.	Mode	Minimum	Maximum
MMPI					
Scale L	47.84	6.80	50.0	36.0	70.0
Scale F	56.86	8.56	55.0	33.0	82.0
Scale K	52.21	8.84	49.0	33.0	77.0
Scale 1 (Hs)	53.08	9.11	52.0	31.0	82.0
Scale 2 (D)	54.73	11.44	46.0	36.0	98.0
Scale 3 (Hy)	55.54	8.87	49.0	31.0	89.0
Scale 4 (Pd)	60.71	10.24	57.0	36.0	95.0
Scale 5 (Mf)	54.24	11.50	47.0	28.0	95.0
Scale 6 (Pa)	55.76	9.28	53.0	35.0	82.0
Scale 7 (Pt)	58.31	9.96	58.0	22.0	93.0
Scale 8 (Sc)	60.54	11.39	61.0	32.0	92.0
Scale 9 (Ma)	62.94	11.63	63.0	23.0	98.0
Scale 0 (Si)	51.24	10.44	44.0	32.0	82.0
Scales > 70	1.30	1.89	0.0	0.0	9.0
MT Scale	53.40	6.56	48.0	39.0	66.0
Goldberg Index	50.28	14.72	45.0	15.0	98.0
Mean T Score	56.71	6.14	51.8	42.5	78.4

TABLE 1 (cont'd)

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES

Variable	Mean	S.D.	Mode	Minimum	Maximum
POMS					
Scale T	47.82	9.31	42.0	31.0	74.0
Scale D	46.99	8.66	37.0	37.0	77.0
Scale A	49.20	10.72	40.0	37.0	80.0
Scale V	51.37	9.92	51.0	30.0	73.0
Scale F	49.48	9.60	41.0	34.0	75.0
Scale C	46.04	8.95	39.0	30.0	70.0
Total Mood Disturbance	34.14	33.13	9.0	-29.0	151.0
BDI	6.87	6.02	0.0	0.0	24.0
WAIS-R					
Information	9.61	2.12	10.0	3.0	16.0
Digit Span	10.80	2.22	10.0	6.0	16.0
Vocabulary	10.07	2.29	10.0	6.0	18.0
Arithmetic	10.06	2.23	11.0	5.0	15.0
Comprehension	10.98	2.39	11.0	6.0	16.0
Similarities	10.51	2.31	10.0	4.0	16.0

TABLE 1 (cont'd)

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES

Variable	Mean	S.D.	Mode	Minimum	Maximum
WAIS-R (cont'd)					
Picture Completion	9.46	2.30	9.0	4.0	17.0
Picture Arrangement	10.36	2.38	11.0	5.0	17.0
Block Design	11.07	2.51	11.0	4.0	19.0
Object Assembly	10.14	2.99	10.0	3.0	18.0
Digit Symbol	11.80	2.09	12.0	6.0	19.0
VIQ	108.89	11.01	105.0	82.0	132.0
PIQ	106.19	12.35	110.0	79.0	136.0
FSIQ	108.61	11.19	114.0	84.0	138.0
WAIS-R Kaufman Factors					
Verbal Comprehension	10.32	1.71	10.5	6.3	14.5
Perceptual Organization	10.24	2.02	11.7	5.0	15.3
Freedom from Distractibility	10.90	1.38	11.0	7.3	14.3

TABLE 1 (cont'd)

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES

Variable	Mean	S.D.	Mode	Minimum	Maximum
Rorschach					
Egocentricity Index	0.44	0.17	0.5	0.07	1.24
D Score	-0.73	1.70	0.0	-6.0	5.0
Adjusted D Score	-0.11	1.27	0.0	-4.0	5.0
Lambda	0.68	0.49	0.33	0.0	3.0
Sczi Index	2.39	1.30	2.0	0.0	5.0
Depi Index	1.32	1.14	1.0	0.0	5.0
Suicide Constellation	4.64	1.66	4.0	0.0	9.0
No. of Indicators	1.24	1.26	0.0	0.0	6.0
No. of Responses	22.36	8.88	17.0	10.0	52.0
Movement Responses	4.60	2.89	4.0	0.0	17.0
Sum Color Responses	2.77	2.07	1.0	0.0	13.5

TABLE 2

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES BY EB TYPE

Variable	Experience Type (EB)					
	Introvert		Extravert		Ambitent	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
MMPI						
Scale L	47.65	6.87	47.71	5.43	48.16	7.21
Scale F	57.09	8.48	57.88	11.35	56.15	7.59
Scale K	51.81	9.46	53.92	9.01	52.19	7.81
Scale 1 (Hs)	53.13	9.37	55.79	7.67	52.04	9.11
Scale 2 (D)	55.43	11.20	55.75	14.34	53.31	10.71
Scale 3 (Hy)	54.78	8.20	60.04	8.85	55.10	9.49
Scale 4 (Pd)	61.05	10.05	64.21	12.09	58.97	9.59
Scale 5 (Mf)	55.59	11.93	54.63	11.77	52.07	10.55
Scale 6 (Pa)	55.77	9.42	58.21	9.32	54.90	9.02
Scale 7 (Pt)	58.07	9.11	57.79	11.78	58.85	10.59
Scale 8 (Sc)	60.90	11.17	62.21	13.47	59.41	11.00
Scale 9 (Ma)	62.70	11.16	64.58	11.08	62.72	12.58
Scale 0 (Si)	52.24	10.71	47.71	10.96	50.99	9.68
Scales > 70	1.31	1.98	1.58	2.06	1.19	1.71
MT Scale	53.15	6.44	49.5	9.15	54.61	6.16
Goldberg Index	51.37	14.33	50.29	18.18	48.63	14.03
Mean T Score	56.96	6.03	58.09	7.04	55.85	5.93

TABLE 2 (cont'd)

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES BY EB TYPE

Variable	Experience Type (EB)					
	Introvert		Extravert		Ambitent	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
POMS						
Scale T	46.77	9.56	49.94	11.10	48.68	8.22
Scale D	46.57	9.11	47.89	8.48	47.32	8.12
Scale A	48.90	11.31	49.06	11.49	49.68	9.69
Scale V	50.76	10.34	54.44	9.49	51.29	9.40
Scale F	49.29	9.79	48.00	8.77	50.23	9.65
Scale C	45.82	9.47	46.22	9.35	46.30	8.13
Total Mood Disturbance	32.48	34.36	34.11	35.08	36.61	31.00
BDI	6.45	6.12	6.94	6.21	7.46	5.88
WAIS-R						
Information	9.53	2.26	9.30	1.89	9.85	1.99
Digit Span	10.97	2.17	11.04	2.14	10.44	2.31
Vocabulary	10.23	2.46	9.96	1.89	9.86	2.15
Arithmetic	10.05	2.26	9.91	1.86	10.14	2.31
Comprehension	10.72	2.46	11.22	1.91	11.30	2.42
Similarities	10.17	2.19	10.65	2.59	10.99	2.33

TABLE 2 (cont'd)

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES BY EB TYPE

Variable	Experience Type (EB)					
	Introvert		Extravert		Ambitent	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
WAIS-R (cont'd)						
Picture Completion	9.38	2.34	10.44	2.00	9.26	2.29
Picture Arrangement	10.30	2.58	10.22	2.13	10.52	2.15
Block Design	11.31	2.58	10.83	2.17	10.79	2.50
Object Assembly	10.38	2.85	10.13	2.63	9.85	3.32
Digit Symbol	11.87	2.19	11.44	1.83	11.82	2.05
VIQ	108.54	10.96	108.52	10.70	109.56	11.33
PIQ	106.80	12.61	106.17	10.31	105.24	12.69
FSIQ	108.80	11.32	108.13	9.58	108.47	11.65
WAIS-R Kaufman Factors						
Verbal Comprehension	10.19	1.83	10.30	1.34	10.52	1.65
Perceptual Organization	10.36	2.02	10.47	1.45	9.99	2.20
Freedom from Distractibility	10.95	1.42	10.93	1.35	10.80	1.34

TABLE 2 (cont'd)

DESCRIPTIVE STATISTICS FOR DEPENDENT VARIABLES BY EB TYPE

Variable	Experience Type (EB)					
	Introvert		Extravert		Ambitent	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Rorschach						
Egocentricity Index	0.47	0.18	0.37	0.17	0.43	0.15
D Score	-0.54	1.92	-1.54	1.74	-0.74	1.20
Adjusted D Score	0.13	1.43	-0.46	1.10	-0.33	1.01
Lambda	0.67	0.49	0.70	0.44	0.68	0.50
Sczi Index	2.53	1.36	2.38	1.06	2.19	1.29
Depi Index	1.23	1.51	2.00	1.14	1.23	1.05
Suicide Constellation	4.41	1.70	5.54	1.22	4.67	1.64
No. of Indicators	1.22	1.32	1.88	1.30	1.04	1.10
No. of Responses	23.75	9.52	25.88	9.41	19.10	6.50
Movement Responses	6.22	2.80	2.04	1.68	3.09	1.64
Sum Color Responses	2.03	1.53	5.46	2.53	2.93	1.78

Specifically, Hypothesis 1 stated that introverts and extraverts would demonstrate greater psychological adjustment on the dependent measures than would ambitents. Hypothesis 2 stated that introverts and extraverts might differ in their level of psychological adjustment. When subjected to analysis of variance, only a very few of the psychological adjustment measures were found to demonstrate statistically significant differences according to EB. Table 3 presents the analysis of variance for the statistically significant main effects of EB (see Table 3).

Table 4 presents mean differences for the variables which exhibited a significant main effect of EB, analyzed using the Student-Newman-Keuls (SNK) post hoc test (see Table 4). This analysis revealed that on MMPI Scale 3 (Hysteria), extratensives have a higher mean T score than do introversives or ambitents. On the WAIS-R Picture Completion subtest, extratensives performed better than introversives. When examining the adjustment measures from the Rorschach, it was demonstrated that on D Score, extratensives have a lower score than introversives or ambitents, and that on measures including the Depi Index, the Suicide Constellation and the number of Indicators, extraverts score higher than introverts or ambi-

TABLE 3

ANALYSIS OF VARIANCE FOR EB MAIN EFFECTS

Variable	MS	df	F Value
MMPI Scale 3	228.054	2	3.002 *
WAIS-R Picture Completion	15.848	2	3.361 *
Rorschach			
D Score	12.431	2	3.747 *
Depi Index	8.027	2	7.798 ***
Suicide Constellation	12.047	2	4.462 **
No. of Indicators	7.418	2	4.926 **
No. of Responses	226.419	2	3.868 *

* $p < .05$
** $p < .01$
*** $p < .001$

TABLE 4

SIGNIFICANT MEAN DIFFERENCES BY EB TYPE

	Experience Type		
Variable	Introversive	Extratensive	Ambitent
MMPI Scale 3	54.7745 a	60.0417 b	55.1029 a
WAIS-R Picture Completion	9.3762 a	10.4348 b	9.2576 a,b
Rorschach			
D Score	-0.5392 a	-1.5417 b	-0.7391 a
Depi Index	1.2255 a	2.0000 b	1.2319 a
Suicide Constellation	4.4118 a	5.5417 b	4.6670 a
No. of Indicators	1.2157 a	1.8750 b	1.0435 a
No. of Responses	23.7451 a	25.8750 a	19.1014 b

Means which are not significantly different, $p > .05$, share a common subscript.

tents. These findings all suggest that extraverts demonstrate more maladjustment than introverts and ambitents. While these differences are statistically significant, there is some question about their clinical significance. Ambitents give significantly fewer responses to the Rorschach than do introverts or extraverts. Relatedly, chi-square analysis revealed that ambitents are over-represented in the low EA group and introversives are over-represented in the high EA group [Chi-square (2, N = 134) = 13.2287, $p < .001$].

Experience Actual (EA) and Psychological Adjustment

Hypothesis 3 posited that a relationship exists between EA and psychological adjustment. Specifically, it was hypothesized that a higher (dilated) EA would be related to greater psychological adjustment than would a lower (coartated) EA. Table 5 presents the statistically significant main effects from an analysis of variance of EA (see Table 5). With the MMPI, POMS and BDI measures, it was demonstrated that High EA subjects score higher (in the direction of greater psychological maladjustment) than do Low EA subjects. These findings are in the opposite direction than would be predicted by Hypothesis 3. High EA subjects were shown to have a higher WAIS-R Freedom from Distractibility factor score than Low EA subjects.

TABLE 5

ANALYSIS OF VARIANCE FOR EA MAIN EFFECTS

Variable	Mean Score Low	Mean Score High	MS	df	F Value
MMPI					
Scale F	54.77	59.00	581.084	1	8.513 **
Scale 1 (Hs)	51.80	55.10	431.833	1	5.736 *
Scale 3 (Hy)	54.14	57.71	562.424	1	7.405 **
Scale 7 (Pt)	56.92	59.93	386.530	1	4.022 *
Scale 8 (Sc)	57.95	64.25	1455.259	1	12.817 ***
Scale 9 (Ma)	60.09	65.47	1112.748	1	8.699 **
Scales > 70	0.76	1.85	44.067	1	12.945 ***
Mean T Score	55.81	58.63	282.512	1	8.326 **
POMS					
Scale T	46.39	49.84	462.381	1	5.207 *
Scale D	45.64	49.28	412.162	1	4.905 *
Scale F	47.32	51.32	563.295	1	5.781 *
Scale C	44.11	49.04	732.327	1	9.334 **
Total Mood Disturbance	27.78	42.77	7572.237	1	6.436 *
BDI	5.85	7.98	137.735	1	3.987 *

TABLE 5 (cont'd)

ANALYSIS OF VARIANCE FOR EA MAIN EFFECTS

Variable	Mean Score Low	Mean Score High	MS	df	F Value
WAIS-R Kaufman Factors					
Freedom from Distractibility	10.47	11.05	9.678	1	4.903 *
Rorschach					
Adjusted D Scores	-0.45	0.49	23.115	1	13.164 ***
Lambda	0.91	0.48	6.145	1	29.130 ***
Sczi Index	1.98	2.82	15.938	1	8.599 **
Depi Index	0.89	1.69	23.572	1	22.900 ***
Suicide Constellation	4.48	4.96	13.154	1	4.872 *
No. of Responses	17.83	27.12	2376.986	1	40.612 ***

* $p < .05$
** $p < .01$
*** $p < .001$

When examining the Rorschach dependent variables, High EA subjects have statistically higher maladjustment scores on the Depi Index, the Sczi Index and the Suicide Constellation. These findings also contradict Hypothesis 3. High EA subjects have a larger Adjusted D score (in the positive range) than do Low EA subjects, a finding which is consistent with Hypothesis 3. High EA subjects have a significantly lower Lambda score than do Low EA subjects, and this relationship will be elaborated on in the Discussion.

EB and EA Interactions and Psychological Adjustment

Hypothesis 4 suggests that EB and EA might interact in their relationship with psychological adjustment. Analysis of variance revealed two statistically significant EB by EA interactions. On MMPI Scale 4 (Psychopathic Deviance), there are no significant differences between EB groups when EA is High, but with Low EA, SNK post hoc analysis reveals that the mean T score for extratensives (67.00) is significantly higher than that of introversives (58.20) and ambitents (55.78).

On the Rorschach Egocentricity Index, no significant EB group differences exist when EA is Low. Post hoc analysis of the High EA group reveals that the mean score for extraverts (0.29) is significantly lower than that of

introverts (0.45) and ambitents (0.49).

Sex Differences in Psychological Adjustment

While sex differences were not a primary focus of this investigation, several statistically significant sex differences emerged from the analyses in this investigation. Chi-square analyses revealed that there were no gender differences in the distribution of EB [Chi-square (1, N = 195) = 1.011, n.s.] or EA [Chi-square (1, N = 134) = 0.013, n.s.].

The statistically significant sex differences on the dependent variables are presented in Table 6 (see Table 6). The results can be briefly summarized as demonstrating that males score higher on all of the dependent variables listed, except for the WAIS-R Digit Symbol subtest, in which females score higher than males.

Analyses revealed one dependent variable for which there was a significant interaction effect of sex and EA. On the WAIS-R Digit Span subtest, females showed no significant difference in the Low and High EA groups (10.55 vs. 10.48), whereas the mean score for males in the High EA group (11.58) indicated better performance than the mean score for males in the Low EA group (9.80).

TABLE 6

ANALYSIS OF VARIANCE FOR SEX MAIN EFFECTS

Variable	Mean Score Male	Mean Score Female	MS	df	F Value
MMPI					
Scale 4	64.27	59.45	758.956	1	7.869 **
Scale 6	59.22	55.45	431.542	1	4.702 *
Scale 7	63.32	56.30	1366.742	1	14.223 ***
Scale 9	65.68	61.56	513.395	1	4.014 *
Mean T-Score	59.60	56.13	335.654	1	9.892 **
WAIS-R					
Information	10.23	8.93	41.561	1	11.465 ***
Arithmetic	10.51	9.49	29.896	1	6.378 *
Picture Completion	10.03	9.01	31.995	1	6.786 **
Block Design	11.79	10.49	49.973	1	9.511 **
Digit Symbol	11.21	12.20	26.547	1	5.424 *
VIQ	110.59	106.18	522.367	1	4.353 *
FSIQ	110.59	105.94	616.676	1	5.007 *
WAIS-R Kaufman Factors					
Verbal Comprehension	10.65	9.87	15.442	1	5.251 *
Perceptual Organization	10.80	9.78	32.425	1	9.652 **

TABLE 6 (cont'd)

ANALYSIS OF VARIANCE FOR SEX MAIN EFFECTS

Variable	Mean Score Male	Mean Score Female	MS	df	F Value
Rorschach					
Depi Index	1.56	1.18	5.368	1	5.215 *

* $p < .05$
** $p < .01$
*** $p < .001$

DISCUSSION

It was the purpose of this investigation to search for a relationship between the Experience Type (EB), the Experience Actual (EA) and psychological adjustment. Overall, there was little evidence to support a relationship between EB and psychological adjustment. There were few EB by EA interaction effects to support Hypothesis 4. There was much more evidence to support a relationship, however, between EA and adjustment, but the direction of the relationship discovered in this study contradicted the relationship predicted by Hypothesis 3. These findings are discussed in greater detail below.

Experience Type and Psychological Adjustment

Results indicate that extratensives have more elevated scores on MMPI Scale 3 (Hysteria) than do introversives and ambitents. Scale 3 is considered to be a measure of an individual's orientation to the interpersonal environment. Extratensives are, by definition, more aware of their environment and emotionally responsive than are other EB types. Hysteria is characterized by frequent and intense emotional displays, and thus it seems logical to assume that extratensives would score higher on a scale designed to measure hysterical tendencies. However, Palmer (1956), Tamkin (1980) and Kunce and Tamkin (1981)

did not find significant differences between experience types on Scale 3 or any other MMPI scales. These discrepancies may be due to the smaller sample size in Palmer's and Tamkin's investigations.

There was a statistically significant difference between the WAIS-R Picture Completion scores of introverts and extraverts, with extraverts scoring higher than introverts. As noted in the Introduction, extratensives are more oriented and responsive to their environments, and this might be responsible for their greater attention to detail in the Picture Completion task.

All of the remaining statistically significant differences between EB types were found on dependent variables from the Rorschach test. On all of these measures (the D Score, the Depi Index, the Suicide Constellation, and the number of Rorschach indicators), extratensives' scores were more in the direction of maladjustment than the scores of introversives or ambitents. Again, these differences are statistically significant, but it is questionable as to whether they are clinically significant and represent actual differences in psychological adjustment.

In sum, it was hypothesized that ambitents would be the EB group showing the poorest adjustment. There was

no evidence from the analyses of variance to support this hypothesis. It was also hypothesized that introverts and extraverts would differ in adjustment on various dependent measures. This hypothesis received statistical support, but it can be called into question as to the clinical significance of the differences which showed introverts and ambitents to be better adjusted than extraverts.

EB and EA Interactions and Psychological Adjustment

Analyses of variance revealed only two significant EB by EA interactions, for MMPI Scale 4 (Psychopathic Deviance) and the Rorschach Egocentricity Index. While these results are statistically significant, it is again questionable as to whether they are clinically significant. Thus, very little evidence is provided to support Hypothesis 4, which predicted interactions between EB and EA.

Some support is given to Hypothesis 1 by the chi-square analysis of EB and EA reported earlier which revealed that ambitents are over-represented in the Low EA group and introversives are over-represented in the High EA group. If we accept the premise put forth by Rorschach (1942) and Beck (1960, 1965) that subjects with "coartated" experience types (low EA) are less well adjusted and have fewer organized resources to utilize in coping

situations than subjects with "dilated" experience types (high EA), then this chi-square analysis lends support to Hypothesis 1, which predicted that ambitents would be more poorly adjusted than introverts and extraverts, since ambitents are more likely to have low EA than introversives.

Experience Actual and Psychological Adjustment

The major finding of this study lies in the discovery of a relationship between EA and adjustment in a direction which contradicts the direction of the relationship predicted by Hypothesis 3. It had been predicted that individuals with High EA would show less elevation on the MMPI scales, the POMS scales and the BDI than would individuals with Low EA. However, for the 8 MMPI dependent variables for which there were statistically significant EA group main effects, High EA was related to higher T scores (see Table 5). Likewise, for the 5 POMS dependent variables and the BDI for which there were statistically significant EA group main effects, High EA was related to higher T scores (see Table 5). While these T scores were more in the direction of maladjustment than the T scores of the Low EA group, it is important to note that the mean T scores of the High EA group did not extend into the clinically maladjusted range. Thus, it seems

somewhat misleading to say that High EA individuals displayed greater maladjustment than low EA individuals. It is more reasonable to state that High EA individuals admit to more psychological distress and discomfort than do Low EA individuals. Confirmation for this statement might be gained by examining the concepts of coartation and dilation, and their relationship to defensiveness, as displayed in the Rorschach and other tests in this study.

As explained in the Introduction, coartation was introduced in Rorschach's (1942) original work as the tendency shown in records to have few or no movement and color responses. Dilation is the tendency to have many movement and/or color responses.

Rorschach (1942) suggested that coartation is sometimes used to supress emotional responses, both movement and color responses. Rorschach also stated that coartation could be the result of a disease state, such as schizophrenia. Rorschach (1942) admitted that he did not know whether coartation was the result of psychopathology or whether the type and breadth of the experience type dictated the type of psychopathology which developed. All of this suggests that Rorschach was comfortable with an understanding of coartation as both a style of responding and a defensive operation against affective responsivity.

Beck was in agreement with this understanding of coartation. Beck (1952) stated that "a coarcted experience balance is...[an] outcome of a defense effort" (p. 59). He stated further that "in those records with a coarcted EB...a rigid defensive effort is indicated" (p. 378). Thus, Beck believed that coartating of the EB could be a deliberate action taken as a defense against affective responsiveness, either in the form of movement or color responses.

The literature on reported changes in EA which occur as a result of psychotherapy is important to consider at this point. Piotrowski and Schreiber (1952) reported that there is a gradual dilation of the experience type (that is, the EA) during psychoanalytic psychotherapy. Exner (1978) reported a similar broadening of the EA in patients who underwent psychoanalytically oriented and Gestalt psychotherapies. It seems that this could be understood as an increase in the organized resources available to the individual as a result of therapy, as well as a decreased inhibition and guardedness about accessing these resources.

The understanding of the process of coartation as a defense operation is further advanced by the relationship between EA and the Rorschach variable Lambda. Anal-

ysis of variance revealed ($p < .001$) that Low EA individuals have a higher Lambda (mean = 0.91) than High EA individuals (mean = 0.48). As explained earlier, Lambda is the ratio between pure Form responses and non-Form responses. It can be thought of as another measure of coartation/ dilation. Exner (1974) stated that, when Lambda approaches or exceeds 1.0, affective constriction and guardedness need to be considered in the record. Exner (1974) further stated that Lambda

> should not automatically be interpreted as an index of maladjustment or psychopathology, but rather as providing some information concerning the style of response to situations which have the potential to involve affect. (p. 257)

Beck (1952) explained that the subject with a high Lambda "is responding excessively to external stimuli in his environment...He does this at the cost of inadequate response to his inner world. As a result the experience balance is a coarcted one" (pp. 31-32). A connection is therefore suggested between EA, Lambda, coartation and defensiveness in an individual's response style.

Defensiveness is captured by other dependent variables in this investigation. MMPI Scale L was designed to identify individuals who are psychologically naive, who are deliberately evasive and defensive, and who employ the defenses of denial and repression. MMPI Scale

K is a more sophisticated measure of defensiveness than Scale L. Graham (1982) states that "high scores on the K scale...[are] associated with a defensive approach to the test" (p. 23). Individuals who scores high on the K scale try to deny psychopathology and to present themselves in a favorable light. Lachar (1974) points out that because of this defensiveness and guardedness, high MMPI Scale K scores are often seen with relatively lower clinical profiles than those of individuals with lower K scores.

Examining Pearson Product-Moment correlations between MMPI Scales K and F and the dependent variables which showed statistically significant EA main effects is helpful in understanding the link between EA, coartation and dilation, and defensiveness. Table 7 presents the statistically significant Pearson Product-Moment correlations between MMPI Scale K and the dependent variables which demonstrated significant EA main effects (see Table 7). Table 8 presents the statistically significant Pearson correlations between MMPI Scale F and the dependent variables which demonstrated significant EA main effects (see Table 8). It is clear from these results that there are statistically significant, <u>negative</u> correlations between Scale K and Scale L and these MMPI, POMS and BDI variables. This suggests that more guarded

TABLE 7

PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MMPI SCALE K AND DEPENDENT VARIABLES WHICH DEMONSTRATED STATISTICALLY SIGNIFICANT EA MAIN EFFECTS

Variable	Number of Cases	Correlation Coefficient	Significance
MMPI			
Scale F	194	-0.4638	< .001
Scale 7	194	-0.1245	< .05
Scale 8	194	-0.1560	< .05
Scale 9	194	-0.1654	< .05
Scales > 70	194	-0.2311	< .001
Mean T Score	194	-0.1874	< .01
POMS			
Scale T	156	-0.5144	< .001
Scale D	156	-0.4965	< .001
Scale F	156	-0.4297	< .001
Scale C	156	-0.4055	< .001
Total Mood Disturbance	156	-0.5424	< .001
BDI	157	-0.5154	< .001

TABLE 8

PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN MMPI SCALE L AND DEPENDENT VARIABLES WHICH DEMONSTRATED STATISTICALLY SIGNIFICANT EA MAIN EFFECTS

Variable	Number of Cases	Correlation Coefficient	Significance
MMPI			
Scale F	194	-0.2030	< .01
Scale 7	194	-0.1801	< .01
Scale 8	194	-0.1411	< .05
Scale 9	194	-0.1584	< .05
Scales > 70	194	-0.0906	n.s.
Mean T Score	194	-0.1074	n.s.
POMS			
Scale T	156	-0.2460	< .001
Scale D	156	-0.1407	< .05
Scale F	156	-0.2254	< .01
Scale C	156	-0.2301	< .01
Total Mood Disturbance	156	-0.2303	< .01
BDI	157	-0.1975	< .01

and defended individuals (Higher K and L) have lower scores on these MMPI, POMS and BDI scales than do individuals who are less guarded and less defensive (Lower K and L). Therefore, by extrapolation, we can assume that higher EA, at least on the dependent variables in question, is indicative of less defensiveness, since High EA subjects have more elevated scores on these measures than do Low EA subjects. McKinnon (1962) found moderately elevated MMPI profiles in a sample of creative subjects and concluded that, for this kind of individual, the elevation

> is less suggestive of pathology than it is of good intellect, complexity, and richness of personality, general lack of defensiveness, and candor in self-description -- in other words, an openness to experience and especially to experience of one's inner life. (p. 488)

Thus, individuals with slightly elevated MMPI scores (and perhaps POMS and BDI scores as well) may not only be less defensive but also more in touch with their own inner experiences.

This relationship between EA, coartation/dilation and defensiveness is proposed as an explanation of the results displayed in Table 5, which were contrary to what predicted by Hypothesis 3. It can be concluded that High EA individuals are more willing to admit to psychological difficulties, are less defensive, and are more open to

their inner experiences than the more guarded and more defensive Low EA individuals. High EA individuals are more able to accept their problems and report them to others by means of both objective and projective tests than Low EA individuals. This is the most important conclusion reached in the course of this investigation.

Considerations

The frequency distribution of experience types in the sample in this investigation differs significantly from the non-patient adult sample used by Exner (1985) in his norms. In the present study, 52.3% of the subjects in this sample were introversive, 35.4% were ambitent and 12.3% were extratensive. In Exner's (1985) normative sample, 40.1% were introversive, 23.8% were ambitent and 36% were extratensive. Chi-square analysis revealed that the EB distributions in these groups are significantly different [Chi-square (2, N=795) = 39.76, $p < .001$]. In fact, the sample under investigation more resembles Exner's (1985) inpatient schizophrenic population, in which 45% of the subjects were introversive, 41.9% were ambitent and 13.1% were extratensive.

Since this was an unexpected finding, some time was spent in an attempt to understand why the samples differed so much. Analysis of the frequencies of movement

and color responses according to the different EB types revealed nothing unusual. At both High and Low EA, analyses of variance demonstrated that introversives had significantly more movement responses than extratensives and ambitents, and that extratensives gave significantly more color responses than ambitents, who gave significantly more color responses than introversives. Thus, it was not the case that the EB types were atypical in this regard. The unexpected frequency distribution of EB types might be a result of some unique qualities of the sample used in this investigation.

The subjects in this study were undergraduate students in Introduction to Psychology courses. A large percentage of these students were in their freshman year. It seems somewhat unreasonable to use Exner's (1985) norms, which are of an adult population, on a group with a median age of 18, who can very well be classified as late adolescents. Although this consideration does not explain the differences in EB frequencies, it does question the use of Exner's norms with a college population.

Another consideration related to the sample is the method by which subjects were included in this investigation. Students volunteered to undergo 6-8 hours of psychological testing in return for experimental credits

required by their Introduction to Psychology courses. As Rosenthal and Rosnow (1975) have pointed out, volunteer subjects can differ from non-volunteer subjects in many ways. It may well be that there is something very unique about an individual who would volunteer for psychological testing, when there is so little compensation for their time. Perhaps these are students who feel a need for psychological services, and "try it out" by participating in this experiment. Perhaps these students are very curious individuals, curious about both their own personalities and about personality assessment methods. Perhaps there are other characteristics unique to individuals who would volunteer for a study of this kind. Although there is no direct evidence of this, it seems this should be kept in mind when considering the generalizability of the findings of this investigation.

It should be pointed out here that the test administrators in this investigation were graduate students in their first year of training in personality assessment. While these individuals were well trained in the administration of the Rorschach according to Exner's (1974) Comprehensive System, they were not experienced in the administration, and thus there could have been batteries which did not entirely conform to standard

adminstration. Scoring inconsistencies were less likely than administrative ones, since the scoring of the protocols was closely supervised by an advanced graduate student and a doctoral-level clinical psychologist with expertise in personality assessment. Nevertheless, the possibility of administration and scoring errors must be entertained.

Another factor which must be kept in mind when interpreting the results of this study is the appropriateness of the dependent variables used to measure psychological adjustment. While it was one of the purposes of this study to attempt to measure psychological adjustment using tests which might easily be included within a standard testing battery, it might be useful to attempt to replicate this study with different measures that could provide a more fine-grained analysis of psychological adjustment. It seems that measures which focus on the individual's daily functioning might be useful, as would measures of coping style and ability and peer ratings of psychological adjustment.

SUMMARY

The purpose of this study was to examine the relationship between Experience Type (EB), Experience Actual (EA) and psychological adjustment, as measured by standard psychological assessment tools. Specifically, it was hypothesized that ambitents would be less well adjusted than introverts and extraverts. The results did not support this hypothesis. It was hypothesized that there would be differences in adjustment between introverts and extraverts, and there were two findings which supported this hypothesis. Extraverts had higher Hysteria scores on the MMPI than did introverts and also showed greater attention to detail on the Picture Completion task on the WAIS-R. Results did not support the hypothesis that EB and EA would interact in their relationship to psychological adjustment.

The hypothesis that a relationship would exist between EA and psychological adjustment received strong support, but in the opposite direction as had been predicted. Results indicated that the MMPI, POMS and BDI scores of individuals with dilated experience types (High EA) were slightly more elevated than those of individuals with coartated experience types (Low EA). This contra-

dicted the predicted relationship. The examination of other statistical findings suggested that this phenomenon did not represent greater psychological maladjustment in High EA subjects but instead indicated that High EA subjects were less defensive, more willing to admit to psychological discomfort and were more open to their inner experiences than were low EA subjects.

REFERENCES

Acklin, M. & Bernat, E. (1987). Depression, alexithymia and pain prone disorders: A Rorschach study. Journal of Personality Assessment, 51 (3), 462-479.

Ames, L. (1960). Longitudinal survey of child Rorschach responses: Younger subjects 2 to 10 years. Genetic Psychology Monograph, 61, 229-89.

Bash, K. (1955). Einstellungstypus and Erlebnistypus: C.G. Jung and Hermann Rorschach. Journal of Projective Techniques, 19, 236-242.

Beck, A. (1972). Depression: Causes and treatment. Philadelphia: University of Pennsylvania Press.

Beck, S. (1949). Rorschach's Test: II. A variety of personality pictures. New York: Grune & Stratton.

Beck, S. (1952). Rorschach's test: III. Advances in interpretation. New York: Grune & Stratton.

Beck, S. (1960). The Rorschach experiment: Ventures in blind diagnosis. New York: Grune & Stratton.

Beck, S. (1967). Rorschach's test: II. A variety of personality pictures (Revised). New York: Grune & Stratton.

Beck, S. & Beck, A. (1978). Rorschach's test: II. Gradients in mental disorder. New York: Grune & Stratton.

Bieri, J. & Blancher, E. (1956). External and internal stimulus factors in Rorschach performance. Journal of Consulting Psychology, 20, 1-7.

Blatt, S. J. & Allison, J. (1968). The intelligence test in personality assessment. In Blatt, S. J., Allison, J. & Zinet, C. (Eds.), The interpretation of psychological tests (pp. 421-460). New York: Harper & Row.

Buchwald, C. & Blatt, S. (1974). Personality and the experience of time. Journal of Consulting and Clinical Psychology, 42, 639-44.

Buckle, M. & Holt, N. (1951). Comparison of Rorschach and Behn inkblots. Journal of Projective Techniques, 15, 486-493.

Chu, A. & Exner, J. (1981). EB style as related to distractibility in a calculation task. Workshops Study No. 280 (unpublished), Rorschach Workshops.

Eichler, R. (1951). A comparison of the Rorschach and Behn ink-blot tests. Journal of Consulting Psychology, 15, 185-189.

Exner, J. (1974). The Rorschach: A comprehensive system. Volume 1. New York: Wiley & Sons.

Exner, J. (1978). The Rorschach: A comprehensive system. Volume 2: Current research and advanced interpretation. New York: Wiley & Sons.

Exner, J. (1982). The Rorschach: A comprehensive system. Volume 3: Assessment of children and adolescents. New York: Wiley & Sons.

Exner, J. (1985). A Rorschach workbook fo the comprehensive system, (2nd ed.). Bayville, NY: Rorschach Workshops.

Exner, J. (1986). The Rorschach: A comprehensive system. Volume 1 (2nd ed.). New York: Wiley & Sons.

Exner, J., Armbuster, G. & Viglione, D. (1978). The temporal stability of some Rorschach features. Journal of Personality Assessment, 42, 474-482.

Exner, J., Bryant, E. & Leura, A. (1975). Variations in problem solving by three EB types. Workshops Study No. 217 (unpublished), Rorschach Workshops.

Exner, J. & Murillo, L. (1975). Early prediction of posthospitalization relapse. Journal of Psychiatric Research, 12, 231-237.

Exner, J., Thomas, E. & Mason, B. (1985). Children's Rorschach's: Description and prediction. Journal of Personality Assessment, 49, 13-20.

Exner, J., Wylie, J. & Kline, J. (1977). Variations in Rorschach performance during a 28 month interval as related to seven intervention modalities. Workshops Study No. 240 (unpublished), Rorschach Workshops.

Gardiner, R. (1951). Impulsivity as indicated by Rorschach test factors. Journal of Consulting Psychology, 15, 464-68.

Goldberg, L. R. (1965). Diagnosticians vs. diagnostic signs: The diagnosis of psychosis vs. neurosis from the MMPI. Psychological Monographs, 79, 9 (whole no. 602).

Graham, J. R. (1982). The MMPI: A practical guide. New York: Oxford University Press.

Guirdham, A. (1936). The diagnosis of depression by the Rorschach test. British Journal of Medical Psychology, 16, 130-45.

Harrower, M. & Steiner, M. (1949). A manual for psychodiagnostic ink blots. Springfield, IL: Charles C. Thomas.

Hathaway, S. R. & McKinley, J. C. (1983). Minnesota Multiphasic Personality Inventory manual. New York: Psychological Corporation.

Hays, W., Gellerman, S. & Sloan, W. (1951). A study of the relationships between the verb-adjective quotient and the Rorschach EB. Journal of Clinical Psychology, 7, 224-27.

Hertz, M. (1934). The reliability of the Rorschach test. Journal of Applied Psychology, 18, 465-72.

Hertz, M. (1943). Personality patterns in adolescence as portrayed by the Rorschach method. Journal of Genetic Psychology, 29, 3-45.

Hertz, M. (1951). Current problems in Rorschach theory and technique. Journal of Projective Techniques, 15, 307-38.

Jung, C. (1920). A contribution to the study of psychological types. In Collected papers on analytical psychology (pp. 287-298). London: Bailliere, Tindal & Cox.

Kaufman, A. S. (1975). Factor analysis of the WISC-R at eleven age levels between 6 1/2 and 16 1/2 years. Journal of Consulting and Clinical Psychology, 43, 135-147.

Kincel, R. (1983). Creativity in projection and the experience type. British Journal of Projective Psychology and Personality Style, 28, 36..

Kleinmuntz, B. (1960). Identification of maladjusted college students. Journal of Counseling Psychology, 7, 209-211.

Kleinmuntz, B. (1961). The College Maladjustment Scale (MT): Norms and predictive validity. Educational and Psychological Measurement, 21, 1029-1033.

Klopfer, B., Ainsworth, M., Klopfer, W. & Holt, R. (1954). Developments in the Rorschach technique (Volume one). New York: Harcourt, Brace & World.

Klopfer, B. & Kelley, D. (1942). The Rorschach technique. New York: World Book.

Kunce, J. & Tamkin, A. (1981). Rorschach movement and color responses and MMPI social extraversion and thinking introversion personality types. Journal of Personality Assessment, 45, 1-10.

Lachar, D. (1974). The MMPI: Clinical assessment and automated interpretation. Los Angeles, CA: Western Psychological Services.

Lovitt, R. & Lefkof, G. (1985). Understanding multiple personality with the Comprehensive Rorschach System. Journal of Personality Assessment, 49, 289-294.

Mason, B., Cohen, J. & Exner, J. (1985). Schizophrenic, depressive and nonpatient personality organizations described by Rorschach factor structures. Journal of Personality Assessment, 49, 295-305.

McKinnon, S. (1962). The nature and nurture of creative talent. American Psychologist, 12, 484-95.

McNair, D, Lorr, M. & Droppleman, L. (1971). Manual: Profile of mood states. San Diego, CA: Educational and Industrial Testing Service.

Mindess, H. (1955). Analytical psychology and the Rorschach test. Journal of Projective Techniques, 19, 243-52.

Palmer, J. (1956). Attitudinal correlates of Rorschach's experience balance. Journal of Projective Techniques, 20, 207-11.

Palmer, J. (1957). Some relationships between Rorschach's experience balance and Rosenzwieg's Frustration-Aggression patterns. Journal of Projective Techniques, 21, 137-41.

Palmer, J. & Lustgarten, B. (1962). The prediction of TAT structure as a test of Rorschach's experience balance. Journal of Projective Techniques, 26, 212-20.

Phillips, L. & Smith, J. (1953). Rorschach interpretation: Advanced technique. New York: Grune & Strutton.

Piotrowski, Z. (1937). The reliability of the Rorschach's Erlebnistypus. Journal of Abnormal Social Psychology, 32, 439-45.

Piotrowski, Z. (1952). Perceptanalysis. New York: McMillan.

Piotrowski, Z. & Schreiber, M. (1952). Rorschach perceptanalytic measurement of personality changes during and after intensive psychoanalytically oriented psychotherapy. in Bychowski, G. & Despert, J. (Eds.), Specialized techniques in psychotherapy (pp. 337-361). New York: Basic Books.

Rabin, A. & Beck, S. (1950). Genetic aspects of some Rorschach factors. American Journal of Orthopsychiatry, 20, 595-99.

Rapaport, D., Gill, M. & Schafer, R. (1968). Diagnostic psychological testing (revised edition). New York: International University Press.

Rorschach, H. (1942). Psychodiagnostics. Bern: Hans Huber.

Rosenthal, M. (1962). Some behavioral correlates of the Rorschach experience balance. Journal of Projective Techniques, 26, 442-46.

Rosenthal, R. & Rosnow, R. (1975). The volunteer subject. New York: Wiley.

Singer, J. & Brown, S. (1977). The experience type: Some behavioral correlates and theoretical implications. In Rickers-Ovsiankina, M. (Ed.), Rorschach psychology (Second edition) (pp. 325-372). New York: Wiley.

Singer, J. & Spohn, H. (1954). Some behavioral correlates of Rorschach's experience type. Journal of Consulting Psychology, 18, 1-10.

Strauss, M. (1968a). Examiner expectancy: Effects on Rorschach experience balance. Journal of Consulting and Clinical Psychology, 32, 125-29.

Strauss, M. (1968b). The influence of pre-testing information on Rorschach based personality reports. Journal of Projective Techniques and Personality Assessment, 32, 323-25.

Strauss, M. & Marwit, S. (1970). Expectancy effects in Rorschach testing. Journal of Consulting and Clinical Psychology, 34, 448.

Swift, J. (1944). Reliability of Rorschach scoring categories with preschool children. Child Development, 15, 207-16.

Tamkin, A. (1980). Rorschach experience balance, introversion and sex. Psychological Reports, 46, 843-48.

Thornton, G. & Guilford, J. (1936). The reliability and meaning of Erlebnistypus scores in the Rorschach test. Journal of Abnormal and Social Psychology, 31, 324-30.

Vernon, P. (1933). Rorschach inkblot test. British Journal of Medical Psychology, 13, 89-188.

Wechsler, D. (1981). Manual for the Wechsler Adult Intelligence Scale - Revised. New York: Psychological Corporation.

Wehr, J. & Gilroy, F. (1986). Sex-role orientation as a predictor of preferential cognitive response style. Journal of Clinical Psychology, 42, 82-86.

Wysocki, B. (1957). Differentiation between introvert-extrovert types by Rorschach method as compared with other methods. Journal of Psychology, 43, 41-46.

APPROVAL SHEET

The thesis submitted by Dianne DeSousa has been read and approved by the following committee:

Dr. Marvin W. Acklin, Director
Associate Professor, Psychology, Loyola

Dr. Alan S. DeWolfe
Professor, Psychology, Loyola

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirement for the degree of Masters of Arts.

April 18, 1988
Date

Marvin W. Acklin PhD
Marvin W. Acklin, Ph.D.
Director